

INTERNAL

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SAP S/4HANA Cloud Public Edition 2608

Feature Scope Description

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Document History

> **Note**
>
> Make sure you have the latest version of this document. You can find the latest version at the following location: https://help.sap.com/s4hanacloud

The following table provides an overview of the most important document changes.

Version	Date	Description
1.0	2026-07-15	First version
2.0	2026-09-10	Version for SAP S/4HANA Cloud Public Edition 2608.1
3.0	2026-10-08	Version for SAP S/4HANA Cloud Public Edition 2608.2

1 SAP S/4HANA Cloud Public Edition - Feature Scope Description

With SAP S/4HANA Cloud Public Edition, SAP is providing a new generation of business applications – simple enterprise software for big data and agility.

SAP S/4HANA Cloud Public Edition is fully built on the in-memory platform SAP HANA. Using the advanced potential of SAP HANA, SAP S/4HANA Cloud Public Edition is designed for business and provides an instant insight by using a single source of truth, real-time processes as well as by dynamic planning and analysis. With SAP Fiori user experience and less complex data model it is designed to run simple, and in parallel reduces the data footprint of your company. SAP S/4HANA Cloud Public Edition is also already connected to business networks and company-internal collaboration networks and prepared for the Internet of things. With all these aspects, SAP is protecting your investments by facilitating next generation business applications. SAP S/4HANA Cloud Public Edition is available as software-as-a-service.

2 About this document

This feature scope description shows you which features are provided with SAP S/4HANA Cloud Public Edition. In addition, this feature scope description also defines the product documentation, as defined in the SAP Terms and Conditions, for SAP S/4HANA Cloud Public Edition.

Product documentation

The following product documentation is available for SAP S/4HANA Cloud Public Edition:

- This feature scope description
- Configuration information available in the configuration environment of SAP S/4HANA Cloud Public Edition
- Information on security within this document

Licenses

Please note that for certain features you might need a separate subscription license. For further information, please contact your SAP Account Executive.

Integration

SAP S/4HANA Cloud Public Edition supports integration with other SAP or non-SAP products. Please note the following:

- Other products mentioned in this feature scope description might have their own product lifecycle, their own localization versions, or their own language scope, and are therefore named only as an example or as currently integrated.
- Integration with other products might be subject to a change with the next release of SAP S/4HANA Cloud Public Edition.
- You might need an additional license for other products.

For further information, please contact your SAP Account Executive.

3-System Landscape

Some features described in this document require the 3-system landscape of SAP S/4HANA Cloud Public Edition. These features are indicated by a note paragraph in this document.

> **Note**
>
> Please contact your SAP Account Executive to check the availability of the 3-system landscape.

Services

If you would like to migrate data from your current SAP system or another legacy system, you can contact SAP for consulting and support. This service might be subject to a fee.

3 SAP S/4HANA Cloud Public Edition

3.1 Services for SAP S/4HANA Cloud Public Edition

SAP provides different services for SAP S/4HANA Cloud Public Edition customers. These services might be a subject to a fee. You can contact SAP for detailed consulting and support.

Available Services

Service	Details
Refresh of Test Data	You can request a transfer of your application data (master and transactional data) from the production system to a non-production SAP S/4HANA Cloud Public Edition system (such as a quality/test system). This enables you to run meaningful and complete tests in a non-production system that contains current and realistic test data originating from your production environment. During the data transfer, the personal sensitive data are depersonalized so that it is made very difficult to trace back the refreshed data in the non-production system to any person whose personal data exists in the related production system.

3.2 Application Platform and Infrastructure

3.2.1 Identity and Access Management

Business Background

Define the basic settings required to make the users ready to work in the systems. You assign business roles to the business users in order to assign the required UIs including the necessary authorizations to them. By doing this, you can secure the access to your solution for your business users

Key Features

The following table explains the key features available:

Key Feature	Use
Maintain business users	Maintain user-relevant data, such as locking and unlocking of users, validity, and regional settings. You can assign business roles to business users including all UIs and authorizations they need to perform their tasks. You can update user role assignments individually, or by uploading a mass update in a CSV file.
Maintain business user groups	Create business user groups and assign multiple business users to them to help you organize your area.
Maintain deleted business users	Display and maintain deleted business users, and decide whether or not they can be recreated.
Display technical users	Keep track of all users that have access to your solution, that is technical users, business users, and support users. To a limited extend, you can edit settings for technical users.
Maintain business roles	Create your own business roles and define authorization restrictions to certain instances. You can assign business users to business roles including all UIs and authorizations they need to perform their tasks. SAP delivers business role templates you can use to set up your own business roles.
Maintain business role groups	Create business role groups and assign multiple business roles to them to help you organize your area.
Display business role templates	Display detailed information about the business role templates and the changes provided by SAP.
Manage business role changes after upgrade	Display all relevant changes to restriction types and business catalogs after an upgrade and maintain the corresponding restrictions if required.
Display usages of business roles and business users	Display detailed information about the usage of business roles, business users, and restrictions in your system.
Display business catalogs	Display detailed information about the business catalogs, their statuses, and the changes provided by SAP.
Display IAM apps	Display IAM apps of all supported types.
Display restriction types	Display available restriction types and how they can be used in certain business catalogs.
Display authorization trace	Display authorization trace for a business user to analyze if any authorizations are missing or are insufficient.
Create custom catalog extensions	Create your own extensions for the predelivered business catalogs to enable customization of business roles.

Key Feature	Use
Define available system languages	Define the languages which are offered to the users for selection.
System Management	
Maintain user sessions	View all sessions containing locks in the current system. Display further information, such as associated business users. Delete a session if required.

3.2.2 Functions for Implementing SAP S/4HANA Cloud Public Edition

Business Background

SAP S/4HANA Cloud Public Edition supports an assisted way to explore, implement, and test functions and business processes.

3.2.2.1 Central Configuration

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with a configuration environment (currently SAP Central Business Configuration) to allow customers to scope and configure SAP S/4HANA Cloud Public Edition.

Key Features

If a configuration environment (currently SAP Central Business Configuration) is integrated and supports the following features, SAP S/4HANA Cloud Public Edition enables the configuration environment to provide the scoping of business processes relevant for your company and the execution of corresponding configuration activities.

> ⓘ Note
>
> Additional features of an integrated configuration environment may require additional licenses.

3.2.2.2 Business Process Testing

Business Background

SAP S/4HANA Cloud Public Edition enables customers to test the business configuration.

Key Features

The following table explains the key features available:

Key Feature	Use
Test runs	Process-oriented tests run to check the correctness of the business configuration, including changing master data for test runs and documenting test runs.
Authoring of test processes	Customers can define company-specific test processes to enable more individual tests of the business configuration.

3.2.2.3 Data Migration

Business Background

SAP S/4HANA Cloud Public Edition supports data migration from the customer's predecessor systems to SAP S/4HANA Cloud Public Edition.

Key Features

The following table explains the key features available:

Key Feature	Use
Migration Projects	Define, run, and monitor your migration projects.

Key Feature	Use
Predefined migration objects	Predefined migration objects support key users to transfer business data to SAP S/4HANA Cloud Public Edition.

3.2.2.4 Feature Management

Business Background

After an upgrade, SAP S/4HANA Cloud Public Edition provides selected new features in deactivated form which can be activated by customers.

Key Features

The following table explains the key features available:

Key Feature	Use
Customer-specific feature activation	Key users can view these new features and decide if one or several of these features shall be activated and used in their quality or productive system. By doing that, key users can familiarize themself with the new features first and bring them into active use at their own pace.

3.2.3 Output Management, Print and Interactive Forms

Business Background

Automate output processes and get a quick overview of the status of email transmissions and print queues in your area. You can also streamline your email correspondence and records by creating email templates and form templates.

Key Features

The following table explains the key features available:

Key Feature	Use
Maintain print queues	Manage the printing of documents and monitor the print requests in each queue.
Maintain email templates	Streamline your email correspondence by creating custom templates based on predelivered templates. You can create language-specific variants if required.
Monitor email transmissions	Get a quick overview of email transmissions and check whether they were successful or issues occurred.
Maintain form templates	Streamline your records by creating form templates based on either predelivered templates or local xdp files that you can upload to the system. You can use the form templates as a basis for the documents you want to print, for example invoices.

3.2.3.1 Output Control

Business Background

Output control enables business applications to perform all output-related tasks.

Key Features

The following table explains the key features available:

Key Feature	Use
Output Channels	• Printer - cloud-enabled using print queues/cloud printing manager • Email - allows flexible configuration of sender and recipients • EDI - Electronic Data Interchange
Attachments	Printing attachments and sending attachments via email.
Forms	Forms are using SAP Cloud Platform Forms by Adobe.

Key Feature	Use
Master Form Templates	Allow flexible branding of print forms by separating static layout parts such as header, footer, or logos from the application content.
Email Templates	Allow predefining email subject and email body, including variables for dynamic content.
Output Parameter Determination	Allows sending multiple messages to multiple recipients using multiple channels at the same time. Flexible definition of business rules without the need for implementation. Easily extensible with SAP standard fileds and customer fields.
Manage Output Items	Central overview of outputs sent via various channels and their status. View and process multiple outputs at the same time.

3.2.4 Document Management

Business Background

Document Management provides an integrated approach to storing and managing digital content throughout its lifecycle. It enables teams across departments to collaborate effectively by linking the right documents to the right business objects.

Document Management efficiently supports your business operations: from engineering drawings and specifications to quality instructions and project documentation. Here are some examples of how Document Management can be used in various areas of a company:

- Design and development: Manage design drawings and link them directly to material masters.
- Manufacturing: Allocate documents, for example production specifications or inspection requirements, to routing operations for consistent execution.

Key Features

The following features are available:

Key Feature	Use
Document handling	Create a document info record that contains all the data required to process, store and manage a document, including the original document itself.

Key Feature	Use
CMIS enablement	• Integrate external Content Management Interoperability Services (CMIS) repositories with SAP S/4HANA Cloud Public Edition for file storage. • Use additional information stored in the CMIS repositories, such as business object links, for custom-specific queries.
Integration with a document information extraction system	Integrate a document information extraction system (for example, SAP Document AI) to increase the efficiency of processing data from incoming documents.

3.2.5 Process Management

3.2.5.1 Job Scheduling

Business Background

Reduce your workload by running regular activities as jobs in the background. View application-specific logs to check if there are any issues.

Key Features

The following table explains the key features available:

Key Feature	Use
Schedule application jobs	Monitor and schedule jobs based on the pre-defined job templates. You can save personalized job templates for later use. You can display job details. Finished jobs are deleted automatically after a certain period of time.
Display application logs	View logs created by a business application to verify if a business process step has been carried out successfully.
Create application job templates	Create and customize application job templates.
Change job users	Change the user and owner of an application job.

3.2.5.2 Download Additional Software

Business Background

Download and install additional software to better integrate your apps with other programs you need for your daily business.

Key Features

The following table explains the key features available:

Key Feature	Use
Display a list of the available additional software	Download and install additional software if required.

3.2.5.3 Responsibility Management

Business Background

This feature enables you to group responsible members, who perform specific functions in a business process, as a team. You can use teams, members, and functions in frameworks, such as workflows or situation handling to determine responsible members to receive focus about specific circumstances or business situations. For example, end users receive a notice about upcoming deadlines, warnings about delays, or are informed about tasks that need to be completed as soon as possible.

Key Features

This table explains the available key features:

Key Feature	Use
Maintain teams	Create, edit, delete, and copy team information.

Key Feature	Use
Maintain team global ID	Create a team global ID to reference a team across multiple systems.
Maintain team owners	Be responsible for the overall team definition. Team owners can create, edit, delete, and copy team information. Additionally, they are notified when their team members are unavailable as agents.
Manage team members	Add members to, or remove them from, a team.
Validate team member functions (if configured)	See if team members are authorized for the functions assigned to them.
Assign functions to team members	Add or remove functions that a team member can use.
Replace team members	Find and replace a member and associated functions with another member across teams.
Create custom responsibility definitions	Enter values for responsibility definitions created for teams and edit inherited responsibility definition values.
Create custom responsibility rules	Create or copy a responsibility rule and customize it to suit your business process requirements.
Extend responsibility contexts	Extend a standard responsibility context by creating a custom agent rule to which a custom responsibility rule is assigned.
Create custom responsibility contexts	Create your own custom responsibility contexts as per your business requirements.
Manage team categories	View standard team categories provided by SAP or create and edit your own custom team categories.
Maintain team hierarchy	Create subteams with specific responsibility definition values and assign new members based on their responsibilities to the subteams. Choose from a list of potential subteams with responsibility definition values that match the parent team.
Change log	See changes (old and new values) made to a team definition.

3.2.5.4 Business Event Handling

Business event handling enables applications, partners, and customers to consume events related to SAP S/4HANA Cloud Public Edition business objects.

Business Background

Business event handling enables applications, partners, and customers to consume events related to SAP S/4HANA Cloud Public Edition business objects.

> ⓘ Note
>
> The below mentioned features for Business Event Handling are only available for customers who have licensed these features before SAP S/4HANA Cloud 2208 including maintenance for these features.

Comparable successor functionality is provided by Enterprise Event Enablement, which might require additional licenses. For further information, please contact your SAP Account Executive.

SAP recommends that the existing customers also use Enterprise Event Enablement to exchange events.

Key Features

The following table explains the key features that are available:

Key Feature	Use
View Subscription	You use this feature to view the existing subscriptions. A subscription is an entry that enables you to be notified about the changes that are made to the business objects.
Manage Subscription	You use this feature to create, update, and delete already subscriptions.
Read Outbound Queue	You use this feature to view the entries present in the outbound queue. New entries are created in the outbound queue when the business objects are either created or changed.
View Business Events	You use this feature to view the number of events that are raised for a particular business object.

3.2.5.5 Business Event Logging

Business Event Logging enables you to capture and log business events that are raised by SAP S/4HANA Cloud Public Edition applications when business processes are executed in the local system.

Business Background

You can use business event logs to get insights on process execution in the local system. You get an overview of all the logged business events, the number of events triggered, and the types of events triggered.

Key Features

The following table explains the key features available:

Key Feature	Use
Activate Business Event Logging	You use this feature to enable the collection of business event logs raised for a particular business object.
View Business Event Logs	You use this feature to view business event logs for business objects.
Extract Business Event Logs	You use this feature to extract business event logs for external consumption.

3.2.5.6 Enterprise Event Enablement

Business Background

With enterprise event enablement, you can integrate your SAP S/4HANA Cloud Public Edition system with other products to exchange events. This framework enables the exchange of events across different platforms for seamless event-driven communication.

Key Features

The following table explains the key features available:

Key Feature	Use
Check Connection	You use this feature to test the connection between SAP S/4HANA Cloud Public Edition and another product (for example, SAP Event Mesh).
Maintain Event Topics	You use this feature to maintain topics to which events can be raised from business applications. You can also maintain topics for external events to which business applications in SAP S/4HANA Cloud Public Edition can subscribe to.
Exchange Events	You use this feature exchange events with another product (for example, SAP Event Mesh) to make the events available for consumption by external applications and within SAP S/4HANA Cloud Public Edition.

3.2.5.7 Situation Handling

Business Background

With Situation Handling, you can increase the quality and the efficiency of your business processes by signaling exceptional circumstances and providing heads-up information. Situation Handling informs end users

proactively about business situations requiring their attention. Key users get insight into the life cycle and handling of situations, which helps them to optimize business processes.

Situation Handling supports two kinds of situations:

- **Object-based situations** that indicate situations for specific business objects, such as a contract, a service order, an invoice, or a material.
- **Message-based situations** that refer to warning and error messages in system runs.

Key Features for Object-Based Situations

This table explains the key features available for object-based situations:

Key Feature	Use
Copy and adapt situation types	Create situation types that can be adapted to your requirements.
Adapt conditions	Adapt conditions based on which situations occur.
Edit texts	Edit the situation texts that are displayed to the end user.
Define recipients	Select teams, functions, and other attributes by using integrated Responsibility Management to define who is informed about situations.
Monitor status of situation instances	Monitor the handling of situation instances that occur in your company.
Create custom situations	Define your own business scenarios, based on which you can create your own custom situations (not available for the standard framework).

Use Case Examples for Object-Based Situations

Users get a heads-up about upcoming deadlines, receive warnings about delays or exceeded thresholds, deviations, missing approvals, and so on. This enables users to quickly follow up on tasks.

Key Features for Message-Based Situations

This table explains the key features available for message-based situations:

Key Feature	Use
Create situation templates	Create use case templates from a situation scenario that is specific to a business area.
Create situation types	Create a situation type based on a situation template that can be adapted to your specific business requirements.
Manage run types and messages	Manage system messages of run types that are turned into situations.

Key Feature	Use
Edit texts	Edit the situation texts that are displayed to the end user.
Define recipients	Select teams, functions, and other attributes by using integrated Responsibility Management to define who is informed about situations.
Monitor status of situation instances	Monitor the handling of situation instances that occur in your company.

Use Case Examples for Message-Based Situations

End users can be informed about locks, deviations, or incorrectly maintained master data resulting in error messages during application runs. This enables users to quickly follow up on tasks

3.2.5.8 Machine Learning Scenario Management

Business Background

Intelligent Scenario Lifecycle Management (ISLM) integrates machine learning capabilities into business processes to provide forecasts and predictions for your use cases (for example, forecast when a buyer is likely to negotiate a new procurement contract or predict the cost of a project based on the historic data analysis).

Key Features

The following table explains the key features available:

Key Feature	Use
Develop Intelligent Scenarios	Intelligent scenarios describe a machine learning use case (analytics or deep-learning) by defining a business goal, the integration type (embedded), the type of prediction to make, and the data to use for the prediction. Intelligent scenarios are preconfigured and often pre-trained by SAP S/4HANA cloud or you can create custom-developed intelligent scenarios. The custom-developed intelligent scenarios are created in a draft mode, which can be reviewed, updated, and published.

Key Feature	Use
Manage Intelligent Scenarios	You manage the published intelligent scenario activities, such as the following: • You can train and retrain with data relevant to your enterprise. • You can review the training status and quality. • You can deploy and redeploy a trained machine learning model of type side-by-side. • You can activate or deactivate the machine learning model. • You can activate the machine learning model of type side-by-side for you and all users. Once activated, the model is used to provide the inference results to the business application.. **Note** A machine learning model can only provide good predictions when trained properly. A model needs to be trained with data where the outcome is known, for example, with historic data. You must retrain your model regularly to ensure predictions created are based on the most recent data.

3.2.5.9 Business Rule Framework plus (BRFplus)

Business Background

Business Rule Framework plus (BRFplus) provides a comprehensive application programming interface (API) and user interface (UI) for defining and processing business rules. Here are some examples of scenarios in which applications use BRFplus:

- Validation of data and detection of invalid data and states
- Matching responsibilities, suitable products, and locations
- Calculation of costs, overhead, and risks
- BRFplus as a technical configuration engine

Key Features

The following table explains the key features available:

Key Feature	Use
Create rules	A rule is the technical representation of a simple business rule to be applied to a particular business case.

Key Feature	Use
Check consistency	This feature supports you in creating comprehensive and error-free rules.
Simulate the execution of the rule	You use this feature to test the rule.

3.2.6 Data Management

3.2.6.1 Data Aging

Business Background

Data not required in main memory for daily business operations is moved from main memory to the historical area of the HANA database.

Key Features

The following table explains the key features available:

Key Feature	Use
Aging of data	The system automatically moves appropriate data to the historical area of the database during the data aging process.

3.2.6.2 Customer Data Return

Business Background

Customer Data Return enables the customer to download all SAP S/4HANA business data from SAP cloud systems.

Key Features

This table explains the key features::

Key Feature	Use
Download of customer data.	This feature allows you to download your data in a compressed format. You can track the status of file downloads and repeat downloads, if necessary. .

3.2.6.3 Manage Data Replication

Manage the data replication from one source system to one or several target systems.

Business Background

Key Features

The following table explains the key features available:

Key Feature	Use
Manage Data Replication	Manage data replication from a source system to one or more target systems based on application interfaces.

3.2.6.4 Operational Data Provisioning

Business Background

Monitor data extraction performed with Operational Data Provisioning. You can view delta queues with their status and detailed information, and can drill down to subscriptions, requests or units.

Key Features

The following table explains the key features available:

Key Feature	Use
Monitor delta queues	View delta queues from the Operational Data Provisioning framework. You can see detailed information at the level of delta queues, subscriptions, requests and units. You can check the data volume in the queues or check why no data is delivered to the subscriber. You can terminate subscriptions for inactive subscribers and close unconfirmed requests.

3.2.6.5 Information Lifecycle Management

Business Background

Schedule archiving and destruction runs using archiving objects and data destruction objects.

Key Features

The following table explains the key features available:

Key Feature	Use
Process ILM audit areas	View existing audit areas. You can create new audit areas and edit existing audit areas. You can copy and merge audit areas.
Manage ILM object groups	Manage Information Lifecycle Management (ILM) object groups. You can assign ILM objects to an object group. You can also create rule groups for the object groups.
Process ILM rules	Create and edit a policy, and maintain rules for the policy.
Analyze archiving variant distribution	Create and edit the write variants and preprocessing variants to be used for archiving jobs. You can trigger archiving for the selected archiving object. You can view the size of the archived data for the existing write variants used in archiving. You can also view the empty runs and all of the variants for the selected archiving object.

Key Feature	Use
Monitor archiving jobs	Monitor the status of jobs for the archiving objects. For every archiving object that has jobs associated with it, the app displays the job statuses such as failed, scheduled, in process, and completed.
Manage ILM Business Rules	Create and edit ILM business rules.

3.2.7 Master Data Maintenance

Business Background

Master data represents the business data your company requires about individuals, organizations, or products. It remains unchanged over a long period of time and supports transactional processes. You can use Master Data Maintenance to maintain master data like products or business partners.

The mass maintenance feature enables you to update multiple business partner and product master data records simultaneously.

Master data remediation provides capabilities to validate product master data and to get the result of the validation into a worklist. In this worklist, the correction of product master data with errors can be initiated.

Example: Example

You can define business partners, for example employees, contingent workers, customers and suppliers, and you can define materials or services. Additionally, you can define relationships between the business partners and the materials or services. For example, information about a specific material and the supplier of this material is stored in a purchasing info record.

3.2.8 User Experience

3.2.8.1 Enterprise Search

Business Background

Enterprise Search is a search solution that provides unified, comprehensive, and secure real-time access to enterprise data which enables users to search for structured data (business objects) and allows direct access to the associated applications and actions.

Search Capabilities are enhanced to search for different business objects and applications from the Fiori Launchpad and start the apps directly from the search results. The search results displays all the CDS-based

enterprise search models. The business user can navigate and view the details of CDS views, tables, and relationships of the search model or a particular CDS view. Additionally, business users with specific roles can enable or disable tracking of user's search activities.

Key Features

The following table explains the key features available:

Key Feature	Use
Fine-Tune Ranking	Create and edit ranking factors and boosts, and test their effects immediately in a simulation. Ranking can be used to list objects higher in the search results list.
Analyze Query Log	Evaluate the log data containing the user activities collected during searches, graphically in bar charts or in tables. p>
Define Synonyms	Create a synonym dictionary so that when you search for a term, the synonyms saved in the dictionary are included in the search as well.

3.2.8.2 User Interface Adaptation for Classic Applications with Screen Personas

Business Background

Customers strive to provide a single, consistent look and feel for their users and provide tailored UIs for the tasks their users need to perform. This way they achieve better user productivity, process efficiency and solid decision-making for some classic applications. Screen Personas helps key users to create simplified versions for these classic applications for some processes or process steps.

Key Features

The following table explains the key features available:

Key Feature	Use
Screen editing	You use this feature to visually transform classic applications that you want to run and create a modern, intuitive user experience for your mission-critical software. Key users can simplify screens by hiding unneeded controls rearrange controls, as well as adjust the formatting and styles of UI elements to meet their organization's requirements.
Keystroke automation	Key users can use this feature to simplify the process flow via individually designed flavors by automating keystrokes. Data entries can be defaulted based on rules to eliminate manual user interactions and to increase end-user productivity. It eliminates input errors and thereby improves data quality in your system.
Flavor management	You use this feature to administer flavors and preparing them for the user assignment. This is done indirectly by grouping flavors in assignment categories. Assignment categories are then used in the mapping between user groups and business roles.

3.2.8.3 Integration with a Business Communication Platform

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with a business communication platform (currently Microsoft Teams) to enable users to collaborate with co-workers by directly sharing a link to a business application in the SAP system, for example.

Key Features

When a business communication platform (currently Microsoft Teams) is integrated and supports the feature below, SAP S/4HANA Cloud Public Edition enables the business communication platform to provide the following key features:

Key Feature	Use
Collaboration	You can collaborate with co-workers using the chat functionality to share a direct link. You can provide them with access to a specific state of an SAP Fiori application, for example.

3.2.9 Virtual Data Model and CDS Views

3.2.9.1 Creating Custom CDS Views

Business Background

You can model data with Custom Core Data Services views (Custom CDS view)which can then be consumed by a UI, analytics or other systems.

Key Features

The following table explains the key features available:

Key Feature	Use
Create custom CDS views	You can create and maintain custom CDS views based on the virtual data model delivered by SAP. You can define projections and add associations to your custom CDS views. You can maintain parameters, filters and calculated fields. You can define custom CDS views without a scenario or as cubes, dimensions or for usage as external API.

3.2.10 Extensibility

3.2.10.1 Key User Extensibility

Business Background

Adapt business processes and standard business software by creating your own business catalog extensions, communication scenarios, field and logic implementations, business objects, CDS views, queries for reporting and analysis, or application job templates. Make your extensions available productively by transporting them to your production system. View a list of your extension items, and the dependencies between them.

Key Features

The following table explains the available key features:

Key Feature	Use
Create custom fields, data source extensions, and custom logic	Create your own fields and enhancement implementations for specific business contexts of extensible applications. Enable the usage of existing fields in predelivered data sources using data source extensions.You can publish fields and enhancement implementations and thus generate them in the extensible applications in your test system. You can edit fields and enhancement implementations even after they have already been published. You can delete fields and enhancement implementations. **Custom Fields** • You can translate the fields that you created into different languages and enable field usage for UIs, reports, email templates, form templates, business scenarios, and APIs. • You can translate client-specific customizing via key user customizing translation projects. • You can make field content relevant for free-text search. • You can choose the aggregation behavior of fields. • You can delete already transported fields. When you delete an already transported field, the contained data is saved for 18 months. **Data Source Extensions** • You can create, edit, and delete data source extensions in order to enable the usage of existing fields in predelivered data sources. **Custom Logic** • You can implement custom logic with ABAP for key users in your enhancement implementation. • You can create and save variants for testing custom logic with predefined parameters. • You can create and save filters to define under which conditions the logic of an enhancement implementation is used.
Create custom reusable elements	You can create reusable custom libraries for consumption in custom logic extensions or custom objects. You can create translatable custom code lists for reuse across custom business objects.
Display list of extension items	You can view a list of your extension items, and the dependencies between them.
Create traces	You can create traces to track the processing of custom logic in custom objects, custom reusable elements and enhancement implementations.

Key Feature	Use
Create custom business objects	Create new custom business objects, and generate UIs and OData services based on custom business objects.You can enable associations between your custom business objects. You can add fields to and delete fields from custom business objects. You can add multiple subnodes to a custom business object, and implement custom logic with ABAP for key users. You can edit and publish a custom business object, and delete the draft of a custom business object. You can delete custom business objects.
Create custom analytical queries	You can create custom analytical queries for reporting and analysis. Raw data, delivered from business documents, is transformed and organized into a meaningful grid. You don't have to understand the query language or its technical details, since the process of writing structured queries is abstracted. The fields required to design a query are being provided. You select the required fields and set filters for your query. You can also preview the query results. The table below displays the tasks and the corresponding options in the query designer that you can use to perform this task: • Create a new custom query or copy from an existing query • Display a list of all pre-delivered and custom queries • Search for a query • Modify the query • Add/remove custom fields • Create filters • Create restricted measures, calculated measures, coverted measures and user input filters • Define hierarchies • Preview result sets after modifying the query • Configure the query default display via Axis view
Create custom analytical queries and services	You can create custom analytical queries for reporting and analysis. The features of the application is listed below: • Create a new custom query or copy from an existing query • Modify the query • Create filters • Create restricted measures, calculated measures, coverted measures and parameters. • Create secondary structure • Define display and filter hierarchies • Preview result sets after modifying the query • Expose query as Odata or InA Service
Create custom tiles	Create your own tiles to access external applications.

Key Feature	Use
Develop and consume extensibility templates	As a template provider, you can: • Create and change extension items in a dedicated namespace for all extension items enabled for foreign namespace development and make them accessible to a template consumer. • Combine extension items to create a file and download the template file to present it to a template consumer. • Download an installation file to enable the template consumer to import extension items developed in a dedicated namespace. As a template consumer, you can: • Register foreign namespaces from a template provider with an installation file. • Import extensibility templates from a template provider and publish them to your system. • Change and adapt the imported extension items to meet your requirements. • Export imported extension items to the production system.
Export software collection	Assign transportable extension items to your software collection, check them for inconsistencies and dependencies, and export the software collection version. You can assign extension items to a hotfix collection, and export the hotfix collection independently from the regular software export process.
Import collection	Import a software collection or a customizing transport to your production system.
Display publishing processes	Monitor publishing processes for custom communication scenarios and business catalog extensions.

3.2.10.1.1 Extensibility Cockpit

Business Background

You can view extensible objects that correspond with business contexts that are mapped with or without scope items.

Key Features

The following table explains the key features that are available:

Key Feature	Use
Explore extensibility options based on solution scope and scope items	Identify the technical artifacts of a business context that are enabled for extensibility
View details of extensible objects for a business context	Create in-app extensions (custom fields and business logic) or side-by-side extensions using information from the cockpit
View the capacity usage of a business context	Identify the available capacity to carry out structural enhancements for a business context
Change the appearance of a result list on all screens	Refine and reorder extensibility data for a better display
Search for extensible objects	Select the extensible objects to be included in a search and navigate directly to an extensible object to see data that is filtered based on a search term

3.2.10.1.2 Released ABAP Artifacts

Business Background

With Released ABAP Artifacts a key user can see details about includelisted ABAP development artifacts that are released as APIs.

Key Features

This table explains the available key features:

Key Feature	Use
Details about includelisted artifacts	You use this feature to see the documentation and application components of includelisted ABAP artifacts such as classes, interfaces and structures. You can see the implemented and comprised interfaces, attributes and methods with signatures for classes and interfaces. You also see the component lists for structures with component types and data types.

3.2.10.2 Developer Extensibility

Business Background

Developer extensibility allows you to manage custom ABAP development projects on SAP S/4HANA Cloud. This allows you to build your own services and apps based on development objects released by SAP.

> ⓘ Note
>
> To use this feature, the 3-system landscape is required. For more information, see the information on the 3-system landscape in chapter 2 *About this document*.

Key Features

The following table explains the key features available:

Key Feature	Use
Manage custom developments	This feature allows you to manage and transport ABAP development projects to manage your own apps and services based on development objects released by SAP.
Custom code migration	You use this feature to configure and execute static code checks for analyzing custom ABAP code.
Repair CDS views	This feature allows you to view inconsistent CDS views and repair them.
Manage database caches	You use this feature to manage database caches and view information about existing caches.

3.2.11 Integration

3.2.11.1 Communication Management

Business Background

Define communication settings for systems, users, and solutions to facilitate communication processes.

Key Features

The following table explains the key features available:

Key Feature	Use
Maintain communication systems	Define the specification of a system that represents a communication partner. You can define technical information that is required for communication between two systems.
Maintain communication arrangements	Set up and maintain communication arrangements to enable communication between your solution and other systems.
Display connectivity trace	Analyze inbound connectivity issues, such as failed SSL handshakes, malformed HTTP requests or failed login.
Create custom communication scenarios	Create custom communication scenarios and use them as a basis for new communication arrangements.
Display communication scenarios	Display details of communication scenarios, download certificates, and create new communication arrangements based on a certain communication scenario.
Monitor bgRFC queues	Monitor bgRFC queues together with the associated destinations and units. You can also intervene in the processing by stopping or starting a queue, unit or destination if required.
Display inbound services	Display all available inbound services defined by you or delivered by SAP.
Display outbound services	Display all available outbound services defined by you or delivered by SAP.
Maintain SAML 2.0 Configuration	Upload the primary and secondary signing certificates you have maintained within the Cloud Identity Services.

3.2.12 APIs

Business Background

SAP S/4HANA Cloud Public Edition provides application program interfaces (API) to further extend or integrate your system, and also allow you to implement your own applications. SAP offers a publicly available catalog where customers obtain information on the provided technical interfaces.

Key Features

The following table explains the key features available:

Key Feature	Use
Connect	Connect business processes across your system landscape
Integrate	Integrate with external systems
Develop	Develop your own dependent extensions or custom applications

3.3 Generic Information

3.3.1 Master Data Management

3.3.1.1 Master Data Governance

Business Background

High-quality master data is essential for smooth business operations, meaningful analytics, and intelligent automation. SAP Master Data Governance (MDG) meets this need by providing three core capabilities: Central Governance, Master Data Consolidation, and Data Quality Management, thereby supporting organizations in managing their master data efficiently across their application landscape.

Central governance ensures the accuracy and consistency of master data at the point of creation or change. Supporting governance, consolidation, and mass creation processes as well as workflow, staging, and approval, it enables data to be aligned with a company's business rules and processes. Features for mass processing and automation, such as integrated rules for validation and data derivation, help organizations manage their master data more efficiently and keep it accurate from the outset.

Master Data Consolidation provides a comprehensive understanding of enterprise master data that is owned and maintained decentrally. Data can be collected from various sources, checked for duplicates, and merged using rules that determine which values to retain in case of conflicts. The process can be fully automated or supplemented with manual review when necessary. By eliminating redundant records and improving data consistency, organizations can streamline operations and enhance decision-making in analytics. Master Data

Consolidation also forms the foundation for supporting decentralized data maintenance scenarios with central governance.

Data Quality Management helps organizations keep their master data clean and reliable, as it enables them to define data quality rules and data quality key performance indicators (KPIs). Organizations can evaluate the quality of their master data according to these rules and monitor the current state of data quality, as well as its trend. The rules can be used for data quality evaluation and as part of the processes provided by central governance and consolidation. Rule mining makes it possible to use machine learning for data analysis and for the generation of data quality rules based on mined rules.

Key Features

The following table explains the key features available:

Key Feature	Use
Master Data Governance, Central Governance	• Master Data Governance for Business Partner • Master Data Governance for Product
Master Data Governance, Master Data Consolidation	• Master Data Consolidation for Product • Master Data Consolidation for Business Partner
Master Data Governance, Mass Processing	• Mass Processing for Product • Mass Processing for Business Partner
Master Data Governance, Data Quality Management	• Data Quality Management for Product • Data Quality Management for Business Partner

3.3.1.1.1 Postal Address Validation

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with an address cleansing solution (for example, SAP Data Quality Management, microservices for location data) to provide postal address validation.

Key Features

When an address cleansing solution (for example, SAP Data Quality Management, microservices for location data) is integrated and supports the below named feature, SAP S/4HANA Cloud Public Edition enables the address cleansing solution to provide the following key feature:

Key Feature	Use
Postal address validation	As part of the consolidation functionality in Master Data Governance, integration with the address cleansing solution enables validation and correction of address data according to norms of the applicable country or region.

3.3.2 Master Data Replication

Business Background

SAP S/4HANA Cloud Public Edition supports master data services (currently SAP Master Data Integration) to replicate master data to other products, such as SAP SuccessFactors and so on.

Key Features

If a master data service (for example, SAP Master Data Integration) is integrated with SAP S/4HANA Cloud Public Edition, SAP S/4HANA Cloud Public Edition supports you to replicate master data using such a service.

3.3.3 Enterprise Contract Management

3.3.3.1 Integration with a Business Communication Platform

Business Background

SAP S/4HANA Cloud Public Edition supports integration with a business communication platform (currently Microsoft Teams) to enable users to collaborate with internal or external members, during the process of building a contract.

Key Features

The following table explains the key features available:

Key Feature	Use
Creating collaborations	You use this feature to create collaborations.
Completing collaborations	You use this feature to complete collaborations after the contracts are finalized.
Cancelling collaborations	You use this feature to cancel collaborations.

3.3.3.2 Integration with Other SAP Products

Business Background

With Enterprise Contract Management, you can integrate an SAP S/4HANA Cloud Public Edition system with other contract assembly products (for example, SAP Enterprise Contract Assembly), to enable users to create and manage legal content that is generated out of various business scenarios in a company, such as procurement processes, sales, policies or intercompany agreements.

Key Features

The following table explains the key features available:

Key Feature	Use
Assembling document from Template	You can assemble a virtual document from a template.
Discarding Content	You can delete all the assembled content from a legal document, without deleting the document itself.
Editing Content	You can edit the content in a virtual document.
Viewing Content Statuses	You can view the content export and content assembly status.
Restoring Virtual Documents	You can restore an existing version of a virtual document.

3.3.3.3 Integration with External Contract Assembly Product

Business Background

With Enterprise Contract Management, you can integrate an SAP S/4HANA Cloud Public Edition system with external contract assembly products (for example, Icertis Contract Intelligence), to enable users to create and manage legal content that is generated out of various business scenarios in a company, such as procurement processes, sales, policies or intercompany agreements.

Key Features

The following table explains the key features available:

Key Feature	Use
Signing external contracts	You can send the contract for manual or electronic signature.
Assembling contract from template	You use this feature to assemble a contract from a template. The process starts with the creation of a transaction from where certain important and critical attributes are used to create a document. This document is further assembled using a template that consists of all the attributes of a contract. Once the contract is assembled, it is signed and approved.
Editing external contracts	You can edit the content of the contract.
Viewing external contract statuses	You can view the status of the contract to know the progress of the contract assembly.
Updating and reassembling external contracts	You can update the attributes of the contract or reassemble the whole contract.
Discarding content	You can delete all the assembled content from the contract, without deleting the document itself.

3.3.3.4 Managing Contexts

Business Background

Contexts form the foundation of a legal transaction and can predefine settings for legal transactions that support a more standardized processing. You define a context that predefines how a legal transaction has to be processed; what information has to be provided; which parties are involved; which workflow steps are required; which documents are mandatory and so on.

Key Features

The following table explains the key features available:

Key Feature	Use
Extending linked objects	You can add custom fields to linked objects.
Defining additional entities	You can define business partner entities to support your business process.
Viewing linked object type	You can view the linked object and use the link to the navigate
Determining contexts	You can determine an integration relevant context.
Defining Custom Step	You can define custom steps in a workflow.
Defining phases	You can define phases to monitor various factors responsible for a successful completion of legal transaction. For example, you can define a phase to ensure all the necessary legal documents with appropriate stamps are attached to the legal transaction. You can even define a phase to start automatically once the previous phase has ended.
Copying tasks to a new context version	You can copy tasks to a new version of the context, even if the source context is in draft status.
Renewing and terminating transactions	You can predefine the renewal and termination clauses for legal transactions. You can also select the corresponding date types for renewal and termination of legal transactions.
Predefining task group step attributes	You can predefine the recipients, preconditions, and exception handler attributes for task group steps.
Predefining relationships	You can predefine relationship between multiple legal transactions. For example, defining a legal transaction for a request for quotation to a supplier as related to the legal transaction for the purchase order.
Restricting access	You can restrict accessibility of legal transaction by using access level. You can filter access to the legal transactions through main organization elements like purchase organization, sales organization, and company code.
Creating task group for context	You can create default task group templates that are mandatory for each legal transaction using this context.
Predefining language	You can predefine the language of a legal context.
Predefining governing law	You can predefine the law of a region and country, relevant for a contract or any legal content. For example, every contract must abide by the laws of a region and country. You can define the governing law in the context to ensure the legal transactions follow the same governing law.

Key Feature	Use
Extensibility	You can add custom fields to the legal document header.
Defining documents	You can define legal documents that have to be included in the legal transactions and mark the required documents.
Adding descriptions about contexts	You can add a detailed description about the legal context, if required. For example, you can add some background or additional information about the legal context.
Archiving objects	You can archive objects that have reached the end of retention period.

3.3.3.5 Managing Legal Tasks

Business Background

Workflow tasks are triggered as a result of the legal transaction processing. The transaction manager or the legal counsel needs to constantly monitor various tasks to ensure timely processing of the legal transaction.

Key Features

The following table explains the key features available:

Key Feature	Use
Filtering legal tasks	You can filter the tasks based on various filter parameters. For example, you can use the task deadline parameter to filter tasks that need to be completed before going on a vacation.
Adding stamps during a workflow	You can automatically add stamps to a document during a workflow.
Accessing related legal tasks	You can easily access related legal tasks.
Navigating to legal tasks	You can navigate to the legal tasks from the legal transactions.
Managing legal tasks	You can centrally manage your legal workflow tasks. You can, for example: • Centrally manage legal tasks linked to different legal transactions • Forward tasks to other recipients • Notify agents about pending tasks

3.3.3.6 Enterprise Contract Management Overview

Business Background

Enterprise Contract Management Overview analyzes the most important legal transactions, contexts, and documents that you need to process. The graphical representation of the most critical tasks summarizes key information from the underlying apps that you are working on, so that you can analyze and identify upcoming important dates, reminders, and transactions and take quicker decisions. There are various actionable cards showing vital information ranked as per their expiration, risk or health.

Key Features

The following table explains the key features available:

Key Feature	Use
Monitoring tasks	Monitoring tasks help you to immediately process critical tasks in your transactions. You can, for example, monitor the following aspects: • Total number of tasks to be processed by you • Pending and important tasks to be processed by you • Average processing time taken for task completion • Total number of completed tasks
Monitoring transactions	Monitoring transactions help you to immediately assess and resolve critical situations for your company. You can, for example, monitor the following aspects: • Total number of transactions • Health status of transactions • Transactions at risk Additionally, legal transaction dashboards in SAP Analytics Cloud can be accessed directly from SAP S/4HANA, showing real time data of legal transactions.
Monitoring contexts	Monitoring contexts help you to provide the required information for a business scenario. You can, for example, monitor the following aspects: • Total number of contexts • Status of contexts • Contexts about to expire

Key Feature	Use
Monitoring documents	Monitoring legal documents helps you to optimize the process of creating and finalizing legal documents. You can, for example, monitor the following aspects: • Average time taken to create and process legal documents • Total number of legal documents • Status of legal documents • Signed and acceptance status of legal documents • Status of document stamps Additionally, legal document dashboards in SAP Analytics Cloud can be accessed directly from SAP S/4HANA, showing real time data of legal documents.
Upcoming reminders and dates	You can view the upcoming reminders and dates of the legal transactions and plan your tasks accordingly.
Navigating to related apps	From the monitoring apps, you can navigate to related apps to trigger follow-on actions (you can, for example, change the health status of a transaction or change the status of a context about to expire). You can also navigate to the object page of an individual item.
Filtering	You can filter the content of cards by various criteria, such as Context, Legal Transactions, and Main Entity. This enables you to make informed decisions and take immediate action.
Sorting of objects	Objects are sorted according to their status, creation date, or validity dates. For example, contexts that are soon to expire are sorted by their status and valid to date.

3.3.3.7 Managing Legal Documents

Business Background

Documents are instances of legal content that are tailored to a specific transaction or activity in a certain business context. You can use legal documents that were uploaded as static files. You can download a document to edit, upload files, create versions of the documents, and manage the document attributes.

Key Features

The following table explains the key features available:

Key Feature	Use
Creating additional documents	You can create additional documents in relation to the main document.
Viewing related documents	You can view all the related documents that you create for a main document.
Creating and tracking obligations	You can create and track obligations related to the documents in legal transactions, to ensure legal compliance and risk mitigation.
Linking external objects	You can link legal transactions to objects from an external system.
Discarding content	You can discard the uploaded content without actually deleting the document itself.
Restricting access to legal documents	You can restrict accessibility to legal objects.
Specifying language of legal document	You can specify the language of a legal document.
Governing law	The governing law assigned to the legal transaction is applicable to the legal document.
Extensibility	You can use the extensibility option to add custom fields to the legal documents.
Creating and reviewing notes	You can use this feature to reply to notes added by other users and view other replies to a specific note.
Adding descriptions about legal documents	You can add a detailed description about each legal document, if required. For example, you can provide some background or additional information about the legal document in this field.
Archiving objects	You can archive objects that have reached the end of the retention period.
Displaying and filtering legal documents	You can view a list of legal documents and use the filter bar to either select a variant, or to filter the list by using the search or the individual filter fields.
Viewing history of legal documents	You can view the changes made to the legal documents and search for a specific change in the document.
Deleting documents	You can delete a legal document, if it is not set as a mandatory document in a context.
Editing documents	You can use the check out and check in option to edit documents.
Versioning documents	You can maintain different versions of the documents. This helps you to track the changes made in each version of the document or to identify the latest document.

3.3.3.8 Managing Categories

Business Background

Categories classify business objects such as contexts and legal transactions. You can use categories to classify legal content. Legal content is created by or exchanged between legal departments. Based on the categories that are assigned to the legal content business objects, the legal content can be classified.

Key Features

The following table explains the key features available:

Key Feature	Use
Classifying legal documents	You can create specific categories to classify legal documents.
Generating categories	You can generate categories using custom data source.
Adding descriptions about categories	You can add a detailed description about a category, if required. For example, you can provide some background or additional information about the category.
Exporting and importing category names	You can export and import category names to perform a mass translation.

3.3.3.9 Requesting Legal Contract

Business Background

You can submit a request for legal contract. You are guided through a process of providing required information for a specific business scenario. Based on this information, the system creates a legal transaction that is then used by the responsible teams, for example, Legal or Commercial, Compliance, Procurement to create the legal content and to manage the lifecycle of legal content as part of a business transaction or a business scenario.

Key Features

The following table explains the key features available:

Key Feature	Use
Using custom fields	You can use the custom fields and implement field control.
Searching for contexts	You can search for specific contexts by using the description of the contexts.
Predefining language of legal document	You can specify the language of a legal document.
Predefining governing law	You can predefine the law of a region and country, relevant for a contract or any legal content. For example, every contract must abide by the laws of a region and country. You can define the governing law while requesting for legal content.
Predefining documents	You can predefine legal documents that have to be included in the legal transactions and mark the required documents.
Uploading attachments	You can upload file attachment to the legal document object.
Adding descriptions	You can add a detailed description about the legal content object, if required. For example, you can provide some background or additional information about the legal content object in this field.

3.3.3.10 Managing Legal Transactions

Business Background

Legal transactions are created based on a legal content request and is used to manage the legal content through its lifecycle. For this, the legal transaction collects all the information and material that is connected with the legal content: the parties involved in the creation of the legal content internally as well as externally, the deadlines that need to be observed, the tasks that need to be completed, and the documents that need to be generated in the process or are linked to the legal transaction.

Key Features

The following table explains the key features available:

Key Feature	Use
Assigning teams as internal contacts	You can assign members from teams as internal contacts.
Recurring reminders	You can add or remove recurring reminders for legal transactions.
Extending linked objects	You can add custom fields to linked objects.
Defining additional entities	You can define business partner entities to support your business process.
Updating and reassembling virtual documents	You can update and reassemble virtual documents to update the modified variables.
Viewing legal transaction log	In the legal transaction log, you can view when a legal document was created.
Managing and tracking obligations	You can manage and track obligations related to documents in the legal transactions, to ensure legal compliance and risk mitigation.
Managing phases	You can start one or more phases to monitor various factors responsible for successful completion of legal transaction. You can even view if a phase is defined to start automatically after the completion of the previous phase.
Adding document reference number	You can add a reference number to the legal document.
Situation handling	When you have not processed a failed health status synchronization task within a stipulated period, the system sends you a notification reminding you about this pending task.
Viewing open issues	You can view open issues that affect the health of a transaction.
Creating with reference	You can create a copy of a legal transaction by defining a relationship with its source transaction and selecting the required header attributes and facets. Defining a relationship provides traceability between the source and reference transaction. You can select the required facets and its specific attributes. For example, you want to use the source transaction as a reference and copy only the required header attributes and facets from this transaction. You can use this reference transaction as a template to define other header attributes and facets, according to your business needs.
Copying tasks from legal transactions	You can copy task group templates defined in the source legal transaction to the target transaction.
Viewing comments	You can view comments that are added by the task processor.

Key Feature	Use
Renewing and terminating transactions	You can define the renewal and termination clauses for legal transactions. You can also select the corresponding date types for renewal and termination of legal transactions.
Defining task group step attributes	You can define the recipients, preconditions, and exception handler attributes for task group steps.
Defining relationships	You can define a relationship between multiple legal transactions. For example, defining a legal transaction for a request for quotation to a supplier as related to the legal transaction for the purchase order.
Copying legal transactions	You can copy legal transactions to avoid recreating a transaction with the same attributes. For example, you have created a legal transaction for a business scenario. You now want to create a transaction for a similar business scenario for a different region or different product. In such cases, you can copy an existing transaction with a similar business scenario.
Restricting access	You can restrict accessibility of legal transaction by using access level. You can filter access to the legal transactions through main organization elements like purchase organization, sales organization, and company code.
Creating and triggering task groups	You can create workflow task templates and directly trigger work items from the legal transaction.
Define language	You can define the language of a legal transaction
Defining governing law	You can define the law of a region and country, relevant for a contract or legal content. For example, every legal document must abide by the laws of a region and country. When you define a governing law, all the contracts abide by this governing law.
Extensibility	You can add custom fields to the legal transaction header.
Filtering based on entities, contacts, and categories	You can use additional filtering options to search for specific legal transactions
Defining reminders	You can set reminders to receive notifications about status changes in legal transactions.
Creating and reviewing notes	You can create and reply to notes added by other users. You can also view replies to a specific note.
Adding descriptions about legal transactions	You can add a detailed description about the legal transaction, if required. For example, you can provide some background or additional information about the legal transaction in this field.
Archiving objects	You can archive objects that have reached the end of the retention period.

Key Feature	Use
Setting start of retention period	You can set the start of retention period for legal transactions with a specific status, such as ‘terminated’ or ‘expired’.
Uploading documents	Using the quick upload functionality, you can add attachments to the document object.
Receiving Notification	You can receive a notification when a workflow task for approval is rejected.

3.3.4 News Content Management

Business Background

Companies need to effectively communicate and disseminate crucial information within their organization. Companies need to ensure that essential news remains visible at all times, and customize content according to the needs of different user groups. A targeted and managed news strategy ensures that critical information is not overlooked.

Key Features

You can use this feature to ensure a specific news article receives the correct settings such as a publishing start and end date, a priority, and an applicable image. You can also set the language, and specify a title, footer text, and the actual description. You can choose which app to assign a specific news article to, and also associate a news article to a specific group of users.

3.3.5 In-App User Assistance

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with an in-app user assistant (currently WalkMe Premium or SAP Enable Now) to manage aspects of modern user enablement.

Key Features

When an in-app user assistant (for example, WalkMe Premium or SAP Enable Now) is integrated, SAP S/4HANA Cloud Public Edition supports you to connect content that is managed by the in-app user assistant.

3.3.6 Digital Assistance

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with a digital assistant (for example, Joule) to allow users to get their work done more efficiently.

Key Features

When a digital assistant (for example, Joule) is integrated and supports the named features below, SAP S/4HANA Cloud Public Edition enables the digital assistant to provide the following key features:

Key Feature	Use
Natural Language Interaction	The digital assistant can support a natural language interaction, for example, to allow users to get information about relevant business objects and to create or update business objects (for example, by typing a request using natural syntax). The digital assistant helps you to navigate to relevant apps and to answer your queries by searching help content, summarizing search results, and providing relevant links to the documentation.

3.3.7 Data Replication

Business Background

To replicate data from SAP S/4HANA Cloud Public Edition to another system, you can use integration options provided by SAP (for example, `Data Provisioning Agent` of SAP HANA smart data integration).

3.3.8 Intelligent Support Services

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with intelligent support services (for example, Built-In Support) to assist users with embedded access to support without leaving the current application.

For further information on the availability of intelligent support services, please contact your SAP Account Executive.

Key Features

If intelligent support services (for example, Built-In Support) are integrated, SAP S/4HANA Cloud Public Edition allows your users to use the provided services of this product within SAP S/4HANA Cloud Public Edition applications.

3.3.9 Integration with Business Data Governance

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with business data governance systems (currently, SAP Business Data Cloud) for data extraction.

3.3.10 Integration with a Central Entry Point to SAP and Other Applications

Business Background

SAP S/4HANA Cloud Public Edition supports a central entry point (for example SAP Build Work Zone, standard edition) to SAP and other applications to create a central and intuitive point of access to applications that users need for their daily business tasks.

Key Features

When a central entry point (for example SAP Build Work Zone, standard edition) to SAP and other applications is integrated, SAP S/4HANA Cloud Public Edition supports you to smoothly integrate exposed applications from SAP S/4HANA Cloud Public Edition into this central entry point.

3.4 Security Features

Business Background

Define global security settings, such as certificate trust lists.

Key Features

The following table explains the key features available:

Key Feature	Use
Maintain certificate trust list	Display a list of trusted certificates. Add new trusted certificates to the list if required.
Maintain protection allowlist	Display an allowlist of trusted hosts and trusted network zones. Add new entries to the allowlist if required.
Manage Content Security Policy	Display an allowlist of trusted sources. Add new trusted sources to the allowlist if required.
Maintain Client Certificates	Upload and centrally maintain client certificates for your area to enable secure outbound certificate-based authentication.

3.5 Message Monitoring

Business Background

Monitor interfaces that transfer important data like sales master data, sales orders, or invoices between your systems. You can view and filter the messages related to the interfaces and drill down to the detailed logs and the data content. You can solve errors and restart the messages.

Key Features

The following table explains the key features available:

Key Feature	Use
Display an overview of the messages processed through an interface	You use this feature to get an overview of all messages (with a specific status) processed through an interface.
Filter messages	You use this feature to filter for messages with the help of parameters like the status and the processing time.
Display message details	You use this feature to display more information on an individual message, for example log messages and message details.
Restart or cancel message processing	You use this feature to restart or cancel a message (only if in a certain status).
Navigate to another app	You use this feature to navigate to another app for dedicated key fields (if key field navigation is configured). If configured, you can click the content of a key field to navigate to another target application to find more details related to the associated object.
Edit non-customized fields of a message payload	You use this feature to edit the payload of messages in an emergency, even if the messages aren't customized to be changeable.
Maintain alert settings	You use this feature to maintain user-specific settings for alert notifications.
Maintain trace levels for specific interfaces	You use this feature to create new trace levels for specific interfaces, edit existing ones by, for example, setting an expiration date and time, and delete trace levels you no longer need.

3.6 Auditing

Business Background

If an audit takes place, different kinds of information have to be made available to the auditors.

Key Features

The following table explains the key features available:

Key Feature	Use
Provides particular system information to external auditors	Evaluation of information regarding the used systems can be part of an external audit. This feature allows external auditors to access particular system information.

3.7 Analytics

3.7.1 Analytical Tool

Business Background

The Analytics framework allows the customers to report business data from different virtual data models, work with real-time data, and build reports. With these reports, customers can easily visualize, interpret the data, and convert into various visualizations which in turn will help the decision-makers for better analysis.

Key Features

The following table explains the key features available:

Key Feature	Use
KPI Visualization	With this, you can: • Visualize and comprehend data from different virtual data models that represent different business areas. • Configure business metrics, interpret and interact with your data in real-time; visualize and analyze the data. • Create reports for the same KPIs. • Create stories and visualize the same. • Create tiles on the SAP Fiori Launchpad that directly launch Analytical Cloud Stories in a connected SAP Analytics Cloud tenant. The data analysis will help in accurate decision-making and the reports help you to delve deeper into the business meters, performances, and further you can drill down into the areas that need improvement. You can create groups, KPIs, drill-downs, reports, and stories.

3.7.2 Query Design

Business Background

Query Design enables you to manage the creation of analytical queries and make the results available through tiles on the SAP Fiori Launchpad.

Key Features

The following table explains the key features available:

Key Feature	Use
Manage Analytical and Non-Analytical Queries	You can: • Search, browse, and tag analytical and non-analytical queries. • Maintain the queries as the prerequisite for multidimensional apps based on those queries. • View only authorized SAP released analytical queries and authorized customized analytical queries.
Creation of Date Functions	You use this feature to create date functions that can be used by other apps to calculate single dates and date ranges.
Custom Analytical Queries	This feature enables you to maintain queries as the prerequisite for multidimensional apps based on those queries.

3.7.3 Analysis Path Framework

Business Background

Analysis Path Framework provides business users and managers an intuitive, easy to use analytical tool to perform interactive data explorations and drill-down analyses for root cause investigations.

Key Features

The following table explains the key features available:

Key Feature	Description
Configure APF-based apps	You can use this feature to build and enhance interactive analytical web applications.

Key Feature	Description
Execute APF-based apps	APF-based apps enable the user to view and analyze the data of several Key Performance Indicators (KPIs) from different data sources. You can flexibly explore KPIs and their influencing factors step-by-step by drilling down into multidimensional visualizations of data, such as charts or tables.

3.7.4 Predictive Analytics integrator (PAi)

Business Background

Predictive Analytics integrator (PAi) integrates predictive capabilities into business processes. PAi uses algorithms to predict an unknown outcome, for example, using a predictive model you can forecast when a buyer is likely to negotiate a new procurement contract.

Business cases requiring a predictive measure are described as predictive scenarios, which manage the lifecycle of the predictive models included within them.

> ⓘ Note
>
> Predictive models can only provide good predictions when trained properly. The models need to be trained with data where the outcome is known, for example, with historic data. You must retrain your model regularly to ensure predictions created are based on the most recent data.

Key Features

The following table explains the key features available:

Key Feature	Use
Predictive models	• You can train the predictive models with data relevant for your enterprise. • You can review training status and quality. • You can activate or deactivate model versions. The active model version is the one used to create predictions for consumption in relevant apps. • You can delete any inactive model versions that have never been set active.

Key Feature	Use
Predictive scenarios	Predictive scenarios describe a predictive use case by defining a business goal, the type of prediction to make, for example, regression or classification, and the data to use for the prediction. Predictive scenarios are preconfigured by SAP S/4HANA Cloud Public Edition. SAP S/4HANA Cloud Public Edition provides an interface through which you can also integrate predictive use cases from another system, currently SAP Analytics Cloud Smart Predict.

3.8 Asset Management

3.8.1 Maintenance Management

Business Background

Plant Maintenance enables you to plan and perform the maintenance of operational systems, such as machines or production installations. It comprises the inspection, maintenance, and repair measures that need to be taken to keep your assets in working order. These activities are typically performed by maintenance planners and maintenance workers.

Key Features

The following table explains the key features available:

Key Feature	Use
Technical Asset Management	This feature allows you to manage data throughout the entire lifecycle of your technical assets. You can maintain the functional location structure and all of the data required to perform effective maintenance on your pieces of equipment, including: • Technical objects and their location • Technical documentation • Maintenance task lists describing activities that need to be performed regularly • Maintenance plans listing the maintenance and inspection tasks to be performed on an asset • Measuring points for entering measurement readings Optionally, you can also maintain additional information, such as partners, risks, and warranty data.

Key Feature	Use
Maintenance Execution	This feature allows you to perform planned and unplanned maintenance tasks. It provides easy access to all maintenance-related information and increases both the efficiency and productivity of maintenance workers. Maintenance workers can review jobs assigned to them and carry out the required maintenance work based on the tasks and operations in the order. While confirming that they have finished the job, they can enter measurement readings, which the system records in measurement documents.
Maintenance Planning, Scheduling, and Dispatching	This feature allows you to perform accurate planning and scheduling to ensure that there are minimum disruptions to the operation of an asset. This means that maintenance work can be executed such that downtime is kept at a minimum. A maintenance planner or worker can create a maintenance notification that defines why the maintenance is needed, what type of work needs to be done, its priority, and when it should be completed. Maintenance orders describe the tasks and steps to be performed, for example: • You can plan the maintenance by assigning the required resources to an order so that a task can be performed. Resources include crews, individual workers, contractors, materials, and tools. • You can schedule maintenance work that needs to be done on a regular basis by using maintenance plans. You can include task lists in the maintenance items, where it is defined when the work should start, by when it should be completed, and the sequence in which the operations are to be performed. • You can dispatch the resources by assigning a crew or individual to perform a specific task of the scheduled and planned orders. Once the orders are dispatched, you can print job cards. A maintenance planner can monitor and evaluate actual costs resulting from current maintenance orders and analyze critical costs using data visualization and business intelligence.
Asset Information System	This feature allows you to analyze the performance of assets and asset management systems. • You can analyze breakdowns. You can examine their causes, the duration of the breakdowns, and the period between two consecutive breakdowns. • You can analyze damages. You can see the number of damages and the related causes, activities, technical object parts, and maintenance notifications.

3.8.2 Resource Scheduling

Business Background

Resource scheduling provides you, as a maintenance planner, with insights into your maintenance workload and available capacities for current and upcoming maintenance activities. Use resource scheduling to check

current and forecasted work center utilization, build one or more schedules for a specific period, and level work center utilization before dispatching the scheduled work. Plan which people should carry out which maintenance operations, taking into account their availability and their function at the work center.

Key Features

The following features support you with this process:

Key Feature	Use
Get an overview of KPIs related to maintenance planning	You can monitor important KPIs for your work centers, such as the following: • Number of maintenance orders that have at least one due operation in one of your work centers, sorted by priority • Utilization of your work centers • Number of maintenance orders that have at least one unconfirmed operation with an end date in the past 6 months, sorted by processing status • Hours of work in your work centers that have not yet been assigned to a person responsible, sorted by priority
Gain transparency about the current utilization of your work centers	You can see at a glance which of your work centers are overloaded and which still have free capacity. Utilization of your work centers is calculated based on the available work center capacity and the maintenance operations, suboperations, and scheduled maintenance plans that are assigned to them.
Visualize current work center utilization based on various attributes	You can graphically show work center utilization based on various attributes, such as work center, processing status, priority, or order type.
Dispatch one or multiple operations	Dispatch maintenance operations and suboperations with one click to confirm that they are scheduled at the right place and time.
Level work center utilization by moving operations to another date or work center or by adjusting work center capacity for a specific week	You can change the start date for one or multiple operations at once, for example, to level capacity for overloaded work centers. You can drag and drop multiple operations on a timeline to a new start date. You can also adjust the number of resources per work center and shift to accommodate fluctuations in workload for a specific week.
Visualize the maintenance work for your work centers	You can visualize on a timeline the maintenance operations and suboperations in your work centers as well as their processing status, thus gaining transparency about what needs to be done when.
Level work center utilization by moving orders or operations to another date	You can drag and drop multiple orders or operations on a timeline to a new start date.

Key Feature	Use
Create and delete relationships between operations	You can show implicit and explicit relationships between operations in a Gantt chart. The visualization of relationships helps you to detect relationship violations and scheduling conflicts before dispatching operations. You can also create and delete relationships between operations.
Visualize the final due date of orders	You can show the final due date of orders. The visualization of final due date of an order helps you to schedule its operations to be completed before this date.
Assign a person responsible to operations	You can assign a person responsible to the operations in your work centers. You can also change the person responsible that is currently assigned to an operation or delete the assignment.
Choose one or more people to carry out operations	You can assign operations to people in the Gantt chart. This allows you to, for example, see which people are assigned to the performing work center, use filters to find operations where nobody has been assigned, and make assignments taking into account the work load and work schedule of members of the work center team.
Create one or more schedule simulations for a schedule period and check the forecasted utilization at weekly and daily level	You can set up one or more schedules for a specific schedule period. Checking the utilization forecast at weekly level and at daily level, you can keep adjusting your schedule until you are ready to freeze the final schedule.
Use manual and/or automatic scheduling to find the best time slot for the operations in a schedule	Using manual scheduling, you set a start date, and optionally time, for selected operations. A scheduling algorithm then finds the best time slot for each operation. You can drag and drop an operation on a timeline to schedule it manually. With automatic scheduling, both start date and time slot are determined by the algorithm.
Track and review schedule attainment	You can freeze a schedule to create a snapshot of it. This allows you to monitor the completion of operations and to track schedule attainment once the schedule period starts. When the schedule period is over, you can review schedule attainment to continuously improve your scheduling skills.
Collaborate on a schedule	You can share a schedule to collaborate with other maintenance planners and with reviewers. While all planners have full permissions for the schedule, reviewers cannot make any changes to the schedule. Commenting allows all planners and reviewers to submit and track feedback on shared schedules.
Keep track of changes and activities that affect a schedule	An activity log helps you to keep track of changes and activities that happened at schedule level and at the level of the operations in the schedule.

Key Feature	Use
Visualize assets in their hierarchical structure and show the maintenance schedule for assets	You can view assets (functional locations and pieces of equipment) in their hierarchical structure, including all subassets and associated maintenance orders and maintenance items. In addition, you can visualize upcoming maintenance work on a timeline to quickly see when an asset is under maintenance and whether the maintenance work requires asset downtime.
Align maintenance orders with asset availability	You see when an asset is available to carry out maintenance and can assign orders to such a maintenance window (event). You can right-click on orders to access a context menu, which allows you to quickly assign or unassign orders to a maintenance event. You can also drag and drop multiple orders or operations on a timeline to a new start date.

3.8.3 Mobile Asset Management

3.8.3.1 Mobile Admin Monitoring

Business Background

A user with the mobile admin role monitors aspects of mobile application users and client states.

Key Features

The following table explains the key features available:

Key Feature	Use
Monitor Mobile Users	An administrator can search for and view the connectivity details of specific users of a mobile application.

Key Feature	Use
Client State Monitoring	An administrator can monitor the client state queue of the mobile application. If Client State Tracking is enabled, the following items are captured: • List of calculated object keys sent to the mobile client for the entity set read requests • Data distribution rules used for the calculation • Time of calculation By enabling client state management, the system has a record of the objects distributed to the mobile client. Enabling client state management allows the system to calculate the list of objects to be removed from the mobile client via tombstones.
Monitor Dependent Object Queues	An administrator can monitor the dependent object queue of the mobile application to ensure integrity of the data on the mobile client. When mobile users synchronize their devices, the lead objects are downloaded and the dependent object (keys) are put in the dependent object queue to be synchronized during the same session. This is also to ensure the data can be streamed if there is a network disruption.
Monitor Push Instances	An administrator can monitor the push instance queue to search for and view details of push instances.
Monitor Mobile Transaction History	An administrator can monitor the mobile transaction history queue to determine which mobile client changed a business object in the back end system.
Monitor Communication Session History	An administrator can monitor the communication sessions between the mobile client and the back end system. Administrators can investigate the length of the initial and delta synchronizations and filter for user communication sessions.
Monitor Data Object Mobile Status History	An administrator can use this app to monitor business objects were changed in the mobile app.

3.8.3.2 Maintain Mobile Application

Business Background

A user with the configuration expert role maintains the configuration for the mobile app.

Key Features

The following table explains the key features available:

Key Feature	Use
Maintain Application Defaults:	Configured values are selected as the default in corresponding input fields of the mobile app
Maintain Data Filters:	Configured values restrict which objects are downloaded to the mobile app
Maintain Application Control	Configured values manage the behavior of the app on the mobile device

3.9 Finance

3.9.1 Management Accounting and Margin Analysis

3.9.1.1 Divisional Accounting

Business Background

This application area enables you to maintain division master data, manage allocations between profit centers, analyze actual and plan data for profit centers, and reassign organizational entities.

Key Features

The following table explains the key features available:

Key Feature	Use
Master Data	You can use this feature to manage master data for profit centers, profit center groups, and hierarchies. You can use profit centers as an organizational structure to generate management reports.
Allocation between profit centers	You can use this feature to redistribute different items to different profit centers. This feature includes allocation rules maintenance, allocation runs, and allocation reporting.

Key Feature	Use
Reporting	You can use this feature to analyze actual and plan data for selected periods for a specific profit center.
Organizational Changes in Accounting	You can use this feature to change the assignment of organizational entities, such as profit centers, for objects, such as WBS elements.

3.9.1.2 Overhead Accounting

Business Background

This application area involves planning, allocation, and monitoring of overhead costs to provide cost transparency in management accounting. It captures costs by cost center and defines the output of the cost center in terms of activity types. It allows you to enter statistical key figures as a basis for your allocations at period close.

Key Features

The following features support you with this process:

Key Feature	Use
Master data in cost accounting	Managing various types of master data, such as • Cost centers • Profit centers • Cost elements • Cost rates • Activity types • Statistical key figures
Cost rates	Defining cost rates for any combination of cost center and activity type. Cost rates are needed to provide the charge basis for internal activities.
Statistical key figures	Statistical key figures serve as a basis for internal allocations.

Key Feature	Use
Overhead allocation between cost centers	Allocation of costs between cost centers, which is a typical task during the monthly closing process. To perform closing tasks in parallel using different accounting principles, you can use separate ledgers that have different accounting principles assigned.
Reporting	Analyzing actual and plan data for a selected ledger and selected periods for the following objects: • Cost centers • Market segments • P&L statements • Functional areas • Profit centers • Projects
Budget Availability Control	Control budgets in projects and cost centers. The available budget is checked with each expense posting to determine whether the budget consumption has reached a defined limit.

3.9.1.3 Inventory Accounting

Business Background

Inventory Accounting enables you to value and monitor your material and work-in-process inventories according to legal regulations and management accounting requirements. All goods movements are valued in the Material Ledger which supports parallel, event-based valuation of inventories in multiple currencies. A special focus lies on high throughput of logistics data that allows for managing mass data volumes.

You can choose to value your material inventories at standard cost or moving average automatically. In addition, you may make manual adjustments to material costs and inventory values. You may also use periodic valuation of material inventories according to product cost management requirements or statutory requirements such as Lowest Value or FIFO, or actual costing.

To valuate inventories in parallel using different accounting principles, you can use separate ledgers that have different accounting principles assigned.

Key Features

Key Feature	Use
Automatic valuation of material inventories	Valuation of material inventories in multiple currencies in parallel
Valuation methods for materials	Perpetual valuation of material inventories and goods movements at standard cost or moving average
High throughput of logistics data	Manage high logistics data volumes
Manual adjustments to material costs and inventory values	Adjust material costs and inventory values manually
Periodic valuation of material inventories	Valuation of material inventories according to statutory or product cost management requirements
Analyze inventory values	Event-based line item reports aggregated to inventory positions on the fly, with drilldown capabilities

3.9.1.4 Production Accounting

This application area enables you to analyze the cost of goods manufactured for your products. It shows production costs and offers detailed views for further analysis.

Key Feature	Use
Product Cost Analysis by Period	Enables periodic analysis of costs at the product level. You can collect the costs on a cost object over an extended period of time and analyze them in each period.
Product Cost Analysis by Order	Enables analysis of costs at production and process order level. Event-based production cost posting enables you to analyze event-based production costs, and supports event-based WIP analysis during the production process. With event-based production cost posting, you can post the costs for production orders and process orders to separate ledgers that have different accounting principles assigned.
Production Closing	The work in process function valuates unfinished products, and business objects are settled by allocating the planned or actual costs incurred, in whole or in part, to one or more receivers.
Event-Based WIP	Enables Event-Based WIP posting. WIP is posted during goods issue and confirmation, and cleared during goods receipt rather than at period-end.

Key Feature	Use
Event-Based Variance Posting	Enables Event-Based variance posting. Variances are posted during final goods receipt or during technically complete orders rather than at period-end.

3.9.1.5 Sales Accounting

Business Background

This application area enables you to analyze the profitability of your market segments and single cost objects. It shows event-based contribution margins and offers detailed views for further analysis.

You can analyze market segments by product, product group, customer, customer group, and sales organization.

Key Features

Key Feature	Use
Event-Based profitability	We provide event-based profitability analysis for customer projects and sales order items. The profitability data is taken from event-based revenue recognition based on market segment attributes such as Customer, Customer Group, Product, Product Group, or Sales Organization. You can use this information to support your internal accounting and decision-making.
Profitability reporting based on journal entries	Market segment attributes are part of journal entries. For every posting on a project, we add the market segment attributes of the assigned sales order item to the G/L line items. This makes it possible to provide the margin not only for the customer project but also for a market segment such as Customer. The market segment attributes are also available for balance sheet line items, which allows you to drill down by market segment in your WIP reporting.

Key Feature	Use
Event-based revenue recognition	Event-based revenue recognition posts recognized revenue for every cost posting on customer projects and sell-from-stock orders. Event-based revenue recognition can be enabled to support multiple-element arrangements. The transaction price for a multiple-element arrangement is allocated to the performance obligations based on standalone selling prices.
Enhanced reporting for customer projects	Additional attributes are available for margin drilldown for customer projects: • The Origin Profit Center describes the supporting profit center. • The Resource indicates whether the assigned employee is from your company, an affiliated company, or a subcontractor. You can analyze the work in process resulting from revenue recognition by project and market segment.
Overhead allocation to profitability	You can allocate your overhead costs from cost centers to market segments using a periodic run.
Realignment with master data	The market segment attributes for postings related to customer projects are usually event-based, including revenue recognition data. If changes are made to master data after posting, the data may need to be reassigned using the realignment function. Realignment can also be used to enrich profitability data with information that was not known at the time of the original posting.
Plan data import	You can import financial plan data including assigned profitability attributes. You can perform plan/actual analyses based on these data.
Journal Entries for Statistical Sales Conditions	Journal entries for statistical pricing conditions in customer invoices can be posted to an extension ledger in Financial Accounting to enhance information relevant for management reporting in Finance

3.9.1.6 Predictive Accounting

Business Background

Predictive accounting helps you to predict future results using the data from documents, such as sales orders, before actual journal entries are created for them in Finance. You can use the predictive journal entries for

these source documents in your analysis and reporting to get a better understanding of what your financial results might look like, at the end of the current period or quarter, and why.

Key Features

The following table explains the key features available:

Key Feature	Use
Predictive analysis of incoming sales orders	You can use this feature to perform an analysis of the predicted margins for incoming sales orders. This analysis is based on predictive journal entries for goods issues and billing documents using the most up-to-date sales order data in SAP S/4HANA Cloud Public Edition or from an external system. Predictive accounting then allows you to analyze presumed profits, based on incoming sales orders. In addition, it considers actual values and their effects on reducing the respective predicted values.
Predictive analysis of travel requests	SAP S/4HANA Cloud Public Edition supports the integration with a travel management system (currently SAP Concur) to calculate predictions based on travel request data. When a travel management system (for example, SAP Concur) is integrated and provides travel request data, you can use this feature to perform an analysis of the impact of travel expenses on your planned budget. This analysis is based on predictive journal entries for travel requests and expense reports.
Predictive analysis of service contracts	You can use this feature to perform an analysis of predicted revenue for service contracts. This analysis is based on predictive journal entries for revenue recognition and billing using the most up-to-date service contract data in SAP S/4HANA Cloud Public Edition. Predictive accounting then allows you to analyze presumed revenue recognition. In addition, it considers actual values and their effects on reducing the respective predicted values.
Predictive management of commitments	You can use this feature to predict the impact of a current purchase on your current budget and future expenses, starting when a purchase requisition or purchase order that is assigned to a cost center or WBS element is created in SAP S/4HANA Cloud Public Edition. You can then analyze the impact of the commitments in accounting and the effects of actual values from follow-on documents.

3.9.2 Accounting and Financial Close

3.9.2.1 Financial Accounting

3.9.2.1.1 General Ledger Accounting

Business Background

You use General Ledger Accounting to perform external accounting tasks.

Features

As a general ledger accountant, you can use the following functions:

Function	Use
Master Data	You can manage master data for profit centers, profit center groups and G/L accounts. If you specify profit centers in postings, you can create a profit and loss statement (P&L) for profit centers and a financial statement for internal purposes. G/L account master data defines how business transactions are posted on G/L accounts and how the posting data is processed. The directory of all G/L accounts is the chart of accounts.
Postings and Journal Entries	You use journal entries to reflect business transactions. You can manage open items by reversing or clearing open items for example. You can also reset a clearing. You can create recurring entries for journal entries that are repeated regularly.

Function	Use
Closing Operations and Reporting	For closing operations at period-end closing, you can use the programs available for analyzing, valuating, reclassifying, and validating journal entries. To perform valuation runs and other closing tasks in parallel using different accounting principles, you can use separate ledgers that have different accounting principles assigned. Using Accruals Management, you can post expenses in the period in which they are incurred or probably will be incurred. With these closing operations, you create a balance sheet and a profit and loss statement (P&L). Audit functions provide access to various reports and transactions you need for the audit process. There are different programs available for sales/purchases tax declarations and tax payable postings. For certain countries/regions, time-dependent tax calculation is available. SAP recommends using only certified providers for the external tax calculation process. **Note** The internal tax calculation in SAP S/4HANA Cloud Public Edition, and any reporting based on this calculation, may not meet all of the reporting requirements in your jurisdiction due to the specifics of the tax law system in the United States. You must check with your accounting or tax experts in order to make sure that the results generated by this report are fully compliant with your relevant jurisdictions' specific sales and use tax reporting requirements. **Note** Customers using the external tax calculation in SAP S/4HANA Cloud Public Edition and using the partner integration are responsible for aligning directly with their chosen tax partner on matters such as pricing and on deciding the scope of services that they require of their tax partner. Customers must license the tax partner solution directly and then deploy the necessary integration flows on the SAP CPI before using the external tax solution in SAP S/4HANA Cloud Public Edition. Under this arrangement, tax calculation and tax reporting are performed by your tax partner.

3.9.2.1.2 Asset Accounting

Business Background

You use Asset Accounting to manage and monitor tangible fixed assets. It provides detailed information about the transactions relating to tangible fixed assets.

Prerequisites

To be able to use Asset Accounting, you have to also use General Ledger Accounting.

For more information, see Accounting and Financial Close [page 74].

Key Features

As an asset accountant, you can use the following functions:

Key Feature	Use
Master Data	Using the asset master record, you can create, edit, and manage the master data of Asset Accounting.
Asset Acquisitions and Asset Retirements	You can post asset acquisitions integrated with accounts payable accounting or not integrated. Analog to this, you can post asset retirements integrated with accounts receivable accounting or not integrated. In addition to this, there are more functions available for asset acquisitions and retirements.
Depreciation	With depreciation you map impairments incurred or impairments that are due to tax law requirements.
More Transactions, Reversal	More transactions, for example post-capitalizations are available. You can reverse documents that are posted in Asset Accounting.
Closing Operations and Reporting	You post the depreciation amounts periodically, directly in General Ledger Accounting. Create an asset history sheet to represent the development of the fixed asset from the opening balance through to the closing balance. More tools for the reporting and analysis of asset portfolios, asset transactions, and depreciation are also available.

3.9.2.1.3 Inventory Accounting

Business Background

Inventory Accounting enables you to value and monitor your material and work-in-process inventories according to legal regulations and management accounting requirements. All goods movements are valued in the Material Ledger which supports parallel, event-based valuation of inventories in multiple currencies. A special focus lies on high throughput of logistics data that allows for managing mass data volumes.

You can choose to value your material inventories at standard cost or moving average automatically. In addition, you may make manual adjustments to material costs and inventory values. You may also use periodic valuation of material inventories according to product cost management requirements or statutory requirements such as Lowest Value or FIFO, or actual costing.

To valuate inventories in parallel using different accounting principles, you can use separate ledgers that have different accounting principles assigned.

Key Features

Key Feature	Use
Automatic valuation of material inventories	Valuation of material inventories in multiple currencies in parallel
Valuation methods for materials	Perpetual valuation of material inventories and goods movements at standard cost or moving average
High throughput of logistics data	Manage high logistics data volumes
Manual adjustments to material costs and inventory values	Adjust material costs and inventory values manually
Periodic valuation of material inventories	Valuation of material inventories according to statutory or product cost management requirements
Analyze inventory values	Event-based line item reports aggregated to inventory positions on the fly, with drilldown capabilities

3.9.2.1.4 Revenue and Cost Accounting

Business Background

You use Revenue and Cost Accounting to recognize revenues and calculate contract liabilities and contract assets.

Key Features

The following table explains the key features available:

Key Feature	Use
Event-Based Revenue Recognition	Event-based revenue recognition posts recognized revenue for every cost posting on customer projects and sell-from-stock orders. Event-based revenue recognition can be enabled to support multiple-element arrangements. The transaction price for a multiple-element arrangement is allocated to the performance obligations based on standalone selling prices.
Contract-Based Revenue Recognition	Contract-based revenue recognition creates revenue contracts corresponding to provider contracts, that are created in Contract Accounting and Invoicing. The system identifies the performance obligations included in each revenue contract based on the items in the provider contract. The system determines the total price by aggregating the pricing conditions and then allocating the total price among the performance obligations based on the standalone selling price. The revenue for performance obligations is recognized as they are fulfilled over time. The system calculates contract liability and contract asset values and makes postings to the general ledger to reflect revenue-related recognition transactions.

3.9.2.1.5 Intercompany Matching and Reconciliation

Business Background

Intercompany matching and reconciliation allows you to match transaction data according to the predefined rules and reconcile balances for paired accounts. You can check the matching and reconciliation results and perform follow-up activities such as adding notes, triggering workflows, or making auto-adjustment postings.

Key Features

The following table explains the key features available:

Key Feature	Use
Define matching rules and reconciliation cases	You use this feature to define the criteria for selecting documents from data source and the filters for aggregating and comparing balance amounts for paired accounts. In addition, you can define matching rules to matching transaction documents.
Manage document assignments	This feature enables you to: • Run auto-matching for documents based on predefined rules. • Manually process document assignments. • Trigger follow-up activities. • Display detailed lists of documents and items and their assignment status.
Reconciliation reports	This feature provides overall reconciliation status and detailed reconciliation balances reports.

3.9.2.2 Compliance Formats - Preparation Support

Business Background

You can create, process, and monitor electronic documents and statutory reports.

Please note that not all features are provided for each and every country/region. For more information about the available features for a country/region, please contact your SAP Account Executive.

Key Features

The following table explains the key features available:

Key Feature	Use
Setup of reporting entities	You can define reporting entities you need to fulfill compliance requirements for your organization. You can also configure the relevant attributes.

Key Feature	Use
Generation, display, and download of electronic documents and reports	You can generate electronic documents or reports in certain formats. Where legally required, you can also generate correction, additional correction, and clarification runs for reports and business correspondence for electronic documents and reports. You can display and download electronic documents and reports. You can choose to generate statutory reports immediately, or schedule the report generation for a later point in time. You can also cancel the report runs that are in process. Where supported, you can generate ad-hoc reports.
Display	Where supported, you can display the electronic document or report in its raw file format. For some scenarios, a human readable version of the electronic document is provided.
Basic monitoring and audit log	You can monitor the compliance status and due dates of the supported reports. You can view and process the activities that are relevant for completing your compliance reporting scenario. A basic audit log is provided. You can upload complementary compliance attachments to your reports, supporting your audit needs.
Status tracking of manual submissions	Depending on local requirements, submission to authorities can be achieved by downloading the ready to use format and manually submitting it to the authorities or entering the data in the tax portal based on ready to use reporting data.

Note

On top of these features, SAP S/4HANA Cloud Public Edition provides additional features, which might require additional license. For the list of additional features see, Document and Reporting Compliance [page 85]. For more information, please contact your SAP Account Executive.

3.9.3 Advanced Accounting and Financial Close

3.9.3.1 Contract and Lease Management (CLM)

Business Background

Lease contracts describe contractual agreements between two partners: the lessor and the lessee. The lessor owns an asset, whereas the lessee has a right to use this asset during the period agreed in the lease contract. The lessee makes lease payments for the use of the asset, as agreed upon in the lease contract.

Contract and Lease Management provides a single point of entry for the collection and validation of lease contract data, valuation calculations, and the generation of financial postings derived from these calculations. It supports the requirements for the new IFRS 16 and US GAAP ASC 842 standards.

Key Features

The following table explains the key features available:

Key Feature	Use
Contract Management - Lease in	You can create new contracts, run periodic postings for existing contracts, as well as valuation postings for existing contracts. You can change the supplier of an existing contract and run reports for your existing contracts as part of your daily business. You can create reminder rules for each contract, for example, to check contract conditions, contract terms, or renewal options. These rules help you save time and effort, which frees up capacity for more strategic tasks. Leveraging the reporting functions enables you to make better and more informed lease management decisions.
Contract Management - Lease out	This feature helps you standardize and automate your lease-out debit contract management activities for real estate, as well as for machinery, equipment, vehicles, and computer hardware. You can create new contracts and run periodic postings for existing contracts. You can change the customer of an existing contract, as well as run a report for existing contracts as part of your daily business.

Key Feature	Use
Contract Management – Sublease/Intercompany	This feature allows you to assign or give certain rights to the sublessee, an affiliate company, that are held under the terms of the own original lease with the landlord. The company handles the sublease contract and related valuation under local GAAP, IFRS, or US GAAP standards. You can create new contracts and run periodic postings for existing contracts. You can change the customer in an existing contract, as well as run a report for existing contracts as part of your daily business.
Service Contract	This feature allows you to standardize and automate your contract management activities for lease service credits in real estate, as well as for machinery, equipment, vehicles, and computer hardware. You can create new contracts and run periodic postings for existing contracts. You can change the supplier in existing contracts, as well as run reports for existing contracts as part of your daily business. You can create reminder rules for each contract, for example, to check contract conditions, contract terms, or renewal options. These rules help you save time and effort, which frees up capacity for more strategic tasks. Leveraging the reporting functions enables you to make better and more informed lease management decisions.

3.9.3.1.1 Integration with a Location Management System

Business Background

To manage real estate objects more efficiently, SAP S/4HANA Cloud Public Edition supports the integration with SAP Real Estate and Facilities Management by Planon.

Key Features

The following key features are supported:

Key Feature	Use
Usable Objects and Contract and Lease Management	Usable objects allow you to enable portfolio-related and non-portfolio related objects for use.

Key Feature	Use
Rentable Object and Contract and Lease Management	Rentable objects allow you to enable portfolio-related and non-portfolio related objects to be assigned to an external lease-out contract.
Real Estate Cost Allocation	Real estate cost allocation allows you to allocate internal costs from an external application, such as SAP Real Estate and Facilities Management by Planon, to accounting objects.
Intercompany Processes and Contract and Lease Management	Intercompany processes allow you to enable portfolio-related and non-portfolio related objects for the assignment to an affiliated company, and to manage lease-in and lease-out contracts automatically.
Cost Settlement	The cost settlement solution in Contract and Lease Management allows you to distribute expenses incurred for leased or owned buildings/lands among tenants according to individual leases.

3.9.3.2 Joint Venture Accounting

Business Background

Joint Venture Accounting (JVA) enables you (for example, as an accountant) to capture all venture related costs by venture and equity group and to allocate billable costs to the venture partners according to the partner's working interests. It comprises the management of cash calls, equity changes, venture liabilities, partner billings, and the calculation of joint venture overheads to ensure both proper funding of the venture projects as well as timely re-imbursement of billable costs by the partners.

Key Features

The following table explains the key features available:

Key Feature	Use
Master Data	You can, for example, create the following master data: • Joint venture partner • Joint operating agreement • Joint venture • Suspended cost objects • Intercompany and intracompany mappings for cost centers, WBS elements, and accounts

Key Feature	Use
Actual Posting	You can conduct cash calls as both operating and non-operating partner. Furthermore, you can manage non-operator invoices, non-operator invoice forms and form lines as non-operating partner.
JV Month End Processes	With this feature, you can execute month end processes in the background. These include: • Joint venture overhead • Equity change/adjustment • Suspense of costs • Cutback (allocation of billable costs to partners) • Partner billing • Netting • CI/NPI netting reporting • Funding (reimbursement of venture liabilities)
JVA Reporting	This feature allows you to report on venture and equity group expenses in real-time by gross and net share as well as by operator and non-operating partner. You can conduct a report on upstream-related finance figures as well as on venture expense analyses.
Access Data from External Systems	You can read and maintain joint venture and joint operating agreements via includelisted APIs. You can retrieve a list of latest billing files stored in the Document Management System (DMS).

3.9.3.3 Corporate Close - Group Reporting

Business Background

Corporate Close allows you to prepare consolidated financial statements for group reporting, for both legal and management reporting purposes. This process offers a high degree of flexibility regarding the data collection process. You can highly integrate with the accounting features to automate the consolidation data collection process.

Key Features

The following table explains the key features available:

Key Feature	Use
Master data	Consolidation objects come with master data maintenance apps or self-service configuration apps. The main objects are the consolidation chart of accounts and the consolidation units and groups that represent organizational entities. Consolidation units are the smallest consolidation relevant organizational units and are grouped into consolidation groups.
Data collection	You can collect financial statement related data from SAP systems as well as non-SAP systems. Various procedures are available for doing this, for example, with direct integration to the accounting module that resides on the same system tenant.
Data preparation	You can check the consistency of reported financial data by using validation rules. You can check the quality of your intercompany data by using intercompany matching and reconciliation. The reported financial data can be translated into the group currency.
Consolidation	Consolidation rules can be applied for interunit eliminations and consolidation of investments and executed on the reported data. Validations can be used to check the consistency of the consolidated financial data.
Reporting	Embedded analytics can be used for reporting and data analysis on company and consolidated data.

3.9.3.4 Document and Reporting Compliance

Business Background

You use document and reporting compliance features to create, process, and monitor electronic documents and statutory reports. The document and reporting compliance features are listed below.

Please note that not all features are provided for each and every country/region. For more information about the available features for a country/region, please contact your SAP Account Executive.

Key Features

The following table explains the key features available:

Key Feature	Use
Extensive process orchestration, automation, and error handling	For outgoing documents, such as customer invoices, the system processes steps required by each business scenario and applies corresponding statuses to the electronic documents in an automated way. You can display notifications and errors that occur throughout the entire end-to-end process.
Additional reporting activities	Additionally to report generation, you can execute additional manual reporting activities that are relevant for your reporting process. You can make changes to document data after the document has been generated. You can move one or more tax items between the reporting periods by changing the tax reporting date. You can validate your legal reports within the organization before submitting them to the tax authorities using workflow for approval. You can clear the withholding tax open items based on the documents included in the declaration and automatically create an account payable document to initiate the payment to authorities. You can create multiple reporting runs at once. You can simultaneously update the submission statuses for multiple reporting runs. Additionally, you're able to update the status for all common reporting activities across multiple reports within the same reporting entity and period . You can update the status of reporting activities enabled as reporting entity activities once, and it will be reflected across all reporting tasks related to that reporting entity and period where this activity is assigned.
Monitoring of document/report history and audit trail	You can monitor all process steps that a document/report has been through and view the statuses throughout the entire end-to-end process of an electronic document or report. A full audit trail is provided.
Analytics	You can perform embedded analytics for compliance reports using data analysis. You can track the items considered for reporting under a specific report version for the supported reports. This tracking helps you to analyze and audit these documents. You can transfer data to an analytics system for detailed business data analysis to get an overview of the entire reporting status across all countries/regions.

Key Feature	Use
Easy-to-use preview	You can visualize and interpret output formats in a user-friendly and consistent way. Report fields are labeled and translated into the logon language.
Link to source document	From each electronic document or report, you can trace back to the source document(s) it refers to in the original applications.
Incoming documents	You can process incoming electronic documents (for example, receive, validate, acknowledge, accept and/or reject them) for Australia, Austria, Belgium, Brazil, China, Denmark, Germany, Italy, the Netherlands, New Zealand, Norway, Poland, Singapore, Sweden, and Turkey.
E-mail integration	In the following countries/regions, you can configure the system to send electronic documents to your business partners via e-mail: Brazil, Germany, Italy, Mexico, and Turkey.
Process of electronic documents under contingency	When there are issues with the communication of electronic documents or reports to external systems, you can switch to a contingency process to proceed with your business transactions without disruption. This feature is currently available only for Brazil.
Extensibility	You can use a reference report, an electronic document, and a process definition to extend an existing report, electronic document, or process or copy it. You can create your own reports, electronic documents, or process definitions. You can reuse existing report categories by creating report categories with reference. In some scenarios (such as for Brazil), integration with external sources or APIs for partner integration is available.
Correspondence to Business Partners	You can mass-process all the correspondence items through the different output channels supported for communication to the business partners.

3.9.4 Treasury Management

3.9.4.1 Cash and Liquidity Management

Business Background

To preside over the cash assets of a company, cash managers need to closely monitor cash positions and centrally manage banks and bank accounts for the organization.

Key Features

Key Feature	Use
Cash Positions	You can use this feature to check the actual and forecasted cash positions to assist cash allocation decision-making.
Banks and House Banks	You can use this feature to display, create, and change data about the banks that your company, your customers, and your suppliers use to transact business.
Bank Account Master Data	You can use this feature to centrally manage the master data of your company's corporate or business bank accounts, as well as house bank accounts.
Memo Record	You can use this feature to create memo records manually and edit memo records in a list.

3.9.5 Advanced Treasury Management

3.9.5.1 Advanced Payment Management

Business Background

The Advanced Payment Management allows you to centralize all payment activities of a corporate group. This provides the ability to monitor and approve payments initiated by SAP or non-SAP systems including Contract Accounting and convert the payment files into other payment formats. In addition, your cash position is always updated based on payments received from connected systems.

Besides the payment centralization functionality, the solution provides the capability to act as an internal bank for all subsidiaries of the corporate group with all functionalities like an external house bank. The in-house banking capability is part of Advanced Payment Management and allows corporates to reduce external house bank accounts of their subsidiaries as well as to get the full picture of cash positions for all subsidiaries including the corporate itself.

Key Features

The following table explains the key features available:

Key Feature	Use
Map external payment formats	You can use this feature to map external payment formats received from connected local systems to an internal ISO20022 based structure to enable centralized payment processing. The result of this mapping is a payment order with one or multiple recipient transactions.
Monitor payments received from SAP or non-SAP systems	You can use this feature to monitor payments received from SAP or non-SAP systems throughout their lifecycle.
Define payment agreements and corresponding rules to process payments	You can use this feature to define payment agreements to influence the way how a payment is processed. These agreements include, for example, the payment format which is required by a certain bank or for a certain payment type. In order to determine and finally apply the relevant agreement, flexible rules can be defined using attributes such as currency, amount, bank country, bank and priority.
Update cash position	With this feature the system updates the cash position based on the processing results.
Approve payments	You can use this feature to (partially) approve or reject payment batches. After full approval, the payment medium for the batch will be created and sent to your bank.
Create outbound payment formats	With this feature the system triggers the generation of the bank payment format. For outbound a mapping towards the bank format is performed. The target format is maintained in the determined payment agreement. Once a payment format is generated the API based communication towards SAP Multi-Bank Connectivity is triggered directly.
Maintain internal house bank accounts	With this feature you, as an internal bank, can offer internal house bank accounts to your subsidiaries. The accounts have the same functionality as accounts by external house banks. These accounts can be used to pay invoices. Accounts can be opened, maintained, and closed. A workflow for four-eyes checks are available as well.
Account lifecycle	You can use this feature to manage account lifecycle. Within a typical account lifecycle, internal house bank accounts interests are calculated, bank statements are generated and several notifications can be provided for details. Limits can also be defined and can influence the payment processing.

3.9.5.2 Cash and Liquidity Management

3.9.5.2.1 Cash Daily Operations

Business Background

Every day, cash managers need to perform tasks such as monitoring cash positions, making bank transfers, approving payments, pooling cash, and so on, to ensure the corporate functions and the business runs with enough fund.

Key Features

Key Feature	Use
Bank statements	You can use this feature to import and manually create bank statements.
Bank statement import status	You can use this feature to monitor the import status of intraday and end-of-day bank statements for all the bank accounts that are set to be monitored.
Cash positions	You can use this feature to check the actual and forecasted cash positions to assist cash allocation decision-making.
Cash flow items	You can use this feature to track document line items that have impact on your company cash flows, for example, invoices, payments, bank statements, memo records, and so on.
Bank transfers	You can use this feature to initiate bank-to-bank transfers and monitor the bank transfer payments that you made. You can also define and use templates to speed up your routine work for regular bank transfers.
Cash pooling	You can use this feature to create or remove cash pools, which can later be used in cash concentration between the assigned bank accounts.
Payment approvals	You can use this feature to approve or reject outgoing payments before the payment files are sent to banks.
Memo records	You can use this feature to create memo records manually and edit memo records in a list.

Key Feature	Use
Cash trade requests	You can use this feature to create cash trade requests for foreign exchange deals and money market funds, based on which the creation process of trade requests will be triggered automatically.
Cash flow reconciliation	You can use this feature to manually reconcile intraday memo records with forecasted cash flows to gain a more actual forecast of your bank account balances.

3.9.5.2.2 Bank Account Management

Business Background

To manage the bank accounts of a company, cash managers need to carry out activities such as creating, modifying, and closing bank accounts.

> ⓘ Note
>
> This solution is intended for corporate and business bank accounts only. You should not use it for personal bank accounts.

Key Features

Key Feature	Use
Banks and house banks	You can use this feature to display, create, and change data about the banks and house banks that your company, your customers, and your suppliers use to transact business.
Bank account master data	You can use this feature to define master data for your company's corporate or business bank accounts, such as: • Common properties of bank accounts • Payment approvers • Overdraft limits
Dual control	You can use this feature to implement a dual control process for bank account management. With this process, revisions are saved whenever users create, modify, copy, reopen, or close a bank account. The revisions have to be activated by another authorized user before they become effective.

Key Feature	Use
Workflow processes	You can use this feature to control the process of opening, modifying, closing, reviewing, and mass changing payment approvers of bank accounts
Sent and received requests	You can use this feature to track and process workflow requests that you have sent or received for bank account creation or changes.
Bank account reviews	You can use this feature to perform the following tasks: • Initiate a review process for selected bank accounts to ensure that the bank account master data is up to date • Review bank accounts that are assigned to you • Check all the review requests that are in process or completed
Bank fees	You can use this feature to perform the following tasks: • Import bank services billing files to your system manually, or use the automatic import function of SAP Multi-Bank Connectivity • Monitor imported bank fee data • Define bank fee conditions and use the conditions to validate imported bank fee data
Bank correspondence	You can use this feature to generate correspondence letters to banks for bank accounts that are set to closed or have payment approver changes in the system.
Bank relationship overview	You can use this feature to view the key information about bank relationship management all in one place, such as recent payments, bank profiles, bank fees, and so on.
Bank account balances	You can use this feature to view bank account balances updated by imported end-of-day bank statements. You can also manually update or import bank account balances. In addition, you can monitor whether bank account balances have been updated in time for your bank accounts.

3.9.5.2.3 Liquidity Management

Liquidity Management

Cash managers need to make estimates of future cash flows so that they can see clearly what payment obligations are to be fulfilled and whether there is the need to make investment or funding plans.

Key Features

Key Feature	Use
Cash flow analysis and forecast	You can use this feature to do the following: • Check the daily cash inflows and outflows • Analyze the past actual cash flows with various dimensions • Forecast the future liquidity trend with flexible selections of analytical dimensions, such as bank, country/region, company code, and so on. • Adjust liquidity items by leveraging machine learning capabilities. **Note** Please note that this feature is only available for customers who have licensed SAP S/4HANA Cloud for cash management with SAP S/4HANA Cloud 2202 or before.
Snapshot	You can use this feature to enable automatic captures of cash positions, actual cash flows, and forecasted cash flows. You can view historical figures as they were at the time of any snapshot date and make comparison between different forecasts as well as between actual cash flows and forecasts.

3.9.5.3 Debt and Investment Management

Business Background

You can portray the process for managing your liabilities and capital investments. The following functional areas are covered: Front Office, Middle Office, Back Office, and Accounting. In addition, integrated posting and payment processes and integrated position reporting are available.

Key Functions

Function	Use
Analyze Financial Status	You use this feature to display the net financial status of a company code or group of company codes on a specific key date and drill down to individual financial positions.

Manage Financial Transactions	You use this feature to manage financial transactions for the following areas:
	• Money market:
	  • Deposits at notice
	  • Commercial papers
	  • Cash flow transactions
	  • Interest rate instruments (for example, fixed-term deposits)
	  • Current Account-Style Instrument
	• Bilateral facilities
	• Derivatives
	  • Interest rate swap
	  • Cross-currency interest rate swap
	• Securities
	  • Invest in stocks
	  • Invest in investment certificates, such as money market funds
	  • Issue or invest in bonds with fixed or variable interest as well as zero-coupon bonds
	• Trade finance
	  • Bank guarantee
	  • Letter of credit
	The type of financial transaction dictates which functions are available for processing the financial transaction across its lifecycle.

Manage Payment Proposals	You use this feature to revise and release payment proposals. Journal entries are then generated in the finance system. **Note** For further processing you can use features of the Invoice Management to transfer the data required for electronic payment transactions to banks via a data medium.
Post Business Transactions in Financial Accounting	Using the integration with Financial Accounting, your posting-relevant flows can be posted in Financial Accounting.

Function	Use
Manage Financial Positions in Parallel in Accordance with Different Accounting Principles	You use valuation areas to portray parallel accounting. Several valuation areas are defined reflecting different accounting principles. You post the valuation results separately for each valuation area. **Note** Predefined settings and configuration steps are available for Treasury accounting across the various accounting principles, but they might not meet all of the accounting requirements specific to the accounting principles you use. SAP recommends that you review the available Treasury accounting features and settings with your auditor during the test phase of your project to ensure that you comply with the applicable accounting principles.
Securities Account Management	You can • manage master data for securities and securities accounts. • manage your securities positions held on securities accounts across their lifecycle, for example, by fixing and posting condition-based dividend flows.
Execute Period End Closing	For period-end closing, you can use the programs available for closing operations, such as calculating NPVs for your financial transactions and position and valuating of your treasury positions for a specific key date.
Execute Valuation Class Transfer	You can use the valuation class transfer function for individual or multiple positions. You can reverse the valuation class transfer.
Execute Account Assignment Reference Transfer	You use the account assignment reference to control which G/L account in Financial Accounting is used to manage the respective position. You assign an account assignment reference to each position. With the account assignment reference transfer, you can post positions with their book value from one account assignment reference to another. This is similar to how financial positions can be transferred between G/L accounts.
Analyze Financial Transactions and Treasury Positions	You can use a range of reports to analyze your financial transactions and treasury positions specific to a key date or period.

Function	Use
Perform Clearing Threshold Reporting	Clearing Threshold Reporting (CTR) supports NFCs in monitoring their derivative financial transactions that were not concluded for risk mitigation.
Determine Market Risks of Financial Transactions	You can measure the market risk of your financial transactions. You do this using mark-to-market methods, such as NPV analysis.
Limit Management	You use this feature to measure, analyze, and control the limits for your business partners.
Manage Market Data	You use this feature to store the market data that you require for valuating and processing your financial transactions (such as FX rates, swap rates, reference interest rates, FX rate volatilities, credit spreads). For this, you can import market data.
Transfer Legacy Data	If you want to implement the transaction management and your data (legacy data) is stored in a source system, you need to ensure that this data is available for a key date. Legacy data is transferred to the system using a process comprising a number of steps.

3.9.5.4 Financial Risk Management

Business Background

You can deploy robust analytical functions that perform thorough checks for foreign exchange risks and counterparty risks.

You can model a range of scenarios to gain insights into the extent of risks at the time of the analysis.

The system provides support throughout the hedging process, from identifying risks and quantifying and analyzing them through to hedging risks with hedging instruments. For financial transactions used as hedging instruments, the complete process is covered, from front office, middle office, and back office through to accounting.

Key Functions

Function	Use
Determine FX Risk Positions	You use this feature to collect future incoming and outgoing payments of your company that are associated with an FX risk. These payment flows are either actual payments that already have a fixed amount and time settings or they are only planned payments. This helps you to identify the risks in payment flows.
Hedge Management	You use this feature to gain an overview of the foreign exchange risk that your company is exposed to, as well as an overview of the financial instruments that you have used to mitigate that risk.
• Review Balance Sheet FX Risks	You use this feature to calculate and review balance sheet FX exposures and the related financial transactions used for hedging as well as the resulting net exposure.
• Determine Net Open Exposures	You use this feature to gain an overview of the FX risk that your company is exposed to as well as of the financial transactions that you used to mitigate that risk. It reports FX exposures and financial transactions (hedges) managed in Treasury and Risk Management. The net open exposures, that represent the unhedged portion of the FX exposures, and additional key figures are calculated, supporting you in making your hedging decisions.

Manage Financial Transactions Used for Hedging	You use this feature to manage the following kinds of financial instruments used for hedging purposes:
	• Foreign Exchange
	  • Spot/Forward transactions
	  • Non-deliverable forward transactions
	  • FX swap
	• FX options
	The type of financial transaction dictates which functions are available for processing the financial transaction across its lifecycle.

Manage Correspondence for Financial Transactions	You can create a correspondence document (confirmation/deal slip) to be sent to your business partners/internal recipient via mail. Further, you can print the correspondence both automatically and manually.

Function	Use
Manage Payment Proposals	You use this feature to revise and release payment proposals. Journal entries are then generated in the finance system. **Note** For further processing you can use features of the Invoice Management to transfer the data required for electronic payment transactions to banks via a data medium.
Post Business Transactions in Financial Accounting	The integration with Financial Accounting enables your posting-relevant flows to be posted in Financial Accounting.
Manage Treasury Positions in Parallel in Accordance with Different Accounting Principles	You use valuation areas to portray parallel accounting. Several valuation areas are defined reflecting different accounting principles. You post the valuation results separately for each valuation area. **Note** Predefined settings and configuration steps are available for Treasury accounting across the various accounting principles, but they might not meet all of the accounting requirements specific to the accounting principles you use. SAP recommends that you review the available Treasury accounting features and settings with your auditor during the test phase of your project to ensure that you comply with the applicable accounting principles.
Hedge Accounting	Enables you to perform hedge accounting for cash flow hedges to support IFRS 9 and U.S. GAAP requirements for the foreign exchange exposures that your company is exposed to including an automated designation process, which automatically designates hedging instruments into a hedging relationship when the financial transaction is saved, classification and reclassification process of designated hedging relationships as well as the dedesignation process.
Execute Period End Closing	For period-end closing, you can use the programs available for closing operations, such as calculating NPVs for your financial transactions and position and valuating of your treasury positions for a specific key date.
Execute Valuation Class Transfer	You can use the valuation class transfer function for individual or multiple positions. You can reverse the valuation class transfer.

Function	Use
Execute Account Assignment Reference Transfer	You use the account assignment reference to control which G/L account in Financial Accounting is used to manage the respective position. You assign an account assignment reference to each position. With the account assignment reference transfer, you can post positions with their book value from one account assignment reference to another. This is similar to how financial positions can be transferred between G/L accounts.
Analyze Financial Transactions and Treasury Positions	You can use a range of reports to analyze your financial transactions and treasury positions specific to a key date or period.
Perform Clearing Threshold Reporting	Clearing Threshold Reporting (CTR) supports NFCs in monitoring their derivative financial transactions that were not concluded for risk mitigation.
Determine Market Risks of Financial Transactions	You can measure the market risk of your financial transactions. You do this using mark-to-market methods, such as NPV analysis.
Limit Management	You use this feature to measure, analyze, and control the limits for your business partners.
Manage Market Data	You use this feature to store the market data that you require for valuating and processing your financial transactions (such as FX rates, swap rates, reference interest rates, FX rate volatilities, or credit spreads). For this, you can import market data.
Transfer Legacy Data	If you want to implement transaction management and your data (legacy data) is in a source system, you need to ensure that this data is available for a key date. Legacy data is transferred to the system using a process comprising a number of steps.

3.9.5.5 Integration Scenarios

3.9.5.5.1 Integration with External Trading Platforms

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with external trading platforms (currently the **trading platform integration** application). SAP S/4HANA Cloud Public Edition provides an interface that

allows foreign exchange transactions traded on an external trading platform to be transferred to SAP S/4HANA Cloud Public Edition. This enables seamless FX risk management processes as the key figures in SAP S/4HANA Cloud Public Edition are automatically updated to reflect the traded amount.

3.9.5.5.2 Treasury Workstation Integration to Accounting

Business Background

SAP S/4HANA Cloud Public Edition supports the transfer of accounting documents to an existing enterprise resource planning environment (currently SAP S/4HANA and SAP ERP Central Component). Treasury and Risk Management manages the financial transactions and generates the corresponding postings in SAP S/4HANA Cloud Public Edition. These postings can be transferred to the Financial Accounting component in the enterprise resource planning system.

Key Features

The following table explains the key features available:

Key Feature	Use
Document Replication	You can transfer accounting documents from SAP S/4HANA Cloud Public Edition to an enterprise resource planning system.

3.9.5.5.3 Treasury Payment Request Integration

SAP S/4HANA Cloud Public Edition supports you to generate and pay payment requests in central Financial Accounting component (currently either handled in an SAP S/4HANA system or an SAP ERP system). Treasury and Risk Management manages the financial transactions and triggers the payment request creation. The payment request is created in the central Financial Accounting component system either an SAP S/4HANA or SAP ERP system.

3.9.5.5.4 Treasury Workstation Cash Integration

With the Treasury Workstation Cash Integration, you can deploy your SAP S/4HANA Cloud Public Edition system as a Treasury Workstation and integrate with other business systems. The following table explains the key features:

Key Feature	Use
Replicating house banks, house bank accounts, and bank accounts	You can replicate house banks, house bank accounts, and bank accounts from your SAP S/4HANA Cloud Public Edition system to SAP S/4HANA systems and some certain versions of ECC (ERP Central Component) systems, or from an SAP S/4HANA system to your SAP S/4HANA Cloud Public Edition systems.
Receiving and releasing cash flows from other business systems	You can receive cash flows from SAP S/4HANA systems and third-party systems and then use a review and release process to ensure the correctness of the integrated data.

3.9.6 Financial Operations

3.9.6.1 Receivables Management

3.9.6.1.1 Accounts Receivable Accounting

Business Background

You use accounts receivable accounting to process open customer invoices and monitor incoming payments.

Key Features

For this purpose, you can use the following features:

Key Feature	Use
Monitoring of receivables	You can manage receivables, display customer balances, and process individual customer items.

Key Feature	Use
Clearing of open items	You can post incoming payments, manage down payment requests, clear open items manually, and reprocess bank statement items.

3.9.6.1.2 Integration with Machine Learning Intelligence SAP Cash Application

Business Background

Financial Operations supports the integration with the machine learning system SAP Cash Application to allow users to optimize their banking processes.

Key Features

If SAP Cash Application is integrated, it supports the features listed below. SAP Cash Application enables you to use the following services:

Key Features	Use
Receivables Line-Item Matching	Provides proposals for matching receivables with incoming bank statement items and automatically clears them.
Receivables Line-Item Matching for Lockbox	Provides proposals for matching receivables with incoming lockbox files and automatically clears them.
Payables Line-Item Matching	Matching payables (supplierr invoices) are proposed for the supplier-initiated payments (bank statement items) and can be automatically cleared based on configured thresholds.
Customer Account Identification	Provides proposals for customer accounts to identify the payer of a bank statement item.
Payment Advice Extraction	This service extracts information about payments from un-structured payment advices in PDF format, and uses this information to automate the clearing process.

3.9.6.1.3 Credit Management

Business Background

The creditworthiness and payment behavior of your business partners affect the business results of your company immediately.

Key Features

Key Feature	Use
Credit Check	You can assign credit limits to credit accounts. The system can automatically check incoming sales orders against these credit limits.

3.9.6.2 Invoice Management

3.9.6.2.1 Accounts Payable Accounting

Business Background

Invoices are created in purchasing and submitted to accounts payable. As an accounts payable accountant, when you receive an invoice, you can view key performance indicators (KPIs) for the invoice and process the invoice.

Key Features

The following features support you with this process:

Key Feature	Use
Import of supplier invoices	You use this feature to import multiple supplier invoices all at once.
Management of recurring supplier invoices	You use this feature to create and edit recurring supplier invoices and post supplier invoices.

Key Feature	Use
Analysis of payments to suppliers	You use this feature to view information about payments to suppliers. You can check the overdue payable amount and the future payable amount. If you identify negative trends in the payable amount, you can notify the responsible persons to take action.
Management of cash discounts	You use this feature to forecast the available cash discounts and to monitor the cash discount utilization in your responsible area. You can find out where you need to make better use of cash discounts in order to avoid cash discount loss in the future.
Clearing of open items	You can post outgoing payments, manage down payment requests, and clear open items manually.
Reviewing of cleared overdue invoices	You use this feature to get details and statistical facts about cleared overdue invoices.
Evaluation of days payable outstanding	You use this feature to identify suppliers with the highest or the lowest days payable outstanding.
Management of payments	You use this feature to create, post, and, if necessary, reverse payments.
Management of payment blocks	You use this feature to set and remove payment blocks on invoices or supplier accounts.
Management of payment proposals	You use this feature to revise and release payment proposals. Journal entries are then generated in the finance system.
Reviewing of checks	You use this feature to display a check from a payment run as a PDF. You can then view the check details.
Management of payment media	You use this feature to transfer the data required for electronic payment transactions to banks via a data medium. A payment medium is created with each successful payment run.

Related Features

For information about invoice processing in *Sourcing and Procurement*, choose *Sourcing and Procurement* > *Invoice Management* > *Invoice Processing*.

3.9.6.2.2 Discount Collaboration (Business Network Integration)

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with business networks or external systems (currently the SAP Business Network) to enable you to collaborate on discount management with your suppliers. You can do this by exchanging invoice-related messages between SAP S/4HANA Cloud Public Edition and the business network.

If the business network or external system (for example, SAP Business Network) is integrated and supports the features listed below, SAP S/4HANA Cloud Public Edition enables you to manage cash discounts from initial offer through to agreement. This optimization of cash discounts can increase your company's profits, and gives your suppliers the opportunity to receive their payments earlier.

Key Features

Key Feature	Use
Open payables	Send information about open payables to the business network or external system.
Updates to open payables	Send updates to information already sent about open payables if there are changes that impact the negotiations about early payment.
Adjustments to open payables	Receive information from the business network or external system about adjusted cash discounts and due dates of open payables.
Monitoring	Monitor, troubleshoot, resend, and cancel outbound messages.

3.9.6.2.3 Payment Advice Collaboration (Business Network Integration)

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with business networks or external systems (currently the SAP Business Network) to enable you to collaborate on payment advices with your suppliers. You can do this by exchanging messages between SAP S/4HANA Cloud Public Edition and the business network or external system.

If the business network or external system (for example, SAP Business Network) is integrated and supports the features listed below, SAP S/4HANA Cloud Public Edition enables you to collaborate with your suppliers by sending them payment advices via the business network or external system.

Key Features

Key Feature	Use
Payment advices	Send payment advices to suppliers via the business network or external system.
Monitoring	Monitor, troubleshoot, resend, and cancel outbound messages.

3.9.6.3 Electronic Bill Presentment and Payment

Business Background

Electronic bill presentment and payment enables presenting bills on the Web, thus allowing your customers to pay their bills online.

Key Features

The following table explains the key features available:

Key Feature	Use
Invoice processing	You avoid accounting and settlement errors and delays thanks to immediate access to invoice copies. The following features are available: • View, download, and fully or partially clear invoices. • Add and download attachments for invoices. • View note to payee. • Create and view disputes on invoices and leave comments on the disputes. • Leave comments on invoices.

Key Feature	Use
Secure payments	You can better control the time of payment and manage cash flow thanks to simplified and secure processing of electronic payments. The following features are available: • Create and manage payment advices. • Make full or partials payments using credits, direct debits, or credit cards.
Master data management	You manage the master data of your accounts, including contact information, bank information, and credit cards.
Account statement monitoring	You view the statements for your accounts.
Account assignment	You define the accounts that should be assigned to each user.
Custom fields	You can add custom fields to meet your business needs.
Table layout customization	You can customize the layout of the tables to view only the columns that you need.

3.9.6.4 Settlement Management

Business Background

Settlement management provides the *sales rebate processing*, *purchasing rebate processing* and *sales commission settlement* including core business functions that are fully integrated in the order-to-cash cycle.

Rebate processing and commission settlement is used to settle subsequent rebates and commissions based on business volume or quantity. Settlement can take place at document item level. Due to the high volume of documents involved, settlement is usually based on cumulative key figures, like business volume, derived from transactional data in documents.

Key Features

The following table explains the key features available:

Key Feature	Use
Condition contract management	• Create, process, extend and display rebate agreements in the form of a condition contract. • Use condition contracts to grant rebate payments based on different criteria, such as whether a specific sales business volume has been reached. • Create condition contracts with multiple customers, suppliers or external sales agents as settlement recipients. • Create 2-step condition contracts to collect and post settlement documents of different condition contracts in one journal entry to accounting. • Create condition contracts with contract type "Goods Related" in case the taxation of the settlement items should be the same like in the related billing items. • Use condition type "Rebate Unlikelihood" in case that the minimum sales turnover will not be reached and therefore no accruals should be created or existing accruals should be reversed. • Facilitate your business processes by configuring workflows for the release of condition contracts.
Accruals processing	• Post accruals based on relevant invoices to update the bonus entitlements for future customer settlements in accounting. • Reverse accruals when settlement documents are created. • Reverse accruals together with the posting of the revenues when the collective settlement documents of 2-step condition contracts are created.
Business volume processing	• Check the business volumes for condition contracts. • Verify that existing invoices are considered in condition contracts.

Key Feature	Use
Condition contract settlement	• Get a compact overview of settlement documents that enables the user to display settlement document information and navigate directly to the documents. • Create credit memos (settlement documents) to the customers, suppliers and external sales agents for the business volume already reached and to reverse the accruals. • Create settlement documents for each customer, supplier or external sales agent with the contract relevant revenues for condition contracts with multiple customers. • Create collective settlement documents for 2-step condition contracts. • Execute partial settlements. • Execute a final settlement. • Reverse and correct settlement documents. • Get support from notifications for scheduled jobs. • Facilitate your business processes by configuring workflows for the approval of settlement documents.
Integration of Settlement Management	• SAP S/4HANA Cloud Public Edition supports the integration with an external commissions management system (currently SAP Commissions on SAP Sales Cloud) to allow the import of commissions data into SAP S/4HANA Cloud Public Edition. • SAP S/4HANA Cloud Public Edition supports the integration with an external HR system (for example, SAP SuccessFactors Employee Central) to initiate the payroll processing of commissions by providing personnel settlement documents.

3.9.7 Advanced Financial Operations

3.9.7.1 Advanced Credit Evaluation and Management

Business Background

The creditworthiness and payment behavior of your business partners affect the business results of your company immediately.

Key Features

The following table explains the key features available:

Key Feature	Use
Credit limit requests	You can set up a documented approval process for credit limit requests.
Credit events and follow-on processes	You can define events which trigger follow-on processes for credit-specific data.

3.9.7.2 Collection of Receivables

Business Background

Collection of receivables supports you in proactive receivables management and collecting outstanding receivables.

Key Features

The following table explains the key features available:

Key Feature	Use
Collection of Receivables	You can call up your work list and initiate contact with a particular customer. Once you have contacted the customer, you can document the result by creating a promise to pay, setting the customer to resubmission, or creating a dispute case.

3.9.7.3 Dispute Resolution

Business Background

Dispute resolution allows you to investigate and resolve dispute cases for open invoices.

Key Features

The following table explains the key features available:

Key Feature	Use
Resolution of Dispute Cases	You can create a dispute case for an open invoice. The dispute case can then be processed in your company by the colleagues responsible.

3.9.7.4 Contract Accounting

Business Background

Contract Accounting provides the functional scope as described under Billing and Revenue Innovation Management.

Related Information

Contract Accounting [page 114]

3.9.7.5 Integration Scenarios

3.9.7.5.1 Integration with a Working Capital Management System

Business Background

SAP S/4HANA Cloud Public Edition supports integration with a working capital management system (currently, SAP Taulia) for payables or receivables financing.

Key Features

If a working capital management system (currently, SAP Taulia) is integrated, SAP S/4HANA Cloud Public Edition supports you in optimizing your receivables and payables financing.

3.9.8 SAP S/4HANA Cloud Public Edition, contract accounting and invoicing

3.9.8.1 Integration with a Subscription Management System

Business Background

SAP S/4HANA Cloud Public Edition supports integration with a subscription management system (currently, SAP Subscription Billing) to process usage and subscription data for billing and invoicing.

Key Features

If a subscription management system (currently, SAP Subscription Billing) is integrated, Billing and Revenue Innovation Management in SAP S/4HANA Cloud Public Edition supports you in creating convergent customer invoices as well as the subsequent financial accounting processes, including revenue recognition for subscriptions.

3.9.8.2 Convergent Invoicing

Business Background

Convergent Invoicing enables service providers to consolidate charges from one or more sources into a single invoice. The consolidated invoice may include charges from third parties. Providers thus have a complete view of the customer. They can see which party is responsible for any given charge. Convergent Invoicing enables providers to simplify and automate complex billing processes, making it easier to implement and monetize innovative services.

Key Features

The following table explains the key features available:

Key Feature	Use
Receiving, management, and rating of unrated consumption information	Unrated information is imported from external sources and stored as consumption items. Consumption items are event detail records without price information, allowing you to collect consumption data from different sources over a given period before rating.
Receiving and management of rated consumption information	Rated information is imported from external sources and stored as billable items. Billable items are event detail records, which could be call detail records, billing detail records, recurring charges, one-off charges, and other charges or credits to be billed. The data received from different sources can be combined to create one convergent invoice for the customer.
Scheduling of invoice amounts for recurring and non-recurring charges	You can use a billing plan to define: • Dates and amounts for generating individual billable items • Periods and amounts for generating recurring charges
Billing for usage of services, preparation of data for invoice creation, and triggering of posting to accounting	Convergent Invoicing comprises a billing component and an invoicing component: • During billing, Convergent Invoicing uses business rules to create structured bill content, grouping and aggregating billable items into billing documents. • During invoicing, Convergent Invoicing uses these billing documents as a basis for creation of invoices to customers, and posts the invoice amounts directly to Contract Accounts Receivable and Payable. From the invoicing data, Convergent Invoicing can generate print documents, which you can forward to connected printing systems.
Intercompany settlement	Intercompany settlement in Convergent Invoicing supports business between two companies that belong to the same corporate group. One subsidiary issues an invoice to the customer, while the actual service is performed by another subsidiary.
Revenue sharing and partner settlement	If you execute billing and invoicing for third-party services consumed by your customers, Convergent Invoicing offers flexibility in determining and managing revenue share for your partners.

Key Feature	Use
Cost posting	Cost posting in Convergent Invoicing supports the entry and posting of the cost of goods and services sold. The cost amount can then be used for cost recognition.
Exception handling	If issues occur during the processing of invoicing documents and during invoice creation, you can use manual postprocessing in dialog. If the system has used incorrect data in the billing process, you can change the data and have the changed data included in the next billing run and subsequent invoicing process. If an incorrect amount has been invoiced, you can create a credit memo or debit memo to remedy the situation. You can define additional checks within the invoicing process, which can trigger the creation of clarification cases and make data available for postprocessing if the situation requires.

3.9.8.3 Contract Accounting

Business Background

Contract Accounting receives and manages large posting volumes, for example, created by billing processes, and uploads these postings to the general ledger.

The software has been tailored towards the requirements of corporates across all industries and lines of business with high volumes of customers, subscriptions, and pay-per-use transactions. The processes provided with Contract Accounting are highly flexible to allow for a maximum of automation, as well as ensuring outstanding system performance and scalability.

The collection process fully automates routine tasks such as the calculation of interest payments.

Key Features

The following table explains the key features available:

Key Feature	Use
Posting of documents to enter business transactions	Postings are always saved in document format. The document is a statement for each business transaction. Postings are usually generated automatically by the corresponding business processes or by invoicing. Additional options for automatic data transfer are available. Documents can also be posted manually. When a document is posted, accounts are determined automatically for G/L Accounting. All receivables, revenue and expense accounts are automatically determined based on account assignment details in the line items.
Payment processing	The various business processes for payments provided can be classified as follows: • Automatic payment by your company This processing can be performed for outgoing and incoming payments if the customer has granted your company the corresponding authorization. • Process incoming payments using lots The customer makes payments through the bank or post office. An account may contain open debit and credit items. If they balance to zero or if there are small differences that are within the tolerance limits defined, these amounts can be cleared automatically or manually. If customers are unable to honor their financial commitments, you can arrange payment by installments for one or more receivables or defer receivables.
Determination and execution of collection	You can evaluate the open receivables of your customers (due or not yet due) at regular intervals using different parameters, such as age and amount of the receivables, and collection history. Using business logic defined in the system settings, the system derives the relevant collection activities for each customer, such as sending reminders. Collection specialists have a detailed overview of their customers and access to all the necessary tools and functions for the required measures.
General ledger integration	To ensure itemized verification, each individual business transaction, that is, each posting and each document for a given customer, is stored. In view of the large document volumes, sales figures are not updated consecutively in the general ledger during posting. Instead, documents are periodically transferred to the general ledger. All standard closing activities, as for example, foreign currency valuation and receivables adjustment are supported.

Key Feature	Use
Integration with SAP Cash Application for Contract Accounting	You can integrate SAP Cash Application for Contract Accounting to automate and simplify further the processing of incoming payments with machine learning intelligence. Contract Accounting processes incoming payment data with a high degree of automation, achieved by applying configuration options. If exceptions occur during automatic processing, the system creates clarification cases for manual follow up activities. For these clarification cases, SAP Cash Application for Contract Accounting analyzes the notes to payee transferred with the bank statement and makes clarification proposals with a confidence rating.

3.9.8.4 Credit and Collections Management

Business Background

Credit and Collections Management provides reliable, comprehensive credit scoring of new and existing customers based on historical customer data integrated with external credit rating agencies. It fully automates routine tasks in the collections process for mass volumes of customers, such as the calculation of interest payments. Billing personnel can change and continuously optimize collections strategies by using Champion/Challenger analysis as well as in-house teams and external collections agencies. A complete picture of the credit and collection history of new and existing customers enables providers to reduce days sales outstanding and the risk of nonpayment, while retaining loyal customers.

Key Features

The following table explains the key features available:

Key Feature	Use
Customer segmentation based on risk classes and payment behavior	You can put your customers into segments with regard to their credit risk, control and continually monitor sales and service processes, and respond immediately when exceptional situations arise. The segmentation takes place in Credit Management, whereby external credit information, such as D&B® and Experian, and internal credit information, such as the length of the business relationship and the payment behavior, are considered. The external and internal credit information from the different systems are saved in the master data of the business partner. This risk-based segmentation has an influence on the collection process.

Key Feature	Use
Determination and execution of collection activities	You can submit receivables to external collection agencies or to third-party applications for legal dunning procedures.

3.9.9 Governance, Risk, and Compliance for Finance

3.9.9.1 International Trade

International Trade supports you in the following areas:

International Trade Classification

- Classification of products with commodity codes, Intrastat service codes and customs tariff numbers.
- Classification of products with control classes and control groupings for legal control.
- Loading of classification data from external data providers (commodity codes, customs tariff numbers and control classes).

International Trade Compliance

- Control of statutory regulations for import and export.
- Managing of licenses in accordance with legal control for export and import processes.
- Managing and release of blocked legal control documents.
- Managing countries/regions under embargo situations.

Intrastat

- Managing Intrastat declarations and their master data.

Integration with SAP Global Trade Services

- Transfer of master and movement data from the S/4HANA Cloud to your SAP Global Trade Services system.

Integration with SAP Watch List Screening

- Integration allows to screen names and addresses in specific transactional documents during import and export processes.

3.9.9.1.1 International Trade Classification

Business Background

You use classification to manage commodity codes, Intrastat service codes, control classes, control groupings and their assignment to products. The Intrastat service codes are only relevant for Italy.

Key Features

The following table explains the key features available:

Key Feature	
Manage Commodity Codes	You can manage the commodity codes that you require for your Intrastat declarations.
Classify Products with Commodity Codes	You can find products to which no commodity code has yet been assigned, and assign a commodity code for a specific period to these products.
Reclassify Products with Commodity Codes	You can find products to which a commodity code has been assigned, and assign a new commodity code for a specific period to these products.
Manage Intrastat Service Codes	You can manage Intrastat service codes that you require for your Intrastat declarations.
Classify Products with Intrastat Service Codes	You can find products to which no Intrastat service code has yet been assigned, and assign an Intrastat service code for a specific period to these products.
Reclassify Products with Intrastat Service Codes	You can find products to which an Intrastat service code has been assigned, and assign a new Intrastat service code for a specific period to these products.
Classify Products - Legal Control	You can assign control classes and control groupings time-dependently to products that have not yet been classified for legal control.

Reclassify Products - Legal Control	You can re-assign another control class or control grouping time-dependently to products that have already been classified for legal control.
Manage Control Classes	You can manage control classes to classify products for legal control later. You can add a description to a control class and specify its validity.
Manage Control Groupings	You can manage control groupings to classify products for legal control later.
Manage Customs Tariff Numbers	You can manage the customs tariff numbers that you require for your Intrastat declarations.
Classify Products - Customs Tariff Numbers	You can find products to which no customs tariff number has yet been assigned, and assign a customs tariff number for a specific period to these products.
Reclassify Products - Customs Tariff Numbers	You can find products to which a customs tariff number has been assigned, and assign a new customs tariff number for a specific period to these products.
Manage Content from Data Provider - Commodity Codes	You can activate data from external data providers.
Schedule Content Request to Data Provider - Commodity Codes	You can schedule regular requests to your external data providers to receive updated and new versions.
Manage Content from Data Provider - Customs Tariff Numbers	You can activate data from external data providers.
Schedule Content Request to Data Provider - Customs Tariff Numbers	You can schedule regular requests to your external data providers to receive updated and new versions.
Manage Content from Data Provider - Control Classes	You can activate data from external data providers.
Schedule Content Request to Data Provider - Control Classes	You can schedule regular requests to your external data providers to receive updated and new versions.
Display Classified Products - International Trade	You can display products which have been classified with a code number, such as commodity codes, customs tariff numbers, legal control relevant attributes, or intrastat service codes.
Display International Trade Classification	You can display classification information for all active numbering schemes and legal regulations currently valid for the selected product. The information can be called up via the *Manage Product Master Data* app.

3.9.9.1.2 International Trade Compliance

Business Background

You use International Trade Compliance to manage licenses and trade compliance documents.

Trade compliance checks are based on the following document types:

Document Category	Legal Control	Embargo	SAP Watch List Screening
Sales Orders	X	X	X
Sales Orders without Charge	X	X	X
Sales Contracts		X	X
Sales Scheduling Agreements	X	X	X
Sales Quotation		X	X
Outbound Deliveries	X	X	X
Inbound Deliveries	X	X	X
Purchase Orders	X	X	X
Stock Transfer Order	X		
Purchasing Scheduling Agreements	X	X	X
Purchasing Contracts		X	X
Purchase Requisitions	X	X	X

Key Features

The following table explains the key features available:

Key Feature	Use
Manage Licenses	You can manage licenses to comply with bans and restrictions against specific product /product groups for authorities.

Key Feature	Use
Manage Documents – Trade Compliance	You can display the legal control status of documents and confirm or release embargo blocks.
Resolve Blocked Documents – Trade Compliance	You can resolve legal control blocks of documents, if they are missing classification and/or licenses.
Manage Countries/Regions under Embargo	You can manage countries/regions for which there is an embargo situation.
Manage Rules for Legal Control	You can manage legal control rules to determine blocklisting, allowlisting, or license terms in a specific order. You can define these rules yourself to consider your specific requirements or specific legal requirements.
Display License Assignments - Trade Compliance	You can display assigned documents to licenses and get an overview of open depreciation values and quantities.
Schedule Recheck Documents - Trade Compliance	You can mass recheck for blocked trade compliance documents to regularly check and release blocked trade compliance documents via the job scheduling framework.
Analyze and Resolve Blocked Documents – Trade Compliance	You can use the analytical list page to graphically display blocked documents and analyze them. You can resolve legal control blocks of documents, if they are missing classification and/or licenses.

3.9.9.1.3 Intrastat

Business Background

You use Intrastat declarations to record goods movements that cross national borders between member states of the European Union. In Italy, services must be declared in addition.

Key Features

The following table explains the key features available:

Key Feature	Use
Manage Providers of Information	The statistics authority of your country requires that you, as a company, provide Intrastat-relevant data to the authority in the form of Intrastat declarations. To be able to create Intrastat declarations, you have to enter the provider-of-information data of your company.
Manage Intrastat Declarations	You can enter the required statistical data of a month in Intrastat declarations for the following transactions: • Receipts to your company from other member states of the European Union • Dispatches from your company to other member states of the European Union
Select Dispatches and Customer Returns for Intrastat Declarations	You can select dispatches and customer returns based on billing documents to generate data for Intrastat declarations.
Select Receipts and Returns to Supplier for Intrastat Declarations	You can select receipts and returns to supplier based on purchase orders and intercompany billing documents to generate data for Intrastat declarations.

You can create Intrastat declarations for the following countries:

- `AT` (Austria)
- `BE` (Belgium)
- `BG` (Bulgaria)
- `CZ` (Czech Republic)
- `DE` (Germany)
- `DK` (Denmark)
- `ES` (Spain)
- `FI` (Finland)
- `FR` (France)
- `GB` (United Kingdom)
- `GR` (Greece)
- `HR` (Croatia)
- `HU` (Hungary)
- `IE` (Ireland)
- `IT` (Italy)
- `LU` (Luxembourg)
- `NL` (The Netherlands)
- `PL` (Poland)
- `PT` (Portugal)

- RO (Romania)
- SE (Sweden)
- SI (Slovenia)
- SK (Slovakia)

3.9.9.1.4 Integration with SAP Global Trade Services

Business Background

Through integration with SAP Global Trade Services, you can transfer master data and transactional data from the S/4HANA Cloud to your SAP GTS system.

Key Features

The following table explains the key features available:

Key Feature	Use
Integration with SAP Global Trade Services for Compliance Management.	With integration, you can use Compliance Management in your SAP GTS system. It contains import and export controls, as well as embargoes and sanctioned party list screening for business partners and contact persons.
Integration with SAP Global Trade Services for Customs Management	With integration, you can use Customs Management in your SAP GTS system. It contains the customs declaration before and after goods receipt during import and the customs declaration during export. The integration of Customs Management supports customs processes with economic impact.
Integration with SAP Global Trade Services for Preference Management	With the integration, you can use Preference Management in your SAP GTS system. This includes the management of supplier-based long term vendor declaration and customer-based long term vendor declarations, as well as the preference determination for fixed bills of products.

Key Feature	Use
Schedule Transfer of Master Data	You can schedule the transfer of the following master data for SAP Global Trade Services: • Suppliers • Customers • Products • Contact Persons • Bill of Materials • Procurement Indicators • Product Prices • Min./Max. Product Prices • Customer Product Name • Supplier Product Name
Assignment of Customs Offices	You can assign customs offices for use in SAP Global Trade Services to the following attributes: • Routes • Countries/Regions

3.9.9.1.5 Integration with SAP Watch List Screening

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with SAP Watch List Screening (needs to be licensed separately).

Key Features

The following table explains the key features available:

Key Feature	Use
Schedule Postprocessing – Watch List Screening	You can schedule the postprocessing of Watch List Screening-relevant documents, customers, and suppliers.

Key Feature	Use
Schedule Business Partner Screening - Watch List Screening	You can schedule the transfer of customers and suppliers to SAP Watch List Screening.

3.9.10 Integration with Footprint Assessment

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with a footprint assessment solution (currently SAP Sustainability Footprint Management) to allow you to consider product footprint information available in this footprint assessment solution in your business decisions.

Key Features

When a footprint assessment solution is integrated, SAP S/4HANA Cloud Public Edition supports you to access product footprint information in the footprint assessment solution.

3.9.11 Integration with Carbon Accounting

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with a carbon accounting solution (currently SAP Green Ledger), which allows you to track, manage, and report carbon data for your entire business and consider the environmental impact of your end-to-end operations in your business decisions.

3.9.12 Integration with other SAP products in Finance

3.9.12.1 Integration with Concur Solutions

Business Background

SAP S/4HANA Cloud Public Edition currently supports the integration with Concur solutions to simplify your expense processes in the areas of master data export and the financial posting of your Concur documents.

Key Features

The following key features are supported:

Key Feature	Use
Export of master data	Transfer of cost objects from your SAP S/4HANA Cloud Public Edition system to your Concur system for expense assignment.
Import of financial data	Import of documents from your Concur system into your SAP S/4HANA Cloud Public Edition.

3.9.12.2 Integration with Digital Payment Hub

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with a digital payment hub (currently the SAP digital payments add-on) to process payment card payments and other digital payments, such as in the areas of Accounts Receivable, Sales, Business Partner, or Contract Accounting.

If SAP S/4HANA Cloud Public Edition is integrated with a digital payment hub (currently the SAP digital payments add-on), you can use this feature to connect SAP S/4HANA Cloud Public Edition with your payment service providers so that you can run digital payment processes, such as authorizations, charges (captures), refunds, and digital advices.

If you want to use this feature, you might require additional licenses. For further information, please contact your SAP Account Executive.

3.10 Human Resources

3.10.1 Core HR and Time Recording

3.10.1.1 Timesheet

Business Background

Timesheet can be used to perform activity-based time recording for accounting objects. Time recording activities can be performed by internal employees and contingent workers.

Key Features

The following features are available:

Key Features	Use
Record time	You can navigate to the timesheet app and create, edit, and delete time entries against a relevant task.
View availability data	You can view the availability data of employees along with the recorded time. This feature is active only if availability data exists for the employee.
Define a task	You can create a task within the timesheet app. You can also modify or delete a user defined task.
View monthly staffed effort and recorded effort	You can view the details of the monthly staffed effort and recorded effort for a particular task in the task list.
Add a note	You can add a note for a particular time entry, to specify any additional information related to the recorded time.
Define first day of the week	Set any day as the first day of the week for your time recording.
Define interval of time recording	You can define the minimum interval of time recording (minimum 1 minute).
Define time format	You can modify the display format of the time.
Copy time entries	You can copy time entries from source day/week(s) to target day/weeks(s).
Use configuration settings	You can enable different features of the timesheet app, using the configuration settings. You can enable features like: • Work location: Allows you to add work location details while creating or modifying a time entry. • Overtime: Allows you to maintain the overtime hours that you have worked on a project.
Use extensibility	You can use the extensibility feature to add custom fields to your timesheet.
Use adaptability	You can use the adaptability feature to add, rename, remove, or delete fields from the timesheet app.
Group tasks	You can group tasks for better classification and to support easier search, while recording time.

Key Features	Use
Record time without staffing	You can maintain your time entries for projects that you are not staffed to. To allow this, the relevant project must have this feature enabled.
Approve timesheets	You, as a manager, can approve or reject time entries created by the workforce, that are sent for approval.
Work with time entries that are pending approval	You, as an overhead accountant, can schedule a job for a fixed or flexible period, to send emails to the timesheet approvers who have time entries on which they need to take action.
Work with missing time	You, as an overhead accountant, can schedule a job for a fixed or flexible period, to send emails to the workforce with missing time. For any unposted time entries, the overhead accountant can generate a timesheet postings report for a particular period. You, as a manager, can send reminder emails to employees and contingent workers who have not recorded adequate time as planned for a project.
Work with team utilization	You, as a manager, can view the average utilization of your team and take actions like modify the timesheet on behalf of an employee or contingent worker.
Record time on behalf	You, as a manager, can record time on behalf of an internal employee or contingent worker. You can modify existing time entries or create new time entries in the timesheet app on behalf of inactive employees during their last active employment period.
Configure task types	You can add new task types for time recording using the configuration settings.
View timesheet records that changed after approval	You can see the timesheet entries, that changed after approval.
View deleted time entry	You can view deleted time entries that have been saved, submitted for approval, or has been rejected by the manager.
Record time for multiple active employments (concurrent employments)	As an employee, if you have more than one active employment contract for the current period, you will be able to select one of your active employments and record time against that employment contract.

Key Features	Use
Block time posting	You cannot create a task using a blocked work package or WBS element. This is applicable if: • Blocking of time recording is enabled for any work package in the customer project • Blocking of time recording is enabled for any work package in WBS element, in an enterprise project. An indicator is displayed for any blocked task, in the timesheet app. You will also be unable to modify existing approved timesheet entries for tasks that are blocked.
Work with rejected time entries	You, as an overhead accountant, can schedule a job for a fixed or flexible period, to send emails to the workforce with rejected time entries. Email notifications are sent to the workforce when their timesheet entries are rejected by their manager.
View rejected time entry details	You can view the rejected time entry details of past, present, and future weeks.
Work with notifications for rejected time entries	You can view notifications for the rejected time entries. You can also navigate to the timesheet by clicking on the notification.

3.10.1.2 Employee Connectivity

Key Features

The following features are available:

Key Features	Use
Manage workforce data	Create and update workforce-related data. For example, you can edit personal or employment details, create work agreements, and assign company codes and cost centers.
Employee Replication	You can replicate employees and/or contingent workers along with their employment data.

Key Features	Use
Display log	You can view the logs that are created while replicating employees.
Search	You can search for employees or contingent workers and lookup for employee or contingent worker details.
Delete Employment Data	You can delete an employee's employment data.

3.10.2 Integration with External HR System

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with an external HR system (currently SAP SuccessFactors Employee Central) to enable you to replicate employee, organizational, and cost center data.

Key Features

When an external HR system (for example, SAP SuccessFactors Employee Central) is integrated and supports the below named features, SAP S/4HANA Cloud Public Edition enables the external HR system to provide the following key features:

Key Feature	Use
Employee data and contingent worker data integration	You can integrate employee and contingent worker data like basic data and contact details from SAP SuccessFactors Employee Central to SAP S/4HANA Cloud Public Edition system.
Employment data integration	You can integrate employment data like job title, job information, employment status from SAP SuccessFactors Employee Central to SAP S/4HANA Cloud Public Edition system.
Financial data integration	You can also integrate financial data such as company code and cost center.
Employee photo integration	You can integrate employee photo from SAP SuccessFactors Employee Central to SAP S/4HANA Cloud Public Edition system.
Availability integration	You can integrate the work schedule of an employee thus enabling you to access the up-to-date time information like your target hours, absences, holidays, and so on for time recording.

3.11 Manufacturing

3.11.1 Production Engineering

3.11.1.1 Production BOM Management

Business Background

During the product engineering phase, you design and develop products. You design new products or product lines to take advantage of current process technology and to improve quality and reliability. Or, you have to change an existing product due to changing market or customer requirements. The result of this product phase is drawings and a list of all the parts required to produce the product. This list is the bill of material.

Key Features

The following features are available:

Key Feature	Use
Manage bills of material	You can create a complete, formally structured list of the components that make up a product or assembly. A bill of material contains essential master data for integrated materials management and production control. In the design department, a new product is designed so that it is suitable for production and for its intended purpose. The result of this product phase is drawings and a list of all the parts required to produce the product. This list is the bill of material which is the basis for the production process (in discrete manufacturing, repetitive manufacturing, and in the process industry).
Assign BOMs to plants	You can extend the area of validity of a BOM that you defined when you first created it. This means, for example, that you can assign the same BOM to a material in different plants - avoiding data redundancy and multiple data entry.
Monitor multilevel BOM assignment	You can use a reporting function that determines all components (assemblies and individual parts) in a product and displays them per low-level code.

Key Feature	Use
Find BOM for component	You can use a reporting function that determines where an object (for example, material) is used and the quantity that is required. This is necessary, for example, if objects are used in more than one context. You can use this information to: • Determine requirements for a specific material. • Select all products that are affected by a change to an individual part. • Find assemblies that will be delayed if there is a delay in the delivery of a raw material, for example. • Calculate the effect on the cost of a product if the price of a raw material is increased.

3.11.1.2 Master Recipe/Routing Management

Business Background

During the process engineering phase, you design and continuously improve manufacturing equipment and production facilities. This process enables you to model the capabilities of the manufacturing equipment and to monitor its performance.

Key Features

The following features are available:

Key Features	Use
Manage the objects and persons involved in the production process • Discrete manufacturing: Model work centers • Process industry: Model resources	You use work centers/resources to represent machines, production lines, employees, or groups of employees, for example. Together with the bills of material and routings/recipes, work centers/resources belong to the most important master data in the production planning and control system and are used for scheduling, costing, capacity planning, and for simplifying operation maintenance.
Group work centers for capacity evaluation	You can group work centers based on the same line or on the alternate work centers, to carry out the same work. This gives the capability to assess aggregated capacities across work centers and enables easy decision making.

Key Features	Use
Monitor bills of material	You can display and monitor the following: • Bills of material created by the product engineers • Assignment of bills of material to plants • Multilevel BOM explosion • Where an object is used and the quantity that is required (Find BOM for component) You use this information as a reference when determining the process steps for production in the routing/recipe.
Model the production process • Discrete manufacturing: Model routings • Process industry: Model recipes	A routing/recipe is a description of the operations/process steps that have to be carried out and the order in which they have to be carried out to produce a material. In addition, a routing/recipe contains details about the work centers/resources at which the operations/process steps are carried out and the BOM components that are required. In discrete manufacturing, the routing is used as the basis for creating production orders and in the process industry, the recipe is used as the basis for creating process orders.
Model production versions	The production version determines the production techniques according to which a material is to be manufactured. A material may have several bills of material (BOMs) that determine the components used in its production. The production process can also be described in various routings/recipes. You define which BOM and which routing/recipe is to be used for production in the production version that you assign to a material.

3.11.2 Production Planning

3.11.2.1 Material Requirements Planning

Business Background

This process enables you to ensure the availability of materials. It is typically performed by the MRP controller who monitors the material shortage situation and solves any issues on time. Another main task is to ensure that sufficient supplies have been planned to cover requirements — whether from sales orders, stock transfer orders, or from production, for example. The goal is to ensure that both customer and production demand are fulfilled on time and to avoid any disruptions due to missing parts.

Key Features

The following features are available:

Key Feature	Use
Manage planned independent requirements	You can create and change planned independent requirements.
Perform material requirements planning	You can automate the planning of the procurement process. You can schedule your MRP runs to be executed automatically on a regular basis. The main function of the planning run is to guarantee material availability to avoid delays in order fulfillment. To do this, the system checks the availability of each material in the planning run and creates purchase requisitions or planned orders if it detects shortages.
Monitor and manage supply and demand	You can monitor and adjust the current supply and demand situation for your area of responsibility using a selection of tools. You have system support in detecting material shortages, uncovered requirements as well as any issues regarding process orders or production orders. You are provided with further automated support for solving issues to avoid delays or disruptions due to missing items. Tools are also available for communicating with your vendor if solving the issues requires changing a purchase order or stock transport order. The stock/requirements list displays all supply and demand elements for a material in the form of a table and enables you to gain a quick overview of the stock/requirements situation for the material. You can also branch into the editing function for the MRP elements for this material. Planned orders are created automatically during a planning run. However, you can also create new planned orders or adapt existing ones manually to optimize the replenishment situation.

Key Feature	Use

Convert planned orders	You can convert planned orders into production orders or process orders.
	
	Planned orders are internal planning elements that are only used for planning purposes and do not trigger any procurement (with the exception of repetitive manufacturing). The system only triggers procurement once the planned orders are converted into fixed receipt elements:
	
	• Discrete Manufacturing
	  • You can convert planned orders for materials that are to be produced in-house into production orders. You can convert your planned orders manually or automatically using an order conversion run. The material components required for production are contained as items in the planned order and are copied directly when the planned order is converted into a production order. The dependent requirements for the components are converted into reservations. With the conversion to production orders, the responsibility is passed on from the MRP controller to the production supervisor.
	• Process Industry
	  • In this case, you convert planned orders into process orders. Again, you can convert your planned orders manually or automatically using an order conversion run. The material to be produced, the order quantity, and the order dates are copied from the planned order to the process order and the dependent requirements for the components are converted into reservations. With the conversion to process orders, the responsibility is passed on from the MRP controller to the production supervisor.
	• Repetitive Manufacturing
	  • In repetitive manufacturing, planned orders can be used to trigger production. In this case, the planned orders do not have to be converted into production orders or process orders.
	
	You convert planned orders for materials that are to be purchased externally into purchase requisitions. Purchase requisitions created automatically during the MRP run can be locked first for checking. A subsequent handover passes on the responsibility of these purchase requisitions to the purchasing department for converting them into purchase orders.

3.11.2.2 Production Scheduling

Business Background

Material Requirements Planning (MRP) addresses the coverage of demand by supply elements (for example, inhouse production orders) without considering the available capacity. Capacity planning supports the MRP planner in changing the production plan in such a way that the capacity constraints are considered while keeping the demands in time and quantity in mind.

Key Features

The following table explains the key features available:

Key Feature	Use
Maintain Capacity	You can review when and how much capacity is available for a work center. This is called the capacity definition. You can manage this definition for instance, by reducing the work time or by including additional work time.
Evaluate Capacity	You can review the capacity load on your work centers. You can compare the available and required capacities, thereby identifying the issues that needs to be resolved.
Create Detailed Plans	You can filter and select the orders to be planned by using different search criteria. You can decide where (the source) and when (the dates) the orders need to be planned.

3.11.2.3 Demand-Driven Replenishment

Business Background

Demand-Driven Replenishment enables you to plan and manage supply chains based on customer demand, rather than through traditional MRP procedures. You can create the basis for a reliable material flow by defining buffers at strategically important points along a supply chain and by regularly adjusting the buffers' limits.

Key Features

The following table explains the key features available:

Key Feature	Use
Analyze and classify products	You can analyze and classify your products based on certain criteria to identify products which can act as decoupling points. You can automate the classification process by scheduling classification runs to be executed on a regular basis.
Select products relevant to Demand-Driven Replenishment	You can define which products are relevant to Demand-Driven Replenishment using classification information.
Generate buffer level proposals	You can generate buffer (stock) level proposals for your products that are relevant to demand-driven replenishment (DD-relevant products). You can automate the generation of buffer level proposals by scheduling runs to be executed on a regular basis.
Manage buffer levels	You can manage the buffer levels, and in turn, the safety stock, reorder point, and maximum stock for your products based on the buffer level proposals.
Manage replenishment planning	You can manage the planning status of buffers using their planning priority.
Manage replenishment execution	You can manage the execution status of buffers using their on-hand stock status.
Manage Projected On-Hand Alerts	You can manage the projected stock alerts of buffers using projected status.

3.11.2.4 Predictive Material and Resource Planning (pMRP)

Business Background

Predictive material and resource planning (pMRP) enables production planners to identify capacity issues related to demand-driven materials and to solve them early in the planning process. They work with simulations based on simplified data to detect the issues and to simulate counter measures.

As a result of processing the simulation, planners are prepared to take decisions on changed conditions, for example with regard to requirement planning.

Key Features

The following table explains the key features available:

Key Feature	Use
Schedule the creation of pMRP simulations	You can create simplified planning data and use them as reference data in a simulation.
Process pMRP simulations	The simulation provides a demand plan view where you can simulate changes to the demand quantities and a capacity plan view where you can simulate changes to the available capacity. In addition, you can display the multi-level bill of material and detect issues on a particular bill of material level. You can change the source of supply, if an alternative one exists or start a preproduction of a particular material component to solve capacity issues. You can check the impact of these simulated changes and display a summary.

3.11.3 Production Operations

3.11.3.1 Production Control

Business Background

This process enables you to manage and regulate the manufacturing process. It is typically performed by the production supervisor who is responsible for dispatching production operations to individual machines if a work center/resource has several alternative machines and for assigning shop floor specialists to operations or machines. The production supervisor also decides on measures to mitigate machine breakdowns or missing components, for example.

Key Features

The following features are available:

Key Feature	Use
Monitoring and adjusting the production worklist	You can change production orders or process orders, perform scheduling, and check component availability.

Key Feature	Use
Releasing production orders/process orders	You have to release the production/process order before it can be processed. You can use the time period between creating and releasing an order, for example, to carry out company checks and preparations. You can release the production/process order at header level releasing all operations. Or, you can release single operations. You can also perform a mass release. Furthermore, you can schedule an order release run that instructs the system to automatically release all your production/process orders periodically. Once the orders are released, you can execute confirmations, print shop floor papers, and execute goods movements, for example.
Monitoring production execution	You have various options for monitoring the production progress. • Order Progress Report. This report shows you which documents, MRP elements, stocks, and deliveries exist for products and their components that have been ordered by a customer. The order progress report gives you a quick overview of the status of production and procurement, statements about the adherence to delivery dates or delays and this information can be displayed for more than one sales order or a WBS element. From the report, you can navigate to the individual procurement elements, the stock/requirements list, or the stock overview, for example. • Order Information System This report provides you with reporting functions for production orders, planned orders, and process orders. You can view all the orders in the system, including the orders with deletion flags or deletion indicators. For production and process orders, you can display the order headers, items, documented goods movements, operations, components, the production list, and confirmations, for example. From the report, you also have various navigation options.

Key Feature	Use
Executing production completion	To complete the production process, you can set the status of the production/process order to technically complete and you can complete the order settlement. When an order is settled, the actual costs incurred for the order are settled to one or more receiver cost-objects (for example, to the account for the material produced or to a sales order). Technical completion means ending a production order from a logistical viewpoint. The following actions are executed for orders with this status: • The order is no longer relevant for MRP • Reservations are deleted • Capacity requirements are deleted • Purchase requisitions for external operations or non-stock materials are deleted • The order and its operations are set to *Technically Completed* An order with this status can no longer be changed. You can however, still make postings for the order such as a material withdrawal or a confirmation. After closing the order, no further updates are possible.

3.11.3.2 Production Execution

Business Background

This process enables you to make all the necessary preparations required for production and to document the production progress. It is typically performed by the shop floor specialist and includes the following tasks:

- Material staging before production starts.
- Reporting goods withdrawals.
- Processing time tickets for a production order or a process order.
- Entering the goods receipt information for the order on completion of the product.

Key Features

The following features are available:

Key Feature	Use
Monitoring released production orders/process orders	You can display the released production/process orders. This means that you have access to all the information required to produce the product including dates, times, and quantities, for example. You can also print the production/process orders and you can send the printed version by e-mail.
Picking	You can using the picking function to determine which components have not yet been issued from stock for an order and then you can perform the goods issue. You can also print the pick list and you can send the printed version by e-mail.
Confirming production	You can confirm the production progress for production and process orders. A confirmation documents the processing status of orders and triggers the following business operations, for example: • Updates order data (quantities, activities, dates, status, for example) • Backflushes material components • Posts goods receipts • Updates costs You can cancel or partially cancel confirmations. You can reprocess goods movements.

3.11.3.3 Repetitive Manufacturing

Business Background

You can use Repetitive Manufacturing for planning and controlling your production in repetitive manufacturing and flow manufacturing environments.

In repetitive manufacturing, you can plan and monitor the material flow in a much higher level of detail than that at which you collect and analyze costs. You use planned orders to model, plan, and trigger material flow and product cost collectors to collect the costs. Planned orders are simple and easy to manage with low overhead which you can use to model small increments of the production quantity. The product cost collectors collect the costs of the complete quantity produced during an accounting period. All deviations are aggregated.

On the other hand, in discrete manufacturing, you plan and manage both the material flow and costs on the same level of detail in the production order, for example. Therefore, if you want to collect scrap and other deviations in detail, you are recommended to use discrete manufacturing.

You can use repetitive manufacturing in the following scenarios:

- Make-to-stock production

Production is controlled without a direct reference to the sales order. Run schedule quantities determine the dates and quantities. Run schedule quantities are planned orders of the type PE that do not have to be released and that you do not have to convert into production or process orders to be able to carry out production. The requirements are generated by demand management, for example. Sales order quantities are delivered from stock and consume the planned independent requirement quantities in demand management, according to the planning strategy you select. A product cost collector is used to collect actual data and to settle costs.

- Make-to-order production
  The system creates one or several planned orders which directly reference the sales order item. The material is then manufactured on the basis of these planned orders. That is, production is triggered by the receipt of the sales orders. For component materials that are relevant to repetitive manufacturing, you use the product cost collector of the component to collect costs. On finished item level, you either use valuated or non-valuated material: Costs are collected by the sales order if you use non-valuated material and by the product cost collector if the material is valuated.

The business process includes analysis, material requirements planning, and the evaluation of the planning results. You can carry out extensive planning steps such as the MRP run in the background or manually.

Key Features

The following features are available:

Key Features	Use
Planning table	Your main planning tool in repetitive manufacturing is the planning table. It is an operative planning tool that you can use to plan the production quantities. In the planning run, the system assigns the run schedule quantities to the correct line as defined in the production version. In the planning table, you can change the assignment of run schedule quantities to production lines/versions manually. In this type of manufacturing, you plan and control your production using the planning table based on periods and quantities. You can check production quantities, monitor the available capacity of the production lines and check up on the availability situation of the products produced on each line. In the planning table, you can enter and change production quantities and you can assign and reassign quantities to alternative production lines. The planning table allows you to schedule planned orders to the corresponding production lines as follows: • You can change the planned orders/run schedule quantities created in MRP manually (such as quantity/date changes), or you can create additional orders. • You can assign unassigned production quantities to the production lines or reassign production quantities to different production lines. • You have the option of using production or process orders to perform planning tasks. A prerequisite for this is that you have created a valid production version for the material. • Because planning is often carried out on the basis of shifts, the planning table also has functions for distributing production quantities across shifts.
Staging materials using the pull list	You can use the pull list to control the in-house flow of material for supplying production with materials. A prerequisite for this is that the components required for production are already available (either produced in-house or procured externally) and must only be brought from their current storage location to the production storage location. The pull list checks the stock situation at the production storage location and calculates the quantities of missing parts. You can create replenishment elements for these missing parts. You can stage the components by direct stock transfer or stock transfer reservation. You can also trigger replenishment by setting a kanban to empty or by creating transfer requirements in Warehouse Management.

Key Features	Use
Confirming production for repetitive manufacturing	Separate tools are available for recording work progress in a repetitive manufacturing environment. In accordance with the requirements of this type of production, the confirmation process is very lean. For example, you have the option of deferring the entry of all actual data from production until the receipt of the finished part is recorded by a goods receipt confirmation. In the case of make-to-stock repetitive manufacturing, you also have the option of posting a reporting point confirmation at defined operations to record the stock of semifinished products in production, for example. You can couple the following processes in a goods receipt confirmation: • Posting of goods receipts for finished products • Posting of goods issues for the components (backflushing) • Reduction of planned orders • Posting of production costs to the product cost collector • Updating of statistics for analytical purposes You can also cancel incorrect confirmations and reprocess goods movements.
Analyze the product cost collector	You can analyze the costs per period. This means that you collect costs in a cost object over a long period of time and can analyze the credits and debits for certain periods.
Perform evaluations/reporting	You can create the following evaluations: • Reporting point overview You are provided with a statistical overview of all the reporting points of a production version. • Backflushing documents Documents are saved in the system for all backflushes. You can list and print these documents according to various selection criteria. • Updating planned quantities • Call cost reports in Cost Object Controlling

3.11.3.4 Kanban

Business Background

Kanban is a procedure for controlling production and material flow based on physical material stock in production. Material that is required on a regular basis is kept available in small quantities in production. With kanban, the replenishment or production of a material is only triggered when a certain quantity of the material has been consumed. This replenishment is triggered directly by production using previously maintained master data. Entries in the system are reduced to a minimum and all other actions are carried out automatically in the background.

With kanban, the production process is designed to control itself and the manual posting effort is kept to a minimum. Thus, you can achieve shorter lead times and reductions in stock levels.

With kanban, for example, the signal for material replenishment is triggered by the work center that requires the material (the consumer or the demand source). This signal can simply be a card that the demand sources

sends to the work center that produces the material (producer or supply source). This card describes the required material, quantity, and information on where it is to be delivered. It is these cards, which are known as kanbans in Japanese, that have given this type of production its name.

Compared to the basic kanban process that only uses boxes and cards to trigger material replenishment, this automated solution offers the following advantages:

- Goods movements are posted automatically meaning that inventory information is always up to date.
- Your supply sources are informed faster about the requirements situation at the demand source.
- The system collects data about the kanban cycle times that you can use to improve the process.

Key Features

The following features are available:

Key Feature	Use
Control cycle maintenance	You define the relationship between the demand source (such as a production line in production) and the supply source (such as an external supplier or warehouse) in the control cycle. The control cycle contains the following control data for kanban production: • Kanban circulation, that is, the number of kanbans that circulate between the supply source and demand source and the material quantity per kanban. • Basic data required for the automatic kanban calculation in the control cycle, if necessary. • Replenishment strategy such as in-house production, external source, or stock transfer. • Printing kanbans, if necessary. • Delivery address, if necessary. • Process control (such as the indicator for separate goods receipt, status sequence key, indicator for the logic to trigger the replenishment for one-card kanban, packing instructions, and production call profiles).

Key Feature	Use
Kanban status change (Confirmation)	You can control the production process by setting your kanbans to the appropriate status. You mainly use the statuses empty and full which are mandatory statuses. When a material in a kanban has been used up, you set the kanban status to empty which automatically triggers the replenishment process. The source of supply (producer, supplier) receives the signal to fill up the kanban. When you receive the full kanban back at the demand source (consumer), you set the kanban status to full which triggers the goods receipt posting for the material. You can work in a kanban environment quite efficiently using these two statuses. If you require additional information for special cases, the following (optional) statuses are available: • Waiting: Indicates that although the material has been consumed, the supply source is not yet to replenish it. You also use this status if a new kanban has been created. • In process: Indicates that the requested material is currently being produced by the supply source. • In transit: Indicates that the material is currently on its way from the supply source to the demand source. • In use: Indicates that the material is currently being withdrawn by the demand source. • Error: Assigned by the system. Indicates that a desired status could not be set successfully. You only use the first four additional statuses if you work with the kanban board. Here, you can use them to record work progress.
Monitoring with the kanban board	You can use the kanban board to monitor production progress. Irrespective of whether you are the supply source or the demand source, the kanban board provides you with a detailed overview of the kanbans in circulation. You can also use the kanban board to change the status of the kanbans. The following additional information is available, for example: • You can display the control cycle, material, plant, actual quantity, status, date of the last status change and so on by double-clicking the individual kanbans. • You can display the control cycle data by double-clicking the appropriate row on the kanban board. • You can navigate to the stock/requirements list, the stock overview, or the material master for a control cycle. • You can trigger the kanban correction facility for a control cycle.

Key Feature	Use
Cost accounting for Kanban	You have various options for controlling cost accounting for kanban with in-house production depending on which replenishment elements are used. If you use: • Run schedule quantities: The costs are collected in a product cost collector and can be settled periodically in product costing. • Manual kanban: The costs are also collected in a product cost collector. • Production orders or process orders: The costs are either collected in a product cost collector if you want to analyze the costs by periods rather than by lot, or they are settled to the individual production orders/process orders. Updates to the actual costs at the product cost collector can be triggered by logistical transactions (such as goods issues or confirmations) for production/process orders and run schedule headers. For example, goods issues for a production order or reporting point backflushes in repetitive manufacturing debit the product cost collector with actual costs. Goods receipts credit the product cost collector. Alternatively, the actual costs at the product cost collector can be updated directly through G/L account postings in Financial Accounting (FI), for example. You can access reports and view the actual costs for the product cost collector. During the period-end closing, you can: • Charge the product cost collector by means of template allocation. • Revaluate the activities at actual prices. • Calculate overhead for the product cost collector. • Calculate the value of your unfinished products (work in process) for the period. • Calculate the variances of the period. • Settle the work in process and variances to other application components.

3.11.3.5 Outsourced Manufacturing

3.11.3.5.1 Basic Subcontracting

Business Background

Basic subcontracting provides you with the means to instruct a supplier or subcontractor to process a material for which you provide the components. When procuring materials externally, you use subcontracting purchase orders or schedule lines to alleviate capacity bottlenecks. Subcontracting purchase orders/schedule lines instruct your subcontractor to make a certain finished material using the components that you provide and potentially using additional components provided by the subcontractor.

Key Features

The following features are available for the external procurement of materials:

Key Feature	Use
Planning materials to be made by a subcontractor	This features enables you to plan your materials that are produced by a subcontractor. In the planning run, the system creates subcontracting purchase requisitions or schedule lines for the material which is made by the subcontractor, explodes the BOM of these materials, and creates subcontracting requirements. You may have more than one subcontractor that supplies one material and they may require different components to be provided while they procure the other components themselves. In this case, you have to create several production versions that cover the needs of your different subcontractors. The purchasing info record of the subcontractor references the appropriate production version.
Planning materials to be provided to subcontractor	This features enables you to plan the parts to be provided to your subcontractor. You can create an MRP area for each subcontractor which simplifies the planning process if you have several subcontractors. When planning the component materials with subcontracting MRP areas, the system checks whether the subcontracting requirements can be covered by existing inventory at your subcontractor's or whether you have already sent the parts to be provided to your subcontractor. If current inventory at your subcontractor does not cover the subcontracting requirements, the system creates a stock transfer reservation to transfer the demand from the subcontractor company to your company. You can then produce or procure the material and send it on to your subcontractor.

Key Feature	Use
Triggering the provisioning of the materials to be provided to subcontractor (subcontracting cockpit)	This feature provides you with a comprehensive overview of all relevant information about your subcontracting process. It provides a single entry point for all documents related to your subcontracting process providing direct access to the following features: • You can choose whether you want to send your components to the subcontractor using the one-step procedure, or the two-step procedure. You can check directly whether your components are already at the subcontractor's site, or still on the way there. • You can check which components are currently in the subcontracting stock. • When you create a subcontracting order, you can change the shipping point for the outbound delivery, or change the batch number. • For each purchase order item, you can display additional information such as the production order, the number of the external operation, or the operation text. For each purchase order item, you can create an outbound delivery that is displayed in the purchase order history for the corresponding item. You can also process the following documents centrally in the Subcontracting Cockpit: • Purchase orders • Purchase requisitions • Outbound deliveries with open goods issues • Reservations • External deliveries (subcontracting components that are prepared by a third party) Key data such as the supplier, material, or plant is displayed for each of these documents.
Goods receipt for parts made at subcontractor	The goods receipt of the subcontracting purchase order/schedule line triggers updates to inventory, purchasing statistics and so on. In addition, the system backflushes the components that were provided to the subcontractor.
Sending advanced shipping notification	You can send advanced shipping notification to a subcontracting supplier registered on an external procurement system (currently, Ariba Network) and receive proof of delivery.

3.11.3.5.2 Basic External Processing

Business Background

Basic external processing provides you with the means to instruct a supplier or subcontractor to process individual production steps such as operations or sub-operations. The external processing of production order

operations is frequently used for standardized process steps such as galvanizing which you cannot perform in your own factory. In the case of galvanizing, you may have environmental reasons for outsourcing this step to your subcontractor. In this case, it does not matter to the subcontractor which material IDs are produced. The subcontractor is only responsible for processing (galvanizing) a certain quantity of (metal) pieces.

Key Features

The following features are available for basic external processing:

Key Feature	Use
Planning externally processed operations	When you convert a planned order into a production order, the system checks to see whether there are any routing/work center operations that require external processing. You can use external processing if you have individual production steps that are operations or sub-operations which are performed outside of your company by a supplier. This provides you with an alternative to in-house production if capacity bottlenecks occur. You can use an outline agreement to specify that a certain operation of the production order is executed by an external subcontractor on a regular basis.
Scheduling externally processed operations	When you perform scheduling, the system takes account of any external operations. The duration of an external operation is calculated either by using the planned delivery time or using the standard values. The system automatically creates a purchase requisition for the operation or sub-operation that requires external processing. This requisition is automatically updated with any quantity changes made to the production order. You should not convert the purchase requisition into a purchase order until the external processing is actually required. The reason for this is that any quantity changes made in the production order will automatically update the requisition. Once you have created the purchase order, it is printed and sent to the supplier.

Key Feature	Use
Triggering the provisioning of the materials to be provided to subcontractor (subcontracting cockpit)	This feature provides you with a comprehensive overview of all relevant information about your subcontracting process. It provides a single entry point for all documents related to your subcontracting process providing direct access to the following features: • You can choose whether you want to send your components to the subcontractor using the one-step procedure, or the two-step procedure. You can check directly whether your components are already at the subcontractor's site, or still on the way there. • You can check which components are currently in the subcontracting stock. • When you create a subcontracting order, you can change the shipping point for the outbound delivery, or change the batch number. • For each purchase order item, you can display additional information such as the production order, the number of the external operation, or the operation text. For each purchase order item, you can create an outbound delivery that is displayed in the purchase order history for the corresponding item. You can also process the following documents centrally in the Subcontracting Cockpit: • Purchase orders • Purchase requisitions • Outbound deliveries with open goods issues • Reservations • External deliveries (subcontracting components that are prepared by a third party) Key data such as the supplier, material, or plant is displayed for each of these documents.
Valuating externally processed operations	When data is maintained for an external activity, a cost element is specified. The cost element determines how the external activity is to be valuated. A decision needs to be made whether an operation or suboperation is processed externally via its control key. The control key determines whether externally processed operations are scheduled on the basis of their standard values or the planned delivery time. This information is needed to settle externally processed operations and suboperations that have been marked as relevant for costing in their control keys.
Goods receipt	When the supplier has completed the external processing, the material is shipped back. You receive the externally processed goods back into the warehouse. The supplier service is reflected in the production order by means of an operation confirmation. The purchase order and the production order both show the quantity received and the system updates the status of the operation accordingly.

3.11.3.6 Just-In-Time (JIT) Supply to Customer

Business Background

Just-in-Time (JIT) processing is a common practice in manufacturing industries for efficient demand-driven production and logistics across supply chains. Just-In-Time Supply to Customer covers JIT processes from the perspective of a supplier.

The JIT process is based on sales scheduling agreements that cover the commercial and planning aspects of the business relationship between supplier and customer. Based on their production and material requirements planning, the customer sends JIT calls to the supplier to request a delivery of goods.

Key Features

The following table explains the key features available:

Key Feature	Use
Master data for JIT processing	You define various master data specifically for processing JIT calls from your customers, enabling you to manage customer JIT calls with respect to business requirements.
Managing sales scheduling agreements for JIT processing	You maintain sales scheduling agreements for JIT processing for the materials requested by customers. It enables you to specify terms and conditions with regards to sales, delivery and billing, and to create delivery schedules received from your customer as forecasts to plan production and procurement.
Managing customer JIT calls	You create a customer JIT call after receiving the JIT call from your customer. The customer JIT call is created either as summarized JIT call or sequenced JIT call. In case the customer sends a JIT call update or cancellation, you can modify or cancel the customer JIT call. For a sequenced JIT call, the customer could reorder components and you can create an additional sequenced JIT call indicated as reorder. For customers requesting highly configurable assemblies or sets using a list of components, the corresponding JIT call components requested can be grouped to component groups using business rules. Based on how you define the packing of component groups for sequenced JIT calls, you can group JIT calls to be packed together and assign it to slots within the packaging material, based on the sequence of withdrawal at the customer. JIT calls can be viewed at component groups' level.
Managing packing groups for sequenced JIT calls	You can create packing groups for sequenced JIT calls and also monitor their progress and status as further processing takes place. Certain actions can be performed on the packing groups.

Key Feature	Use
Managing production for customer JIT calls	In case production should be executed based on customer JIT calls, the feature enables you to release customer JIT calls to production and confirm production thereafter.
Processing outbound deliveries for customer JIT calls	You can create outbound deliveries for customer JIT calls and process these further from picking to goods issue posting. When notifying the shipping to the customer, you can refer to the customer JIT calls also.
Analysis and monitoring	You can monitor the receipt and further progress of customer JIT calls. For that, the progress is reflected by status updates as the JIT call is processed, such as when confirming production or creating outbound deliveries. You could also analyze the demand provided by customers for deviations as compared to the received JIT calls. The availability of stock for materials requested as components in customer JIT calls can be analyzed to detect potential shortfalls in supply to your customers.
Managing delivery confirmations to customer JIT calls	You can receive JIT delivery confirmations from your customers, referring to customer JIT calls already delivered. You can monitor and release these for further processing towards billing or self-billing.
Scheduling custom actions	You can schedule in advance the execution of custom actions for customer JIT calls.
Running sequence number checks	Sequence number checks can be performed on sequenced JIT calls to avoid violations or gaps in the requested sequential delivery to customers.
Integration with Batch Management	When a material is defined as a batch material, each quantity of the material is assigned a batch number.
Background Job for Custom Actions	You can now schedule the background job for executing custom actions by selecting the time range dynamically.
Extended Scheduling with Business Process Scheduling (BPS)	As a master data specialist, you can maintain appropriate shift grouping and shift sequences for each delivery sequence group.
Maintenance of Verification Profile	When setting up the verification profile for processing of packing groups using the component group team category, you can maintain the level of the packing group from which scanning must start.
Alternative Actions	While scanning during production execution or packing, you can opt for an alternative action when facing delays or stoppages.

3.11.4 Quality Management

3.11.4.1 Quality Planning

Business Background

Quality planning helps you to ensure the quality of your products, processes, and services right from the start. During the early stages of product design and development, it is important to have the correct quality tools and to implement appropriate quality-planning strategies in your processes.

Key Features

The following features are available:

Key Feature	Use
Failure Mode and Effects Analysis (FMEA)	You can use this feature when planning new products and processes. It enables you to prevent and avoid defects. You can perform a risk valuation and derive quality-specific actions that ensure high levels of quality.
Quality-related master data	For quality planning purposes, you define specifications and processes on a long-term basis as master records. You can define quality-related data for generic master data records, for example, material or supplier.
Inspection planning	You use the inspection planning functions to define inspection criteria (for example, material to be inspected, how the inspection is to take place, characteristics to be inspected).

3.11.4.2 Quality Inspection

Business Background

Quality management deals with quality inspection activities in procurement, in manufacturing, in stock handling processes, and in sales.

If the material is specified accordingly, an inspection lot is created in the following cases:

- When a goods receipt is posted

- When a material is received from production or during the production process itself
- When a material is posted to quality inspection stock
- When an outbound delivery is created

Key Features

The following features are available:

Key Feature	Use
Inspection lot creation	An inspection lot represents the request to perform a quality inspection. An inspection lot can be created manually, or the creation can be triggered automatically during the different logistical processes.
Inspection execution	This feature allows you to record the results of an inspection, for example, for an inspection lot. You can record results in different ways, for example, for one or several inspection characteristics in several inspection lots at a time or using the optimized table form.
Inspection completion	Once the inspection results have been recorded, the inspection lot is completed with a usage decision.
Dynamic modification of the inspection scope	You can define rules so that the system automatically determines the scope of the next inspection depending on the latest inspection results. You can vary the sample size of the next inspection lot in stages between a predefined inspection scope and a skip.
Defects recording	This feature allows you to manually record defects and to manage defects that were automatically recorded during the inspection process.
Quality certificates	You can manage quality certificates for goods receipts and for outbound deliveries.

3.11.4.3 Quality Improvement

Business Background

Quality Improvement provides tools that form the basis for improving your processes and products. You can gain better insights into your inspection-related data, which helps you reach your quality goals.

Key Features

The following features are available:

Key Feature	Use
Quality notifications	This feature allows you to record and process complaints from customers and complaints against suppliers and to execute a problem-solving process.
Complaints against suppliers	This feature offers you an alternative way to record and process complaints against suppliers and use them as central objects for triggering and maintaining corresponding follow-up activities.
Nonconformance management	This feature enables you to record defects and manage or process defects that were recorded manually or automatically. To correct the defects and to prevent them from recurring, you can trigger and process tasks.
Internal problem-solving	You can resolve internal problems using the step-based 8D methodology.
Trigger external problem-solving	SAP S/4HANA Cloud Public Edition supports the integration with a collaborative problem-solving system (currently SAP Quality Issue Resolution) to enable a collaborative problem-solving process, for example, together with suppliers. When the collaborative problem-solving system is integrated, you can trigger a problem-solving process from a quality notification to run in that system.
Quality analytics	You can perform different quality evaluations, for example: • You can analyze inspection lots with regard to the usage decisions that have already been made. • You can analyze inspection results that have been recorded for inspection characteristics. • You can analyze defects (with and without assignment to a quality notification).

3.11.5 Environment, Health and Safety

3.11.5.1 Incident Management

Business Background

You use the incident management solution to record and process incidents, near misses, and safety observations. After initially recording an incident, you can collect additional information from the people involved, investigate why an incident occurred, track the financial impact on the organization and its assets, and define tasks for preventing further incidents. You can report data externally or internally to fulfill legal or company-specific reporting requirements, respectively. In addition, you can manage injury/illness log entries and perform comprehensive analyses of incidents, injuries and illnesses, and injury/illness log entries.

Key Features

The following tables explain the key features available.

Managing Incidents

To manage incidents, you can use the following features:

Key Feature	Use
Initial Recording of Incidents	You can record basic information about an incident, including a description of the events as well as information about people and assets that were involved in the incident. When the initial incident recording process is complete, the system notifies the processor who is responsible to trigger follow-on activities. You can summarize the initially recorded data in a print form. This document is assigned to the incident record, and you can use it as a reference during the review and completion step.
Reviewing and Completing Incident Records	You can directly access incident records to review and complete the information that was entered when the incident was initially recorded. You can add more information about the people involved, report data internally or externally, and define preventive and corrective tasks.
Investigating Incidents	You can carry out an incident investigation to determine the causes that led to an incident.

Managing Injury/Illness Log Entries

You can enter and manage different kinds of medical assistance provided to employees at your company, such as first aid and treatment of minor injuries, as well as treatment of pre-existing injuries and aid given to employees who are not feeling well.

To manage injury/illness log entries, you can use the following features:

Key Features	Use
Creating and Editing Injury/Illness Log Entries	You can record and edit information about events that involve medical assistance. An injury/illness log entry can contain information such as the injured person and persons involved, first aid and follow-up treatment, event location and time of event, injuries, and treatment location.
Reporting an Incident Based on an Injury/Illness Log Entry	You can create an incident related to an existing injury/illness log entry and transfer the available data from the injury/illness log entry to the newly created incident.

Managing EHS Locations

You can create and edit locations and specify a location hierarchy. You use locations, for example, to specify a workplace when an incident occurred.

To manage EHS locations, you can use the following features:

Key Feature	Use
Editing Location Structures	You can insert locations at different positions into the location structure to represent where these locations exist spatially or functionally in your company. The location structure also allows you to make mass changes to the attributes of multiple locations in one go, instead of having to maintain each location individually.
Editing Locations	You can add new locations to the location structure or edit the master data of locations that already exist within the structure. Location master data includes the plant or company code to which the location belongs, and the precise position of the location. For locations that have been created manually, you can also establish links to technical objects.
Importing Locations	If you want to reuse locations that exist as technical objects in a *Plant Maintenance* application, you can import them as locations into *Environment, Health, and Safety Management*. You can import locations and location structure from third-party sources.

3.11.5.2 Environment Management

Business Background

You use the environment management solution to organize environmental data and manage compliance with the applicable requirements for your company. You can keep record of your compliance information about requirements. The *Environment Management* solution allows you to streamline compliance planning by associating tasks with those requirements. You can monitor task processing and in case issues occur, you can create and manage the deviations. You can also analyze the processing of compliance tasks. Lastly, you can retrieve and analyze the environmental data by multiple criteria, such as date, location, plant, cost center.

Key Features

The following scenarios and key features are supported:

Managing Emissions

You can record environmental data from operations in your company and export the data so that it can be reported, for example, to legal authorities. You can also process data and initiate tasks and activities to prevent deviations.

To manage environmental data, you can use the following features:

Key Feature	Use
Managing Locations and Material Data	You can create your own locations to specify workplaces that are subject to compliance management. You can organize the locations in a hierarchical structure to easily maintain and edit their data. You can make mass changes to all locations at the same time. You can manage the role assignments of persons responsible across the location structure. To manage the environmental compliance of your company, you need to create and maintain material (product) data. The data is used in follow-up business processes, such as the setup of compliance scenario activities, to ensure that your company is compliant with the applicable environmental requirements. To specify the applicability of your location to specific environmental requirements, you can create and assign one or multiple location classifiers to it. Classifying and managing locations that you are responsible for is a starting point for all further processes supporting compliance management.
Managing Compliance Requirements	You can create compliance requirements to keep record of and track requirements from policies, permits, and regulations. You can import compliance requirement records and maintain existing ones that are applicable for your company. You can also copy existing compliance requirements - for example, compliance requirements that are delivered by SAP - and update them easily to reflect changes in regulations. In the compliance requirements, you can specify environmental limits, regulatory lists, and equations, which can be used later in the processes of managing and reporting emissions and ensuring compliance. You can also create and assign one or multiple location classifiers to a requirement that can help you assess the applicability of that requirement for your locations.
Managing Compliance Scenarios	You can create compliance scenarios and assign to them the applicable compliance requirements to the locations. To fulfill these requirements, you can create data collection, sampling, data calculation, and location aggregation activities. You can create and assign tasks to persons responsible for their completion to ensure the orderly running of industrial equipment and facilities at your locations. For convenience, you can assign tasks to a location role so that everyone with the respective role in the location receives the task for approval or further work on it. You can assign environmental limits to your compliance scenario activities so that the system can check the collected or calculated data based on these limits.

Key Feature	Use
Managing Compliance Tasks	You can create tasks that are related to a compliance requirement. To trace your compliance to that requirement, you can make a reference between the created tasks and the requirement. You can reschedule tasks as needed or set task recurrence using one of two scheduling modes to manage compliance over time. You can also specify if a task starts on the same day it is due.
Processing Tasks	You receive the tasks assigned to you in your inbox and record their completion with comments and attachments. A task can be assigned to a specific business user or all users with a given location role. If you are the owner of multiple compliance tasks, you can monitor and process tasks and outcomes.
Monitoring Environmental Data	You can oversee the progress of environment-related tasks or monitor the environmental data recorded in the system. You can analyze the data. Additionally, you can forecast environmental data based on past data with the help of predictive learning algorithms and statistical methods. By comparing forecasted environmental data against environmental limits, you can get an early indication of future deviation incidents or noncompliance.
Reporting	You can create environmental reports and get a summary of the available environmental data in the system. You can plan and assign persons responsible for report generation and approval and track the report lifecycle with a task report workflow. You can also classify the data to allow for easy filtering and monitoring of reporting status across locations. You can use the reports to fulfill legal and internal reporting requirements.
Managing Deviations	In case of deviations, you can create deviation incidents to record, investigate, and report abnormal or incorrect equipment operation that may lead to noncompliance. For better traceability, you can create a deviation incident directly as a follow-up of a task. You can plan corrective and preventive measures to avoid future noncompliance.
Analyzing Compliance	You can analyze the environmental data in the system from compliance scenario activities by location, data type, and other relevant criteria. You can export the data for further checks or reporting purposes. Additionally, you can analyze the processing of tasks related to compliance requirements, group them by status, location, compliance requirement type. You can adapt your task analysis by adding multiple steps to it. This way, you can have an up-to-date overview of compliance requirement tasks.

Managing EHS Locations

You can create and edit locations and specify a location hierarchy. You use locations, for example, to specify a workplace where emissions are produced.

To manage EHS locations, you can use the following features:

Key Feature	Use
Editing Location Structure	You can insert locations at different positions into the location structure to represent where these locations exist spatially or functionally in your company. The location structure also allows you to make mass changes to the attributes of multiple locations in one go, instead of having to maintain each location individually.
Editing Locations	You can add new locations to the location structure or edit the master data of locations that already exist within the structure. Location master data includes the plant or company code to which the location belongs, and the precise position of the location. For locations that have been created manually, you can also establish links to technical objects.
Importing Locations	If you want to reuse locations that exist as technical objects in a *Plant Maintenance* application, you can import them as locations into *Environment, Health, and Safety Management*. You can import locations and location structures from third-party sources in the SAP S/4HANA migration cockpit.

3.11.5.2.1 Waste Management

Business Background

The waste management solution supports you in establishing transparent operations that ensure and validate a compliant waste management process within your company.

This includes:

- Central repository for all waste management related compliance requirements
- Streamlined processes for master data and on-site management, planning of shipment, transportation of waste for disposal, and reporting of waste related activities
- Deep integration into SAP S/4HANA business data and processes
- User interface with guided tours to support users

Key Features

The following table explains the key features available:

Key Feature	Use
Managing Material Data	You can create new waste materials and manage their data. You can assign waste codes to waste materials. Waste codes are required for the creation of waste disposal documents that meet compliance requirements.
Managing Transporters and Disposers	You can assign business partners as transporters and disposers. You can assign waste materials to the business partners' facilities. The waste materials can then be disposed of there.
Creating and Managing Waste Transfer Requests	You can create internal waste transfer requests when a waste container is full as part of your on-site waste management. A subsequent notification is triggered and sent to the Environmental Manager to process the request. They can also receive notifications regarding the movement and storage periods of waste materials in the waste containers.
Managing Waste Streams and Defining Waste Disposal Channels	You can create waste steams to define which location has which type of waste that will be generated. Additionally, you can specify the disposal information in the form of a disposal channels assigned to a waste stream.
Managing Waste Transportation Documents	You can prepare and generate the necessary waste transportation documents required for compliance. You can use various filters to search for specific waste transportation documents and update their data.
Access Data from External Systems	You can e-send and receive waste transportation documents via the included API.

3.11.5.2.2 Audit and Inspection Management

Business Background

You use the *Audit and Inspection Management* solution to carry out inspections that support your company's compliance with external or internal product standards and regulations.

In *Audit and Inspection Management*, you identify areas of nonconformity within your organization, address the root causes, and implement corrective and preventive actions (CAPAs) to ensure continuous compliance and transparency.

Key Features

The following table explains the key features available:

Key Feature	Use
Conducting Inspections	You use this feature to perform inspections using questionnaires or checklists to assess compliance with defined standards and regulations.
Managing Findings and CAPAs	You can document inspection findings, categorize them based on severity and impact, identify root causes, and define corrective and preventive actions (CAPAs).
Reviewing and Tracking Results	You can review submitted findings and monitor CAPA implementation and effectiveness.

3.11.5.3 Health and Safety Management

Business Background

The *Health and Safety Management* solution helps you to maintain a safe workplace environment for employees at your company. You can create safety instructions for handling certain equipment or substances to keep employees informed about protocols on health, safety, and personal protection. You can also perform systematic risk assessments and analyze job-related hazards to keep your risk treatment measures optimized and up to date. The solution also enables you to create and manage requests for the approval of new chemicals in your company. This feature helps ensure thorough evaluation of all chemicals for safety.

Key Features

The following table explains the key features available:

Key Feature	Use
Managing Risk Assessments	You can perform risk assessments to identify, evaluate, and treat risks to the health and safety of employees working at your company. You can also create new revisions of risk assessments to follow up on selected risks and monitor them after the initial assessment.
Managing Safety Instructions	You can create and revise safety instructions to keep employees at your company safe when working with equipment or substances.

Key Feature	Use
Analyzing Job Hazards	You can identify job-based risks and apply the necessary controls to treat them. You can also create new revisions of a job hazard analysis to follow up on selected risks and monitor them after the initial analysis.
Managing Jobs	You can use this feature to manage health and safety relevant jobs performed in your company.
Requesting Chemical Approvals	You can use the approval process for chemicals to ensure that new chemicals that are introduced in your company are approved from a health, safety, and environmental aspect before they are used. This approval process encompasses multiple checks carried out by various parties.
Managing the Use of Chemicals	You can search for and display all chemicals with a completed request for approval. An overview shows whether the use of a chemical is permitted, forbidden, or expired at a selected location and provides detailed use information such as validity time, consumption, purposes, and methods of use. In addition, it is possible to expand an existing approval.
Getting an Overview of Chemical Approvals for Hazardous Substances	You can display approved chemicals sorted by purpose or method of use and view open requests as well as your own requests for chemical approval.
Viewing Safety Information Related to an Individual Workplace	You can directly access important safety information for an employee's individual workplace. This includes the emergency contacts for the respective location as well as information on the potential risks and the required personal protective equipment related to a location and, if applicable, a job. You also have an overview of hazardous substances present at the workplace, and the option to report incidents that occur at your workplace.
Managing Hazardous Substance Inventory	You can manage the hazardous substance inventory for your company by documenting and tracking all hazardous substances at each location along with their quantities. Add new substances, update existing entries, or remove substances no longer in use. A comprehensive inventory view displays all substances with their location and safety information, including GHS classifications, pictograms, and hazard statements.
Getting an Overview of Workplace Safety	In an overview of workplace safety, you can display data issues and outstanding tasks within the risk assessment process.

3.11.5.4 Occupational Health

Business Background

You use the *Occupational Health* solution to support general employee occupational healthcare in your enterprise.

In *Occupational Health*, you use locations to specify health centers and health service providers. A health center is a location where health-related treatments and consultations are performed. Health centers are driven by health service providers. These can be either internal or external providers. They are also created as locations and assigned to the health centers in the location structure. You can edit the location structure to build an occupational health related hierarchy of your health centers. You can define health protocols which

include health surveillance protocols, fit-for-work examinations, or health campaigns. Assign health service items that shall be performed in the context of the health protocol, together with information about the health service provider, the duration and the potential costs.

You can specify health-related appointments for health service requests. You can assign a person to a processor (for example, a physician) along with a health protocol and request the processing at a dedicated date, time and duration. The person responsible for planning (for example, a receptionist) can add additional health protocols or health service items to be performed. You can call up a list of due health service requests to manage and refine them. You can then maintain results for the assigned health protocols and health service items.

To keep an overview of the health center appointments that are available in the system, the records can be monitored. You can use filters to display a list of appointments in the system according to the filter settings (for example, a daily list, a list of appointments per health center in the past month or per health service provider).

Key Features

The following table explains the key features available:

Key Feature	Use
Managing Locations for Health Centers	You use this feature to maintain locations for health centers. Physicians and other occupational health related person roles can be assigned directly to health centers.
Managing Locations for Health Service Providers	You use this feature to maintain locations for health service providers. If the health service providers are external, you can assign a business partner to enable the integration with *SAP Business Partner*.
Managing Health Center Structure	You can edit the location structure and create health centers and health service providers.
Managing Health Protocols	You use this feature to define health protocols that are required by legislation or internal policies. You define health service types to specify what should be performed. You can assign health service items that should be covered during the processing of such a health protocol.
Managing Health Center Appointments	This feature provides a health service related calendar you can use to define health related appointments. Use it to schedule your appointments for a health center and define health service requests that should be performed at a dedicated date and time. You can directly assign the required health protocols and/or health service items that should be covered.
Managing Health Service Requests	You use this feature to start the processing of the scheduled health service requests. You can refine the assigned health protocols and/or health service items again and start the processing to maintain the results for the health service request details. After you have entered the results, you can close the health service request.
Monitoring Health Service Requests	You can use this feature to receive an overview of the health center appointments in your system. Depending on your analysis goals, define filter values to create lists of appointments.

3.11.5.5 Management of Change

Business Background

More and more companies have realized that changes can have a negative impact not just on people or the environment but on the business itself. A change to improve one business objective often has unintended negative consequences on another business objective, be it product quality, safety, or operational costs.

Management of Change helps you manage and streamline changes to products, procedures, processes, and equipment. You can monitor and organize reviews, approvals, and other actions necessary to implement the change, such as updating documentation, training materials, or master data. Employees can communicate change requests easily. Based on standard templates, you can decrease implementation and adoption costs and ensure that the company-specific or industry-specific change procedures are followed. As a result, the business can make changes that facilitate growth – without disrupting operations or harming employees, assets, or the environment.

Key Features

The following table explains the key features that are available:

Key Feature	Use
Creating Change Requests	You can request a change and provide basic information, such as a description of the change.
Reviewing and Evaluating Change Requests	You can check if the provided information is clear and sufficient. You can collect additional information as required and involve multiple disciplines, for example, engineering, operations, and health and safety. Configurable questionnaires help to capture all relevant details and to control the process.
Approving Change Requests	Based on the collected information and evaluation results, you can decide whether the change is to be implemented.
Driving Change Requests and Performing Activities	A change request contains activities such as tasks and approvals. Each activity is performed by the assigned responsible person. You can verify the activities that have been determined for the change request and adapt them to the requirements. Then you can monitor and control the implementation of the activities.
Closing Change Requests	You can verify that all activities are completed. You can close the change request.

Key Feature	Use
Analyzing Change Requests and Activities	You can get important insights by exploring and analyzing the data for change requests and activities in the system in an interactive way. You can analyze the data step-by-step by various criteria and through data visualizations.

3.12 Professional Services

3.12.1 Customer Project Management

Business Background

The following features enable your project manager to create, manage, and monitor customer projects and internal projects. Project managers plan work packages and efforts, staff resources, and create billing plans for services. Subsequently, when efforts have been recorded, billing data is prepared, which are later used in the creation of invoices.

Project managers can also monitor projects for financial performance, using criteria such as cost, revenue, margin, and variance.

> ⓘ Note
>
> - Project information such as planned effort, planned cost, planned revenue, and estimate to complete (ETC) are stored and reported per month following the Gregorian calendar.
> - Periodic billing plans are only available for customer projects in professional services.

Key Features

The following features are available:

Key Feature	Use
Create customer projects	You can create and plan customer projects. You can plan several aspects such as high-level schedules, the type of project roles and people required to deliver the project, and plan costs and expenses. You can also create project-specific prices for delivered services, create billing plans, and thereby plan the project revenue and margin.

Key Feature	Use
Manage customer projects	You can manage customer projects for which you are the responsible project manager. You can search for projects, copy existing projects, and edit your projects to plan work packages, effort, resources, and billing, recalculate cost and revenue, and analyze financial key performance indicators (KPIs).
Monitor customer projects	You can monitor customer projects from the perspective of financial performance. Project managers can keep track of cost, revenue, and margin, compare planned and actual values, analyze variance between planned and actual values, and use the information to review the project plan, or initiate follow-up activities.
Review customer projects	You can carry out monthly reviews of projects to measure progress and forecast project outcomes such as estimated cost at completion (EAC) and margin. You can improve the accuracy of costs at the completion of a project, with the ability to adjust ETC or deviations from planned quantities against roles and staffing. You can also simulate the effect of ETC changes on project EAC, percentage of completion (PoC), and margin. You can manage statuses and trends, and view a historical record of statuses and trends across a project's lifecycle.
Fixed price billing	By creating a fixed price billing plan as part of your project, you can bill customers a predetermined amount for the services that you will provide to them.
Periodic billing processes	You can create billing plans at item level to trigger periodic billing (at predetermined due dates) of customers. You can also bill based on customers' usage behavior (usage-based billing).

Key Feature	Use
Resource-related intercompany billing	Intercompany billing enables you to generate invoices between separate accounting units within a corporate group. This is necessary if one accounting unit within the group provides services for another unit, or if one unit needs to bill another unit for expenses to another unit (for example, travel costs). You can • create customer projects • check for intercompany sales orders in the list of sales orders • create and change intercompany sales orders • create intercompany billing documents • process open customer invoices and monitor incoming payments • view key performance indicators (KPIs) for invoices and process invoices
Time and material and WIP clearance bills	You can bill customers for the time, materials, and other expenses incurred by their projects.
On-account billing	You can bill customers for partial amounts of the final cost to be invoiced. The billed amount is recorded to the customer account as revenue.
Billing for projects	You can get an overview of all billing elements within the projects assigned, prepare the billing details and subsequently trigger billing processes.
Create internal projects	You can create and plan internal projects. You can plan several aspects such as high-level schedules, the type of project roles and people required to deliver the project, and plan costs and expenses.
Manage internal projects	You can manage internal projects for which you are the responsible project manager. You can search for projects, copy existing projects, and edit your projects to plan work packages, effort, and resources, recalculate cost, and analyze financial key performance indicators (KPIs).
Monitor internal projects	You can monitor internal projects from the perspective of financial performance. Project managers can keep track of cost and margin, compare planned and actual values, analyze variance between planned and actual values, and use the information to review the project plan, or initiate follow-up activities.

Key Feature	Use
Staff external employees	You can search for and staff third-party employees for whom master data (including cost center assignment) exists.
Distribute effort by months	You can adjust the distribution of planned effort between the months of the work package.
Authorize access to project apps	You can decide the project information for which a user has access to, by specifying service organizations in the business role.
Automatically adjust project dates while copying projects	When copying projects, you can specify the project's start date. The system automatically adjusts the project and work package dates based on the duration of the project you are copying.
Automatically adjust project dates	Project dates are automatically adjusted if work package start or end dates lead to the project start getting advanced or the project end getting postponed.
Plan revenue for expenses	You can plan revenue from expenses, and later on bill such expenses to clients during downstream processes.
Increased visibility of revenues as planned and revenues as sold	You can assess the impact of project planning on as-sold revenues, and also while making changes to project during execution.
Analyze project margins	Key stakeholders such as project managers or project controllers can benefit from broader coverage of project reporting.
Enhanced extensibility of projects	Using tools for key user extensibility, designated key users can extend the usage of customer and internal project apps. For example, key users can add customized fields, rename labels, hide fields, and rearrange fields. Key users can also extend standard reporting and analytical content to suit individual or organizational needs.
Project plan versions	You can view the automatically-created baseline version, update the baseline version for selected work packages (if necessary), and view a comparison of plan figures in the baseline, the current plan, and EAC.
Integration with resource management	During the process of planning customer or internal projects, you can create resource requests for a resource manager to act on.

Key Feature	Use
Set the forecast month	As a project manager or a key user, you can use an application job to set the forecast month for customer projects you are responsible for. This enables project managers to review and prepare project forecasts.

3.12.2 Integration with External Resource Management Services

SAP S/4HANA Cloud Public Edition supports the integration with external resource managements services (for example, the resource management capability in SAP Project and Resource Management) to efficiently manage your resources and improve their utilization.

3.13 R&D / Engineering

3.13.1 Enterprise Portfolio and Project Management

3.13.1.1 Project Financial Control

Business Background

Managing projects, such as developing new products or running new investment projects, requires controlling-related financial aspects. With Project Financial Control, you can define projects and its underlying elements to serve as accounting structures for subsequent project financial accounting tasks such as cost planning, actual cost and revenue collection or settlement.

Key Features

The following features are available:

Key Feature	Use
Maintenance of template projects	You can define a project and its related elements for operative usage. This serves as as a template for creating other operative projects. A project can contain individual elements that structure the project hierarchy, general organizational data, control profiles and default values.
Maintenance of operative project	You can create projects, or change and display existing projects and project parts. A project comprises of a header or definition, which serves as binding framework for all organizational elements created within a project. It can contain underlying elements, which describe either a certain task or a partial task that can be subdivided further. The structure tree displays the project object that you have selected in its hierarchical context. You can manually change the dependencies and assignments of individual project objects in the structure tree. Templates are available during processing to create new objects or structures in the current project by adding new project objects or copying project structures. For quicker access, you can store frequently used project data (project and project elements) in the worklist.
Generating project settlement rules	Costs are often collected in project, however, only temporarily. They are settled to one or more receivers as part of period-end processing. A settlement rule is essential for each object you want to settle. The settlement rule contains the receiver, the apportionment rule, and other settlement parameters. You can change the profile settings in the settlement rule parameters for an object. You can pass down the settlement rule defined for an investment project to the child WBS elements. The settlement rule is passed down until you explicitly define a WBS element as the settlement element.
Reporting of project costs and budgets and display of actual project cost line items	You can monitor the planned and actual costs as well as budgets for a project and use this for reporting purposes. You can use the actual line item report for projects to obtain flexible analysis of individual actual cost postings per various criteria. You can also view the real time costs of assigned orders. A number of functions support you in analyzing line items in reporting. These include sorting, filtering, or totaling.

Key Feature	Use
Monitoring project related procurements	Using project control analytics you can monitor purchase requisitions, purchase orders, and account assigned to projects or project elements.
Using the approval process and monitoring project release	You can use the workflows for releasing a project. The workflow allows you to use one-step or multi-step approval process. From the overview of projects they are responsible for, the approvers can either approve or reject them, and add comments, if required. Based on the workflow configuration approvers can also send back the work items to requestors for rework. You will be notified if your project release has been rejected or sent back to you for rework. In case of rework, you can read the comments from the approver, make the required changes and resubmit. You can monitor the status of the project and also see who is responsible for an approval step.
Archiving objects	You can archive objects that have reached the end of the retention period.

3.13.1.2 Project Logistics Control

Business Background

With Project Logistics Control, you can define, trigger and monitor demands that are related to a project or a WBS element. It complements the planning of project activities by enabling the planning and assignment of human resources as well as the planning and triggering of service and material procurement for projects and WBS elements. This prevents business disruptions and improves all the logistics-related execution aspects of a project.

Key Features

The following table explains the key features available:

Key Feature	Use
Managing material and service demands	You can create material and service demands and trigger and monitor the procurement of the requested materials and services for your project or WBS element.

Key Feature	Use
Managing resource demands	You can create resource demands related to a project or WBS element, assign human resources to the demands, and monitor the actual efforts recorded during project execution.

3.13.1.3 Project Management

Business Background

Project Management enables you to monitor your internal projects, for example R&D projects, and to steer them through your company's organization. You are supported to keep all involved stakeholders in the loop about your ongoing projects, for example during the regular steering committee meetings.

Key Features

The following table explains the key features available:

Key Feature	Use
Displaying overview of projects	As a project manager or as a member of project steering committees, you can get an overview of the most important details of your projects, for example: • Upcoming milestones • Cost information • Status information
Displaying and updating projects	You can display or update summarized project information that is essential for project review in steering committee meetings, such as the following: • Milestones • Cost information • Status information • Team members • Related documents
Project collaboration	SAP S/4HANA Cloud Public Edition supports the integration with a collaboration tool (currently the project management capability in SAP Project and Resource Management) to enable users to initiate the creation of a project-related collaboration in the collaboration tool and to access the project-related collaboration from SAP S/4HANA Cloud Public Edition.

3.13.2 Product Lifecycle Management

3.13.2.1 Integrated Product Development for Discrete Industries

3.13.2.1.1 Bills of Material

Business Background

A bill of material (BOM) is a formally structured list of the components that make up a product or assembly. The list contains the object number of each component, together with the quantity and unit of measure. The components are known as BOM items. BOMs are used in various situations where a finished product is assembled from several component parts or materials. They contain important basic data for numerous areas of a company.

Key Features

The following features are available:

Key Feature	Use
Manage bills of material	• You can create a complete, formally structured list of components that make up a product or an assembly. You can create BOMs and also maintain BOMs for configurable materials. You can create and maintain manufacturing structures (manufacturing bill of materials (MBOMs)) from an engineering structure (engineering BOM (EBOM)). • You can create MBOMs from EBOMs from an external data source, currently it is SAP Integrated Product Development. • You can display and maintain the hierarchical tree structure of a multilevel BOM. • SAP S/4HANA Cloud Public Edition supports the integration with a requirements management system (currently the requirements management capability of SAP Integrated Product Development). When a requirements management system is integrated, you can assign BOMs to requirements or models.
Find where materials are used in BOMs	You can search for a BOM header using a component that can be filtered for a plant, BOM usage, alternative BOM, etc. and view the where-used details of a material and replace a material with another material.
Order bill of material	You can create and maintain sales order-specific bills of material to meet your requirements.

Key Feature	Use
Comparing bills of material	• You can compare two different BOMs or same BOM with different date effectivities with each other to understand the similarities and differences between the compared BOMs. • You can analyze the comparison based on the comparison result. • You can explode the two BOMs down to the lowest level and compare in multilevel comparison.
Mass maintenance of bills of material	• You can mass maintain several BOM headers or BOM items at a time thus reducing the effort of performing similar changes across many BOM headers or BOM items one at a time. • You can simulate the operations (add, edit, or delete) to view the output before committing the changes to the database. • You can view the processing details of a background job maintained in the job log.

3.13.2.1.2 Classification

Business Background

The classification system allows you to use characteristics to describe various types of objects, and to group similar objects in classes – to classify objects, in other words, so that you can find them more easily later. You then use the classes to help you to find objects more easily, using the characteristics defined in them as search criteria. This ensures that you can find objects with similar or identical characteristics as quickly as possible.

Classes allow you to group objects together according to criteria that you define.

- You create classes for certain object types such as, for example, material.
- You use the class type to determine which object types can be classified in a class.
- You can assign characteristics to your class. These describe the objects that you classify in your class. When you assign a characteristic to a class, you can adapt (overwrite) the characteristic.

Key Features

The following features are available:

Key Feature	Use
Classification handling	You can define classes and their characteristics including characteristic values and organize classes into class hierarchies if the class type allows it.

Key Feature	Use
Finding objects	Once you have set up a classification system in your company, you can search for the objects you have classified. You can also identify where a given characteristic and characteristic value is used.

3.13.2.1.3 Engineering Change Management

Business Background

Engineering change management capabilities can be used to manage various aspects of product data (for example, bills of materials, materials, and documents) within a structured and controlled change process. Support for additional capabilities (including problem report, change request, change order, and change notice) orchestrated by structured and ad-hoc workflows ensure an effective change handling in product development.

Key Features

The following table explains the key features available:

Key Feature	Use
Change master record handling	You can define change master records. Change master records contain descriptive data, such as the reason for the change, and data with control functions, such as valid-from date and indicators for object types. In addition to this data, which you can maintain directly, there is data that the system updates automatically, such as administrative data.
Revision level assignment	You can identify material changes that are made with reference to a change number by using revision levels. A revision level can be assigned on a valid-from date when an object is changed with reference to a change number.

3.13.2.1.3.1 Manage Change Records (Version 2)

Business Background

Change record helps you to effectively manage changes by connecting people, processes, and products. This solution allows businesses to drive the end-to end change management processes by handling change requests up until their implementation and release.

Key Features

The following table explains the key features available:

Key Feature	Use
Detailed information about the change	The Change record acts as a single source of truth for product changes. It contains the details such as the reason for change, expected completion date, participants involved in the change, objects involved in the change, required attachments, and status information.
Business objects for change records	You can integrate business objects from the process and discrete industries, such as Product and Bill of materials.
Enhanced workflows with Flexi Workflow, ad-hoc, and background tasks	Workflow tasks can be parallel or sequential, and can be added ad-hoc or via a template; executed by the user or in the background. You can set processing times, priorities, and recipients.
Status change	Progress indicator allows to view the progress and get an instant overview of the change process using the record statuses.
Dynamic field control	The visibility of fields can be controlled per change record status and the behavior can be changed based on the type of fields and where they appear in the UI.
Integration with Classification System	You can identify the classified objects using specific characteristics and characteristic values with the help of classification system.
Integration with Attachment Service	You can link business objects based on document management with the help of attachment service.
API support for change record	Change record API enables you to generate change records together with the change items and do multiple operations in bulk, faster and in parallel.
Impact analysis scenarios for change record	You can define impact scenarios and set up rules or constraints. When impact analysis is performed, the impact scenario identifies the objects that are impacted by the proposed change.
Attachments	You can manage attachments and attachment URLs for business objects. You can perform operations such as create, read, rename, and deletion of attachments. You can also read an existing document info record (DIR), and add attachments to it.
Log	You can view the Change Documents which contains the Field Name, Old Value, New Value, Changed By, etc.
Manage Workflow for Change Record (Version 2) app	You can manage different workflow templates for Change Record (Version 2).

3.13.2.1.3.2 Flexible Workflow Templates

Business Background

You can configure workflows to optimize the approval process for legal transactions in change records. You can define workflow templates according to various scenarios in the change process.

Key Features

The following table explains the key features available:

Key Feature	Use
Managing workflow templates	You can define new workflow templates, create new workflow templates based on existing templates, or edit existing templates.
Defining workflow steps	You can create workflow steps, assign specific users or entire roles to your workflow steps, define preconditions for the workflow tasks, and define exception handling.

3.13.2.1.3.3 Engineering Cockpit

Business Background

You can filter and display an overview of engineering changes and engineering progress for different business objects. You can analyze the data with the help of graphic charts and initiate actions based on your insights.

Key Features

The following table explains the key features available:

Key Feature	Use
Change processes overview	You can view the ongoing change processes and trace their execution statuses.
Quick links	You can navigate easily to the related apps.

3.13.2.1.3.4 Impact Analysis Models

Business Background

You can create impact analysis scenarios, which can be used to perform impact analysis in change records. With impact analysis, you can identify business objects that are impacted during change evaluation.

Key Features

The following table explains the key features available:

Key Feature	Use
Impact analysis scenarios	You can create, edit, or delete impact scenarios. The impact scenario represents the model or the association the object has with the other objects. Change constraints or rules can be assigned to the model which decide the scope of the impact.
Graphical and Tabular views	You can view two different versions of the same data in tabular and graphical format and can easily switch between them.

3.13.2.1.4 Embedded Systems Management

Business Background

Embedded software is computer software that is embedded in one or multiple products. It provides functions together with various hardware and systems. For example, embedded software can be used to control or optimize the functions of the mechanical part or the electrical part of a product.

If you work with products that have one or multiple pieces of embedded software, you can use embedded software management to view and manage your software.

Key Features

The following table explains the key features available:

Key Feature	Use
Embedded Software Management	You can use a specific material type to define software. You can also use a specific document type to define software versions.

3.13.2.1.5 Product Structure Management

> **Note**
>
> The below mentioned feature for Product Structure Management are only available for customers who have licensed these features before SAP S/4HANA Cloud 1908 including maintenance for these features. For further information, please contact your SAP Account Executive.

Business Background

Product structure management can be used in early development phases. Product structures consist of a set of hierarchically ordered objects with the purpose of documenting one product or a set of similar products. They use abstract representations of products and components.

Key Features

The following table explains the key features available:

Key Feature	Use
Manage product structure	You can create new product structures and maintain them (product families, product items, product views, and software items). You can also view the product structures in a customizable table.

3.13.2.1.6 SAP Integrated Product Development Integration

Business Background

SAP S/4HANA Cloud Public Edition can be integrated with SAP Integrated Product Development to enable data exchange from SAP Integrated Product Development to SAP S/4HANA Cloud Public Edition.

Key Features

The following table explains the key features available:

Key Feature	Use
Bill of material integration	You can transfer BOM data from SAP S/4HANA Cloud Public Edition to SAP Integrated Product Development (read and write access).
Change object integration	You can transfer change object data from SAP S/4HANA Cloud Public Edition to SAP Integrated Product Development (read access).

Key Feature	Use
Document info record integration	You can transfer document info record data from SAP S/4HANA Cloud Public Edition to SAP Integrated Product Development (read access).
Product integration	You can transfer product data from SAP S/4HANA Cloud Public Edition to SAP Integrated Product Development (read access).
Plant integration	You can transfer plant data from SAP S/4HANA Cloud Public Edition to SAP Integrated Product Development (read access).

3.13.3 Advanced Product Lifecycle Management

3.13.3.1 Integrated Product Development for Discrete Industries

3.13.3.1.1 Advanced Variant Configuration

Business Background

Variant configuration is for manufacturing complex products. Manufacturers often have to offer new variants of their products, and new variants can be created by modifying existing product designs as they process the order. The important thing is to react quickly to customers' requirements.

The customer determines the features of the product. A customer buying a car, for example, can choose the features of the car and combine these features as required. The product configurator improves information exchange between sales, engineering, and production. Variant configuration helps the customer or salesperson to put together specifications for the product and ensure that the product can be produced from these specifications.

Key features

The following features are available:

Key features	Use
Manage configuration model	You can use a configurable product to cover all variants of a product in your company. • A class is used to hold the characteristics that describe a configurable product. By linking the class to the configurable product, you allow the product to be configured using the characteristics of the class. • You can create a super BOM for a configurable product, containing all the components for producing all variants of the product. • Often not all combinations of features are possible for either technical or marketing reasons. You can use dependencies and constraints to control which combinations are allowed. • In configuration profiles for configurable objects, you define central settings for configuring the object. • You can use variant conditions to influence the price of a configurable product depending on the characteristic values assigned. • You can use single-level and multi-level variant configuration models. • You can use configurable routings.
Manage product variants	You can create a product variant, which is a product that can be kept in stock and that arises from an individual configuration of a configurable product.
Interactive configuration	During configuration, in the sales order for example, the user assigns values to characteristics. Dependencies and constraints coming from the configuration model are brought into consideration. Advanced variant configuration is also integrated into the purchase order.
Configuration simulation	You can use the configuration simulation to check your configuration model. In the configuration simulation, you can test whether you have created the objects correctly and whether your dependencies work.

Key features	Use
Low-level configuration	Low-level configuration refers to “background” explosions of configurable objects, like bills of material (BOMs). For example, it’s used in material requirements planning (MRP). Here characteristic values from the sales order are automatically used to determine the BOM components.
Variant configuration data in embedded analytics	This feature allows you to generate CDS views. You can use these CDS views to publish the classification/configuration information and to visualize it with application data. You can use these to model your own CDS view queries, in which variant configuration data can be combined with other objects, such as a sales order.

Related features

Classification [page 176]

3.13.3.1.2 Embedded Systems Development

> ⓘ Note
>
> The below mentioned features for Embedded Systems Development are only available for customers who have licensed these features before SAP S/4HANA Cloud 1908 including maintenance for these features. For further information, please contact your SAP Account Executive.

Business Background

Embedded systems development combines the development of embedded software and systems engineering.

Embedded software has a specific requirement on the hardware and software that allows it to function accurately. To manage the compatibility information between software and other parts of a product, you can use constraint management.

As part of systems engineering, you can also link objects from external system models to the business objects in your system for full traceability.

Key Features

The following table explains the key features available:

Key Feature	Use
Managing Constraints	You can view and maintain the compatibility information of embedded software, including: • Hardware constraints: the compatibility between embedded software and hardware • Software constraints: the compatibility between embedded software and other software.
Checking Software Compatibility	You can check software compatibility in a bill of material (BOM).
Managing Model Object Assignments	You can assign objects from external system models to the business objects in your system to support full traceability.

3.13.3.1.3 Handover to Manufacturing

> ⓘ Note
>
> The below mentioned features for Handover to Manufacturing are only available for customers who have licensed these features before SAP S/4HANA Cloud 1908 including maintenance for these features. For further information, please contact your SAP Account Executive.

Business Background

You use this business process to create and maintain manufacturing bills of material (MBOMs) by using the engineering bills of material (EBOMs) or product structures.

Key Features

The following table explains the key features available:

Key Features	Use
Managing planning scope alternative	You can start planning for an MBOM by creating a planning scope using the bill of material, product structure, or already existing planning scope. The business application

Key Features	Use
	allows you to create, change, or delete existing planning scope. On creation of a new planning scope alternative for a bill of material, a new alternative MBOM is created.
Planning hand over of EBOMs or product structures	You can use EBOMs or product structures for planning the MBOM as follows by: • Making a direct copy of the EBOM or product structures • Adding or removing the components from the MBOM • Creating an MBOM • Restructuring the planned MBOM to get the desired target MBOM
Creating or maintaining BOM	You can create or overwrite existing BOMs by adding or removing BOM components.

3.13.3.1.4 Product Structure Management

> ⓘ Note
>
> The below mentioned features for Product Structure Management are only available for customers who have licensed these features before SAP S/4HANA Cloud 1908 including maintenance for these features. For further information, please contact your SAP Account Executive.

Business Background

Product structure management can be used in early development phases. Product structures consist of a set of hierarchically ordered objects with the purpose of documenting one product or a set of similar products. This is effective for high-volume, repetitive manufacturing, for example, in the automotive industry, as well as for complex machinery and equipment.

Key Features

The following table explains the key features available:

Key Feature	Use
Manage variants in product structure	You can manage product variants, product item variants, or software variants in product structures. You can assign materials to product variants, product item variants, or software variants.
Manage software in product structure	You can manage software in product structures. For example, you can check whether a software material version is compatible with other software and hardware materials in the product structure. You can also specify a version for a software.
Change BOM in product structure with product view	You can change bill of material items in product structures with product view.
Simulate product structure	You can simulate the product configuration and check the correctness of object dependency maintenance. You use simulation to simulate the explosion of a product structure for a specific set of configuration parameters.
Manage object dependencies in product structure	You can control the selection of variants for a particular product item or software item in product structures. You can do this using the dependency maintenance table.
Trigger product structure handover to manufacturing BOM	You can trigger product structure handover to manufacturing bills of materials (BOMs). You can create and update a manufacturing BOM.
Manage product structures	You can create new product structures and maintain the objects of existing product structures. You can also view the objects that are related to their respective product structures in a customizable worklist.
Enable product structure variants in change record	You can manage the change of product structure variants in change record. You can select existing variants in product structures to add into a change record as a change object and navigate to the target product structure to apply changes.
Enable the where-used function in product structures	You can maintain product structure nodes where the selected product structure node is used to assemble product bottom-up.

3.13.3.1.5 External PLM System Integration

Business Background

SAP S/4HANA Cloud Public Edition can be integrated with external Product Lifecycle Management systems to enable data exchange from the external PLM system to SAP S/4HANA Cloud Public Edition.

Key Features

The following table explains the key features available:

Key Feature	Use
Change management integration	You can receive data for an engineering change triggered in the external PLM system.
Document version management integration	You can send and receive document data from an external PLM system.
Product version management integration	You can create material masters in the SAP S/4HANA Cloud Public Edition Cloud system, based on data created in an external PLM system and business semantics. You can send and receive product data from an external PLM system.
Structure version management integration	You can receive bills of material in the SAP S/4HANA Cloud Public Edition system.
Production operation list integration	You can receive production operation lists that are created in an external PLM system and transfer them to classic PP routings in the SAP S/4HANA Cloud Public Edition system.
Variant definition integration	You can receive variant definitions that were created in an external PLM system and use them for variant configuration in the SAP S/4HANA Cloud Public Edition system.
Vendor integration	You can send and receive vendor data from an external PLM system in the SAP S/4HANA Cloud Public Edition system for business partner integration.

3.13.4 Product Compliance

3.13.4.1 Product Marketability and Chemical Compliance

Business Background

With the product marketability and chemical compliance solution, you manage chemical compliance for your products across your organization. The features of this business solution support you to ensure product marketability and brand protection, and to reduce compliance costs. They enable you to manage regulatory requirements and compliance assessments of your product portfolio.

Key Features

The following table explains the key features available:

Key Feature	Use
Management of compliance requirements for product marketability	You can manage product-related and substance-related compliance requirements based on legislation, industry standards, and customer or corporate-specific requests. Regulatory information and calculations are the basis for the compliance requirements that your products need to meet.
Management of marketability assessment process	You can assess the marketability of your products: • You can start or request the initial assessment of a product and determine the relevant compliance requirements for your product. • The system carries out compliance checks, thus supporting you to fulfill relevant compliance requirements for your products. • If the compliance results are affected after a change, the compliance checks are reprocessed. • You can perform market assessments of your products.
Product marketability data embedded in other business processes	Marketability assessment can be used in processes within the value chain: • Requests for marketability assessment are automatically created based on changes in the product master. • Marketability checks are integrated into sales and delivery processes to verify whether a product is marketable in a specific country/region. Based on the market assessment, the document could be blocked.

3.13.4.2 Dangerous Goods Management

Business Background

The dangerous goods management solution enables you to manage data that is needed to assess and classify products according to dangerous goods regulations. The solution also provides the classification information for specific processes within the value chain, such as sales and delivery, where the information can be used for a check and for printing.

Key Features

The following table explains the key features available:

Key Feature	Use
Management of compliance requirements for dangerous goods	You can manage compliance requirements based on dangerous goods regulations. The compliance requirements contain dangerous-goods-related regulatory information that you can use in the dangerous goods assessment process.
Management of dangerous goods assessment processes	You can assess and classify unpackaged and packaged products according to different dangerous goods regulations.
Integration of dangerous goods data in other business processes	Dangerous goods information can be used in processes within the value chain: • A transport permissibility check is carried out in business documents in sales, outbound delivery, purchasing, and transportation processes. It verifies whether the transport of a product is allowed in a certain country/region by a specific mode of transport. If not, the business documents could be blocked. • Dangerous goods data can be printed on sales, outbound delivery, and transportation documents. • Dangerous goods data is provided in electronic messages (EDI) in sales, outbound delivery, and transportation processes.

3.13.4.3 Safety Data Sheet and Label Management

Business Background

With this business solution, you manage safety data sheets (SDS) and labels according to chemical regulations and requirements.

A safety data sheet is legally required in most countries/regions of the world to ensure safe handling of chemicals and other hazardous products. Safety data sheet formats can vary from source to source within a country/region, depending on national requirements. Safety data sheets are a widely-used system for cataloging information on chemicals, chemical compounds, and chemical mixtures. Safety data sheet information may include instructions for the safe use and potential hazards associated with a particular material or product. The safety data sheet should be available for reference in the area where the chemicals are being stored or in use.

A product label is legally required in most countries/regions of the world to ensure safe transportation of hazardous products. Label layout can vary depending on regulations and other factors such as product size. Label layout and printing are carried out in external systems and supported by provided open interfaces.

Key Features

The following table explains the key features available:

Key Feature	Use
Management of compliance requirements for safety data sheets and labels	You can manage compliance requirements for safety data sheets and labels based on legislation and countries/regions. Safety data sheet-related regulatory information is the basis for the compliance requirements that your products need to meet.
Management of safety data sheet process	You can upload safety data sheets in different languages into *Product Compliance* and organize the legally required safety data sheets by country/region and regulation.
Management of label process	You can maintain label information for a product in the SAP S/4HANA system, such as relevant compliance requirement and label template (designed in an external system). You can print the label via an external system.
Integration of safety data sheets in other business processes	Safety data sheet information can be used in processes within the value chain: • You can send safety data sheets in the required languages to your customers and to relevant authorities electronically. The automatic shipment of safety data sheets is integrated into delivery processes. Updated versions of safety data sheets are resent automatically. • Checks in purchasing, sales and delivery processes are carried out to prevent products from being sold into markets if the required safety data sheets are not available.

3.13.5 Circular Economy

3.13.5.1 Integration with Responsible Design and Production

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with external extended producer responsibility solutions (currently SAP Responsible Design and Production) to manage your product design and production decisions in line with regulatory and non-regulatory drivers for sustainable business practices.

Key Features

If an external extended producer responsibility solution (currently SAP Responsible Design and Production) is integrated, SAP S/4HANA Cloud Public Edition supports you to fulfill your duties in extended producer responsibility (EPR) and packaging taxes.

3.14 Sales

3.14.1 Order and Contract Management

3.14.1.1 Sales Master Data Management

Business Background

You can use sales master data management to improve sales processing efficiency and to assist in the fulfillment of customized basic functions.

Master data in Sales represents common, basic business data that can be directly reused across sales activities and for basic functions. It's centrally maintained and remains relatively static in the system.

Key Features

The following table explains the key features available:

Key Feature	Use
Customer materials definition	You use this feature when your customer manages a product (that is, a material) using a number that differs from the number that your company uses.
Material determination	You can maintain material (that is, product) determination records to help enable the automated replacement of a product number entered in sales documents with a target product number.
Listing and exclusion	You can maintain material (that is, product) listing records and exclusion records, which specify which products customers can or can't buy.
Item proposal	You can maintain frequently used combinations of products (that is, materials) and order quantities as item proposals. During sales order processing, the system can propose product and quantity information from the maintained records.
Text control	You can maintain texts in master records (for customers, products, and customer materials) and sales and distribution (SD) documents. Based on predefined text determinations rules, texts can be automatically copied from master records or preceding documents to target documents during sales processing.

Key Feature	Use
Partner control	You can maintain partner relationships in customer master records and SD documents. Based on predefined partner determination rules, partners can be automatically copied from customer master records or preceding documents to target documents during sales processing.
Multiple address handling in SD documents using SAP Business Partner	Activating this feature allows sales and distribution (SD) documents to consume parts of the SAP Business Partner data model that can provide multiple addresses per business partner (BP) master record, enabling the following functionality: • Consumption of multiple addresses per business partner across SD documents of the quote-to-cash process • Time-dependent validity of addresses and automatic validity checks across the consuming documents • Ability to select from available addresses when creating or changing sales documents and solution orders • Propagation of address-dependent data from BP master records to newly created and changed sales documents and solution orders • Forwarding of multiple addresses from service transactions to subsequent SD documents

3.14.1.2 Price Management

Business Background

You can use price management to improve sales processes with accurate, structured, and accessible master data.

Key Features

The following table explains the key features available:

Key Feature	Use
Price master data	You use this feature to define price master data.
Configuration of pricing	You use this feature to set up the pricing process in business documents. This includes how price master data is determined and how net values are calculated.

Key Feature	Use
Pricing process in business documents	You use this feature to calculate and adapt accurate prices based on the price master data and the configuration of pricing. This feature is available for all price-relevant business documents of the sales process.

3.14.1.3 Sales Quotation Management

Business Background

You can create sales quotations for your customers.

Key Features

The following table explains the key features available:

Key Feature	Use
Inquiry processing	You can use this feature to enable your customer to request a quotation or sales information without obligation. An inquiry can relate to products (that is, materials) or services, conditions, and if necessary, delivery dates. The sales area that accepts the inquiry becomes responsible for providing a quote.
Sales quotation processing	The process starts when a request for quotation (RFQ) is received from your customer. In response to the customer's RFQ, a sales quotation is created. The customer can then either accept the sales quotation or reject it. This enables you to assure your business partners that you will deliver a product quantity at a specified time and price. If accepted, the sales quotation is transferred into a sales order. You can analyze how the sales quotations that you are responsible for are being referenced. You can focus on sales quotations with the highest net values and sales quotations with the lowest conversion rates. You can drill down to sales quotation conversion rates by selected criteria.
Sales quotation approval processing	You can set up approval processes for sales quotations. This helps you ensure that sales quotations in the approval process are rejected, reworked, or approved, as needed.

3.14.1.4 Sales Contract Management

Business Background

You can help your sales representatives negotiate sales contracts and sales scheduling agreements.

Key Features

The following table explains the key features available:

Key Feature	Use
Contract processing	You use this feature to create, change, display, and list contracts. You can list incomplete contracts, completed contracts, expiring contracts, and expired contracts.
Contract fulfillment rate tracking	You can analyze how the sales contracts that you're responsible for are being fulfilled. You can focus on contracts with the highest target value. You can drill down to sales contract fulfillment rates by selected criteria.
Contract release order processing	You use this feature to enable your customer to request from a vendor part of the total quantity or value of goods or services agreed in a contract. The release order contains information on quantities and delivery dates.
Sales contract processing with customer down payment	You use this feature when customers are required to pay some amount in advance before goods delivery. You can specify the agreed down payments in the billing plans of sales contract items and then you can create down payment requests. You can create contract release orders that the system blocks from delivery until customers complete all down payments. When customers complete all agreed down payments, the system removes the delivery blocks. You can also record the receipt of the down payment, and create invoices deducting the down payment received.
Sales scheduling agreement processing	You use this feature to create, change, display, and list sales scheduling agreements. The sales scheduling agreement is an outline agreement between buyers and suppliers.
Delivery schedule of sales scheduling agreement processing	You use this feature to enable your customer to release quantities of goods outlined in a sales scheduling agreement at regular intervals. The delivery schedule contains information on quantities and delivery dates.

Key Feature	Use
Consignment processing for sales scheduling agreements	You use this feature to enable a consignee (that is, an external service agent or a customer) to manage a stock of products (that is, materials) at the customer site (that is, the purchaser site). You as a supplier retain ownership of the products until they are withdrawn from the consignment stores. Payment for consignment stock is required only when the product is withdrawn for use. For this reason, you are informed of withdrawals of consignment stock on a regular basis.

3.14.1.5 Sales Order Management and Processing

Business Background

You can execute business transactions based on sales documents defined in the system.

Key Features

The following features are available:

Key Feature	Use
Sell from stock	You use this feature to enable your internal sales representatives to enter a sales order based on customer requirements. When your internal sales representative creates sales orders, the system proposes products and quantities. When your internal sales representative creates or changes sales orders, the system confirms dates and quantities. Your internal sales representative can display and change the sales order to respond to customer questions. Your shipping specialist creates the delivery for the sales order and prints the picking list. Your internal sales representative can check the status of sales orders and resolve issues that stop sales orders from being fulfilled. The shipping specialist can view delivery details such as the picked delivery parts, the weight and volume of the delivery, the picking status, and so on. Your billing clerk creates an invoice for the delivery from the billing due list. The billing clerk displays the billing document in a list, checks the status of the billing document, posts the billing document, and sends output to the customer. The system transfers the billing document to the accounts receivable accountant. The accounts receivable accountant is then responsible for receiving payment for the billing document.

Key Feature	Use
Sales order processing with customer down payment	You use this feature when customers are required to pay some amount in advance before delivery of goods (for example, in make-to-order production). You can create requests for down payment, record the receipt of the down payment, and create a final invoice after the deduction of the down payment received. You can also create a receipt of the final amount due on the invoice.
Credit management	You use this feature to set credit limits for your customers. The system checks the credit limit when you create or change sales documents. If you change quantities or values in a document, the check is repeated. The system totals the receivables, the open items, and the credit value of the sales order for every item of a sales document. The system displays information about what caused blocks. When your credit department manually reviews the customer's current credit situation and when the sales order is approved, the system removes the block from the sales order.
Consignment processing	You use this feature to enable a vendor (that is, an external supplier) to manage a stock of products at the customer site (that is, the purchaser site). The vendor retains ownership of the products until they are withdrawn from the consignment stores. Payment for consignment stock is required only when the product is withdrawn for use. For this reason, the vendor is informed of withdrawals of consignment stock on a regular basis.
Make-to-order sales processing	You use this feature for production in which products are made upon receipt of an order from a customer.
Free-of-charge delivery processing	You use this feature to provide goods to a customer at no charge. A sales order type is created that is not billing relevant. The order is confirmed based on the availability of goods. A delivery is then created and the goods are subsequently picked, confirmed, and delivered to your customer.
Third-party order processing	You use this feature when another company, rather than your company, delivers the items requested by your customer. You can either create your invoice based on the invoice from your third-party supplier or you can book the delivered amount directly as a statistical goods receipt.
Returnable package processing	You use this feature to return reusable packaging back into inventory (for example, standard pallets belonging to the manufacturer). You can monitor the shipment of standard pallets and their returns.
Listing and exclusion	You use this feature to control the sale of specific products to a customer. Your customer can only buy products included in the product listing assigned to them. The system does not allow you to enter products that are not included in the product listing in a sales document for a customer.
Customer material info records	You use this feature when your customer manages a material (that is, a product) with a number that differs from the one your company uses.

Key Feature	Use
Processing sales documents with customer-expected prices	You use this feature to display sales document items which are locked due to discrepancies between the customer-expected price and the net price. You can resolve discrepancies and release items for further document processing by either accepting or declining the customer-expected price. You can also reject sales document items.
Listing sales documents by object status	You can search for sales documents and sales document items and display them in a list.
Mass change of sales documents	You can make changes to multiple categories of sales documents at the same time (for example, sales orders and sales contracts).
Sales order approval processing	You can set up approval processes for sales orders. This helps you ensure that sales orders in the approval process are rejected, reworked, or approved, as needed.
Intercompany business processing	You can process business transactions that take place between two affiliated companies (that is, company codes that may or may not be based in different countries/regions) belonging to the same corporate group.

Related Information

Sales Quotation Management [page 194]
Logistics Execution [page 281]
Purchase Order Processing [page 238]

3.14.1.6 Sales Billing

Business Background

You can create and manage billing documents, post them to financial accounting, and output them to a variety of channels (for example, print). You can also create and manage other billing process documents such as preliminary billing documents, billing document requests, and invoice lists.

Key Features

The following table explains the key features available:

Key Feature	Use
Debit memo processing	You use this feature to apply a debit to a customer account, either by creating a debit memo request, or directly by creating a debit memo with reference to a billing document. A debit memo request (that is, an invoice increase request) is then created with the amount to be debited. The debit memo is sent to the customer and posted to accounting.
Credit memo processing	You can use this feature to apply a credit to a customer account, either by creating a credit memo request, or directly by creating a credit memo with reference to a billing document. The credit memo is sent to the customer and posted to accounting.
Billing document processing	You can create billing documents (for example, invoices for customers) from items in the billing due list (for example, debit memo requests and outbound deliveries). When you post billing documents, the system forwards billing documents to accounting and triggers output (for example, an invoice by e-mail). You can change or cancel billing documents as needed. You can setup billing batch execution by scheduling billing creation and scheduling billing output. You can also schedule billing documents for release to accounting. You can manage documents blocked for billing.
Preliminary billing document processing	You can create preliminary billing documents from items in the billing due list. You can view a filtered list of all preliminary billing documents in the system. You can display preliminary billing documents in detail or view a concise summary. You can change attributes of preliminary billing documents (such as prices, texts, and the billing date). You can also add and remove attachments. You can preview preliminary billing document output and send the output. You can create billing documents based on preliminary billing documents. You can schedule the creation of preliminary billing documents. You can also schedule the creation of billing documents with reference to preliminary billing documents.
Approval processing for preliminary billing documents	You can set up approval processes for preliminary billing documents. This helps you ensure that preliminary billing documents in the approval process are rejected, reworked, or approved, as needed.

Key Feature	Use
Invoice correction processing	You use this feature to create an invoice correction request if the wrong quantities or prices have been calculated for the customer. The invoice correction request can be automatically blocked by the system until it has been checked. The system calculates the difference between the amount that was originally calculated and the corrected amount for each item. Once it has been approved, you can remove the block. The system creates a credit or debit memo with reference to the invoice correction request. The credit or debit memo is sent to the customer and posted to accounting.
Invoice list processing	You use this feature to create, at specified time intervals or on specific dates, a list of billing documents (invoices, credit and debit memos) to send to a particular payer (usually the head office of a corporate group). The billing documents in the invoice list can be single or collective documents (collective invoices combine items from more than one delivery). There are two types of invoice lists, one for invoices and debit memos and one for credit memos. If you wish, you can process invoices, debit memos, and credit memos at the same time. The system automatically creates a separate invoice list for credit memos.
Down payment register	In specific down payment scenarios, you can use this feature to settle customer down payments against customer invoices. The system performs down payment settlement against those invoice items that represent the respective sales order items for which the down payments were made. If required, you can selectively distribute down payment amounts across the relevant invoice items (and, where applicable, across the relevant invoices). In addition, each invoice's down payment register serves as a granular history of down payment details for that invoice.

3.14.1.7 Solution Billing

Business Background

You can use solution billing to combine billing data from sold products, services, and projects into a single, combined customer invoice.

Key Features

The following table explains the key features available:

Key Feature	Use
Omnichannel convergent billing	You can use convergent billing to converge billing data from different categories of billing due list items (such as sales orders, outbound deliveries, and debit memo requests) to create combined, single invoices for customers. You can use omnichannel convergent billing to converge billing data from your system with billing data from one or more external sources. The external billing data is persisted in your system in the form of external billing document requests (EBDRs). You can create EBDRs automatically by integrating external systems that send billing data, or you can create them manually by uploading billing data stored in spreadsheet files. EBDRs are added to the billing due list, from where they can be converged with your other billing due list items to create combined, single invoices for customers. Stand-alone billing of EBDRs is also possible.

3.14.1.8 Sales Rebate Management

Business Background

You can use *Settlement Management* for your sales rebate management.

Related Information

Settlement Management [page 107]

3.14.1.9 Incentive and Commission Management

Business Background

You can use *Settlement Management* for your incentive and commission management.

Related Information

Settlement Management [page 107]

3.14.1.10 Claims, Returns, and Refund Management

Business Background

You can help your returns and refund clerk create customer returns.

Key Features

The following table explains the key features available:

Key Feature	Use
Returns management processing	You use this feature for processing customer returns. The process starts a returns order with reference to the original sales order or invoice for the goods. A return material authorization (RMA) document is forwarded to the customer (for example, an e-mailed PDF) to be attached to the incoming goods. The goods are shipped back, a returns delivery is created with reference to the returns order, and the product is received into returns stock. The returns stock location is set as non-MRP relevant. The goods are inspected and either selected for return to stock, for scrapping, or for other logistical processing. A credit memo is created from the billing run and posted to the customer's account or a replacement delivery is triggered to compensate the customer.
Customer return approval processing	You can set up approval processes for customer returns. This helps you ensure that customer returns in the approval process are rejected, reworked, or approved, as needed.
Credit memo request approval processing	You can set up approval processes for credit memo requests. This helps you ensure that credit memo requests in the approval process are rejected, reworked, or approved, as needed.

3.14.1.11 Sales Monitoring and Analytics

Business Background

You can efficiently check the status of your sales orders.

Key Features

The following features are available:

Key Feature	Use
Managing sales plans	You can create, change, release, and display sales plans. In a sales plan, you set sales targets on various dimensions for a planned period.
Comparing planned and actual sales data	You can analyze to what extent your sales targets are being achieved and thus gain insights into your current sales performance.
Analyzing sales quotations	You can analyze your sales quotations according to flexible combinations of dimensions.
Analyzing quotation conversion rates	You can analyze how the quotations that you are responsible for are being referenced. You can focus on quotations with the highest net values and quotations with the lowest conversion rates. You can drill down to quotation conversion rates by selected criteria. You can perform modeling-based predictions on quotation conversion according to selected criteria. By comparing the actual and predicted results, you can predict to what extent your quotations could be converted into sales orders.
Analyzing incoming sales orders	You can view sales order KPIs in a monthly rolling trend as a graphic or in a table with the display currency. You can drill down to view detailed information for selected sales organizations, products (that is, materials), material groups (that is, product groups), sold-to parties, sales document types and so on. You can filter the items according to various criteria, such as year, month, sales organization, product group, and sold-to party.
Listing incomplete sales documents	You can search for incomplete sales documents and display them in a list. You can display the number of issues with incomplete data.
Analyzing sales scheduling agreements	You can monitor product demand based on sales scheduling agreements.
Managing duplicate sales documents	You can search for duplicate sales documents (for example, sales orders, quotations, and returns) and reject the ones not required.
Monitoring sales order fulfillment	You can monitor and resolve issues that stop sales orders from being fulfilled, for example, a delivery or billing block. You can display your weekly workload with all overdue issues and all issues due in the next 7 days. You can display and resolve issues with incomplete data, credit blocks, delivery blocks, and billing blocks. You can display the number of issues with incomplete data and credit blocks, and the top 3 reasons for delivery blocks and billing blocks. You can use compact filters, visual filters, and charts to visualize your results, and a table from which you can navigate to resolve the issues.
Predicting delivery delay	You can identify the risk of a potential delay for open sales orders regarding the predicted delay of the planned delivery to the customer. This enables you to take action early on, to avoid a possible delay.

Key Feature	Use
Tracking sales orders	You can check whether the delivery of a sales order is on track regarding its fulfillment. For example, you can see whether it has been shipped, invoiced, or even if a journal entry (that is, an accounting document) has been cleared. You can recognize immediately whether the fulfillment of a sales order contains issues or not, or whether it is completed or still in process. You can visualize the sales order fulfillment status, and display all relevant documents for the corresponding sales document. You can display further details on the business objects in the context of their fulfillment, including issues and the process flow, and resolve issues directly from here, for example, remove a delivery block.
Analyzing pricing elements	You can analyze pricing elements, that is, condition types, in billing documents (for example, to check current discount conditions and pricing strategies).
Checking confirmed sales orders, backorders, and demand fulfillment	You can check whether your sales orders have been confirmed for delivery on the date requested by your customer. You can identify backlogs in relation to your customer's requested quantity and delivery date. You can collaborate with your demand planner, for example, to solve issues regarding the availability of specific products.
Monitoring delivery performance	You can monitor the current delivery performance of sales orders. You can see the percentage of sales order items delivered as requested for the last 3 weeks. You can compare the customer's requested delivery date or the committed delivery date of sales order items with the actual delivery date of the corresponding outbound deliveries. You can display this comparison, for example, as the ratio of sales order items delivered as requested or delivered as committed to the total number of sales order items.
Analyzing sales volume	You can view sales volume and related billing document KPIs in a monthly rolling trend as a graphic or in a table with the display currency. You can drill down to view detailed information for selected sales organizations, sold-to parties, bill-to parties, and so on. You can filter the items according to various criteria, such as year/month, sales organization, sold-to party, and bill-to party.
Analyzing sales volume in detail	You can customize a step-by-step analysis path that drills down into your sales volume on different dimensions.
Predicting sales volume	You can perform modeling-based predictions on sales volume according to selected criteria. This helps you predict to what extent sales volume can be achieved.
Checking sales volume and open sales	You can check your sales volume and open sales, that is, open orders, and open deliveries, in order to identify and resolve issues to increase your sales volume for the current month. You can navigate to analyze and resolve issues directly.
Checking sales volume, profit margin, and credit memos	You can check the relationship between sales volume, profit margin, and credit memos, to help you to increase your sales volume.
Analyzing your order to cash key figures	You can analyze your sales volume, profit margin, and incoming orders (that is, incoming sales and service orders), and further key figures.

Key Feature	Use
Analyzing customer returns	You can analyze the monthly rolling trend of your customer returns based on flexible combinations of dimensions. You can analyze the return rate of your incoming sales orders.
Display an overview of sales data	You can get an overview of sales information, such as, customer returns, open sales quotations, and blocked credit memo requests.
Displaying a sales management overview	You can get a graphical overview of various sales data as a sales manager.

3.14.1.12 Integration

3.14.1.12.1 Sales Order Collaboration (Direct Integration)

Business Background

In sales order processing, you can collaborate with your buyer that uses a direct integration of SAP S/4HANA Cloud Public Edition with an external buyer system. You can do this by exchanging messages between SAP S/4HANA Cloud Public Edition and the external buyer system.

Key Features

When an external buyer system is integrated and supports the below named features, SAP S/4HANA Cloud Public Edition enables you to use the following key features:

Key Feature	Use
Creating, updating, and canceling sales orders	You can receive messages from your buyer that uses the external buyer system. In this case, SAP S/4HANA Cloud Public Edition creates, changes, or cancels sales orders.
Creating, updating, and canceling customer returns	You can receive messages from your buyer that uses the external buyer system. In this case, SAP S/4HANA Cloud Public Edition creates, changes, or cancels customer returns.

Key Feature	Use
Sending confirmations	You can send confirmations for sales orders and customer returns to your buyer's external buyer system.
Sending advanced shipping notifications	You can send advanced shipping notifications to your buyer's external buyer system.
Sending customer invoices	You can send invoices to your buyer's external buyer system.
Sending credit memos	You can send credit memos to your buyer's external buyer system.

3.14.1.12.2 Sales Order Collaboration (Business Network Integration)

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with a business network (currently, SAP Business Network) to help automate the order-to-invoice process. You can do this by exchanging messages between SAP S/4HANA Cloud Public Edition and the business network.

Key Features

When the business network is integrated and supports the below named features, SAP S/4HANA Cloud Public Edition enables you to use the following key features:

Key Feature	Use
Creating, updating, and canceling sales orders	You can receive messages from your buyers that use the business network or external system. In this case, SAP S/4HANA Cloud Public Edition creates, changes, or cancels sales orders.
Sending confirmations	You can send sales order confirmations to your buyers that use the business network or external system.
Sending advanced shipping notifications	You can send advanced shipping notifications to your buyers that use the business network or external system.
Sending customer invoices	You can send customer invoices to your buyers that use the business network or external system.

3.14.1.12.3 Integration with External Pricing Services

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with an external pricing service (currently, SAP Omnichannel Promotion Pricing) to help you when you want to reward your customers.

Key Features

When an external pricing service (currently, SAP Omnichannel Promotion Pricing) is integrated and supports the below named features, SAP S/4HANA Cloud Public Edition enables you to grant your customers rewards.

Key Feature	Use
Granting discounts	You can send sales order data to an external pricing service. If the external pricing service returns corresponding data, you can consider granting your customers discounts for specific sales order items.
Granting free goods	You can send sales order data to an external pricing service. If the external pricing service returns corresponding data, you can consider granting your customers free goods for specific sales order items.

3.14.1.12.4 Sales Scheduling Agreement Collaboration

Business Background

In sales scheduling agreement processing, you can collaborate with your buyer that uses a direct integration of SAP S/4HANA Cloud Public Edition with an external buyer system. You can do this by exchanging messages between SAP S/4HANA Cloud Public Edition and the external buyer system.

Key Features

When an external buyer system is integrated and supports the below named features, SAP S/4HANA Cloud Public Edition enables you to use the following key features:

Key Feature	Use
Creating and updating delivery schedules	You can receive messages from your buyer that uses the external buyer system. In this case, SAP S/4HANA Cloud Public Edition creates or changes delivery schedules of sales scheduling agreements.
Sending advanced shipping notifications	You can send advanced shipping notifications to your buyer's external buyer system.
Sending customer invoices	You can send invoices to your buyer's external buyer system.

3.14.1.12.5 Integration with SAP Global Trade Service

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with an external compliance management system, currently SAP Global Trade Services (SAP GTS), to receive statuses from your SAP GTS system in SAP S/4HANA Cloud Public Edition.

Key Features

The following table explains the key feature available:

Key Feature	Use
Integration with SAP GTS for compliance management.	With this integration, you can receive and display compliance check statuses from your SAP GTS system in your sales documents (currently, sales orders, sales orders without charges, and sales scheduling agreements).

3.14.1.12.6 Self-Billing Collaboration

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with a billing solution (currently, SAP Self-Billing Cockpit) to help streamline and automate billing processes for suppliers.

Key Features

When a billing solution (currently, SAP Self-Billing Cockpit) is integrated and supports the below named features, SAP S/4HANA Cloud Public Edition enables you as a supplier to manage billing-related documents in the self-billing process.

Key Feature	Use
Processing billing documents	You can manage billing documents based on self-billing documents that are processed in the billing solution. You can update invoices, create credit memos, and create debit memos.
Processing accounting documents	You can manage accounting documents based on self-billing documents that are processed in the billing solution. For example, you can update journal entries.

3.14.1.12.7 Integration with Online Commerce Platforms

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with online commerce platforms (currently, SAP Commerce Cloud, cloud ERP edition) by enabling you to synchronize SAP S/4HANA Cloud Public Edition business object data (for example, sales areas, ATP snapshots or inventory snapshots, or sales orders) with the online commerce platform.

3.14.2 Solution Business Management

3.14.2.1 Solution Order Management

Business Background

Solution Order Management allows you to manage end-to-end processes that span from creating a solution order to delivering products of different categories, such as physical goods, one-time services, and long-running services. This includes the integration with billing, invoicing, and controlling.

During the end-to-end process, the solution order orchestration handles the forward and backward data exchange for specific information between the solution order and its follow-up transactions. In addition, you can use the *Solution Order Progress* to monitor the process.

You can also create solution orders and communicate with external systems using the corresponding APIs.

Key Features

The following table explains the key features available:

Key Feature	Use
Solution orders	You can add various types of items for different products, such as physical goods, one-time services, and long-running services to solution orders. The supported item types are sales items, service items, service part items, expense items, service contract items, project items, and subscription items. For these item types, specific processes are supported. From the solution order items, the corresponding follow-up transactions are created, such as sales orders, service orders, service contracts, and subscriptions. The creation of the follow-up transactions is controlled by the solution order orchestration.
Solution order orchestration	Solution order orchestration represents the creation of follow-up transactions from the solution order items, for example a service order from a service item. Orchestration also includes the forward and backward data exchange during the end-to-end process. For example, the items in the solution order are updated with billing information from the follow-up transactions.
Solution order progress	The solution order progress provides an overview of the end-to-end process, in which any issues are highlighted. This allows you to identify the business objects that may require your attention.

Key Feature	Use
Bundles	You can include different types of products (such as sales products, service contracts, subscriptions, projects and so on) as "bundles" in solution orders. Every bundle consists of a bundle item and one or more subitems. Bundle items are essentially configurable products based on advanced variant configuration (AVC). Subitems are predefined bill of materials (BOMs) of the configurable products that are used as bundle items. After release of a bundle, the system creates follow-up documents for respective subitems. You can have an overview of the fulfillment of follow-up documents through the solution order progress.

3.14.2.2 Solution Business Analytics

Business Background

You can make data driven business decisions. For example, you can analyze the most valuable customers, products, regions, solution orders, and service contracts.

Key Features

The following table explains the key features available:

Key Feature	Use
Display an overview of solution orders	You can display an overview of solution orders. You can display data across various dimensions (for example, by product).
Analyze your solution order profitability key figures	You can analyze your solution orders based on various key figures (for example, recognized revenue, recognized cost, recognized margin, and margin as a percentage).

3.14.2.3 Solution Order Collaboration (Subscription Business Integration)

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with a subscription system (currently SAP Subscription Billing) to enable you to include subscription data in solution order management. You can do this by exchanging messages between SAP S/4HANA Cloud Public Edition and the external subscription system.

Key Features

When an external subscription system (currently SAP Subscription Billing) is integrated and supports the below named features, SAP S/4HANA Cloud Public Edition enables you to use the following key features:

Key Feature	Use
Receiving and sending subscription-based data	SAP S/4HANA Cloud Public Edition can receive master data, about products and prices for example, from the external subscription system. SAP S/4HANA Cloud Public Edition can also send subscription-based data to the external subscription system.
Simulation	Before you consider creating an authentic subscription in the external system, you can trigger a simulation to allow data exchange between SAP S/4HANA Cloud Public Edition and the external subscription system.
Monitoring	You can monitor, troubleshoot, and resend outbound messages to the external subscription system.
Creating customer invoices	If a billing engine of the external subscription system is also integrated with SAP S/4HANA Cloud Public Edition, SAP S/4HANA Cloud Public Edition can receive subscription related billing items and use them to create a customer invoice with other items of the same solution order.

3.15 Service

You can manage your service cycle, starting with service contracts and continuing through the processing of service orders and service confirmations. You can use service analytics to adjust and optimize your business processes, and to identify objects that require your attention.

3.15.1 Service Master Data and Agreement Management

3.15.1.1 Service Contract Management

Business Background

Service contracts are outline agreements with business partners that define the services offered for a particular period. A service contract usually represents a long-term service agreement with customers. It

defines the content and scope of services guaranteed within specific tolerance limits for certain parameters, for example, within predefined time frames.

You can work with service contracts that are made available by using corresponding application programming interfaces (APIs). You can also create service contracts and process them by using the corresponding app. You can set billing plans, adapt prices, and trigger the billing process for service contract items. You can extend the validity of a service contract item by enabling auto renewal or triggering manual renewal. You can cancel service contracts and service contract items.

Key Features

The following table explains the key features available:

Key Feature	Use
Scheduling of billing document request creation	You can schedule a job for the automatic creation of billing document requests (BDRs) based on the billing plan of a released service contract item.
Periodic billing plans	You can use periodic billing plans to schedule individual dates for the billing of service contracts, independent of the provisioning of the service. Periodic billing plans have a start and end date. They bill fixed (predetermined) amounts at regular intervals, for example, a recurring quarterly maintenance fee in a maintenance contract.
Ad hoc billing plans	You can use ad hoc billing plans to flexibly define the dates on which billing is to occur and the value that is to be billed.
Auto renewal	You can enable auto renewal for a service contract item to extend the validity of the item automatically at the end of the contract.
Price adaptation	You can use the following methods to adapt prices if you require flexible pricing of service contract items: you can set a pricing date rule in the billing plan so that varying prices are determined according to varying pricing dates. Alternatively, you can set prices manually at billing request line level.
Price agreements	You can offer your customers individual prices, for example discounts for services and service parts, based on price agreements in service contracts. Prices from the price agreements are applied to the service transactions that are assigned to service contracts after service contract determination.
Service contract determination	The system automatically searches for and displays service contract items that service transactions such as service quotations and service orders can be assigned to.
Change processes	You can use change processes to make changes to existing service contracts, such as extending the validity period of service contract items (manual renewal) and changing the sold-to party of an active service contract.

Key Feature	Use
Object list	You can enter objects (such as products, equipment, or functional locations) in the object list for which the contractual services defined in the service contract item can be claimed.
Product list	You can enter services and service parts in the product list of a service contract item. These services and service parts are included in the service product that is defined in the contract item and can be claimed in the course of subsequent service order processing with reference to a service contract.
Service level agreement (SLA)	You can define the attributes of service products (for example, maintenance or hotline) that you have agreed upon with your customers in service contracts. SLAs affect the pricing of services rendered for service contract items and the date calculation in service orders, to which the relevant service contract items refer.
Maintenance plan	You can use service contract items for planned recurring services that are implemented by maintenance plans.
Configurable product	You can add and configure a configurable product as a service contract item. You can select the characteristics and characteristic values that are defined in the product master data. In addition, you can see the impact of the selected characteristics and characteristic values based on the defined variant conditions on the price. This data is displayed in the pricing details of the service contract header and item.
Credit management	If you use Credit Management, credit checks can be automatically triggered for business partners (payers) when a service contract is saved in the released status.
Service contract template	You can create and manage service contract templates containing service contract data that is commonly reused in your service business. You can then create service contracts as follow-up transactions of a service contract template. This helps minimize the amount of time required to create a service contract.
Mass processing of service contracts	You can request the system to process large volumes of service contracts at a time.

3.15.1.2 Service Monitoring and Analytics

Business Background

You can use analytics to address problems that may occur during the fulfillment of service transactions. Charts provide a clear overview of errors, execution, and confirmation issues as well as billing issues in service contracts, service orders, and service confirmations.

You can also use analytics to obtain information on a range of key performance indicators for service contracts and service orders.

Key Features

The following table explains the key features available:

Key Feature	Use
Service contract issues	You can display and monitor a range of issues that may impede the fulfillment of service contracts in real time.
Service order issues	You can display and monitor a range of issues that may impede the fulfillment of service orders in real time.
Service management overview	You can display overview information about expiring service contracts and the profit margins of service contracts. Additionally, you can display overview information on incomplete service orders, overdue service orders, and the average service duration for service orders.
Service contracts analysis	You can obtain information on key performance indicators for service contracts.
Expiring service contracts analysis	You can obtain information on service contracts that have expired or are about to expire.
Flexible analysis of service contracts	You can analyze service contracts including their billing information using a flexible combination of dimensions.
Service orders analysis	You can obtain information on incomplete service orders.
Overdue service orders analysis	You can obtain information on overdue service orders.
Flexible analysis of service orders	You can analyze contract-based and non-contract service orders using a flexible combination of dimensions.

3.15.2 Service Operations and Processes

3.15.2.1 Service Order Management

Business Background

The service solution supports a variety of functions for creating and processing service quotations, service order templates, service orders, and service confirmations.

Service quotations provide a cost estimate to customers for requested services.

Service order templates are used to define reusable sets of service-related data that minimize the amount of time required to create a service order.

Service orders are short-term agreements between service providers and service recipients. They contain the relevant information for specific service processes.

Service confirmations are used to confirm service orders.

You can manually create and edit service quotations, service order templates, service orders, and service confirmations. You can also process service quotations, service order templates, service orders, and service confirmations that are derived from external systems through the use of the corresponding APIs.

Key Features

The following table explains the key features available:

Key Feature	Use
Service quotation types	You can create and edit two types of service quotations: standard service quotations and fixed price service quotations.
Service quotation processing	You can send service quotations to customers through an output channel. Customers can accept or reject service quotations or partially accept the service quotation by rejecting one or more of the quotation items. You can create follow-up quotations (requotes) if additional service items and service parts are required and which have not been specified in the accepted service quotation.
Approval workflow	You can trigger an approval process before sending a service quotation to a customer.
Service order templates	You can create and use templates for service orders that occur frequently in your service business. A service order template describes only the scope of planned services and not the actual execution.

Key Feature	Use
Service order types	You can create and edit two types of service orders: Service orders that contain items where your customer is billed for the time and materials consumed and/or items where you have agreed on a fixed price Fixed price service orders where you have agreed on a fixed price with your customer
Service order template types	You can use service order templates and fixed price service order templates. Both types of service order template can contain various types of items such as service products, expenses, and service parts.
Service contract determination	The system automatically searches for and displays service contract items that you can assign to standard service orders and service quotations.
Service bundles	You can offer customers service products, service parts, and expense items as "bundles". Service bundles consist of a main item and one or more subitems. You can use two types of service bundles where either the main item or the subitems are pricing and billing relevant.
Service order processing	You can add various item types to service orders and cancel them. You can release billing-relevant service order items that have been completed for billing.
Service confirmation types	You can create and edit service confirmations for the two types of service orders. Alternatively, you can use partial service confirmations.
Service confirmation processing	You can cancel service confirmations. You can release billing-relevant service confirmations for billing. You can define a service confirmation as the final confirmation for a service order.
Credit management	If you use Credit Management, credit checks can be automatically triggered for payers under certain conditions when you save a service order.
Simulative ATP check for service parts	You can perform stock availability checks for service parts.
Configurable product	You can add and configure a configurable product with single-level variant configuration and use product variants in service order templates, service quotation, service order, and service confirmation processing. Based on the selected characteristics and characteristic values for the defined variant conditions, you can see the impact on the price at header or item level of a service transaction.

Key Feature	Use
Planned cost and revenue	You can access planning data such as planned cost, planned revenue, and profit margins of service orders.
Ad hoc billing plans	You can use ad hoc billing plans in service orders to flexibly define the dates on which billing is to occur and the value that is to be billed.
Scheduling creation of billing document requests	You can schedule jobs for the automatic creation of billing document requests (BDRs) based on the billing plan of a service order item.

3.15.2.2 In-House Repair

Business Background

In-House Repair supports companies that offer repair and maintenance services for products. These services are provided in-house at repair centers.

Key Features

The following table explains the key features available:

Key Feature	Use
Trigger customer return	Use customer returns to trigger the logistics process for repair objects that are returned for repair.
Create in-house repair	Create in-house repairs and add repair objects to the in-house repair.
Perform precheck	Decide on the follow-ups to be performed within the in-house repair process for each repair object.
Manage diagnosis	Plan the diagnosis of the repair object in the repair order. Perform the diagnosis and record the actual consumption of services, service parts, and expenses in repair confirmations.
Process repair quotation	Edit and send out repair quotations for the repair object, and record whether the customer has accepted or rejected the repair quotation.
Plan repair	Schedule the repair of the object in the repair order and add the service employee who is to perform the repair.

Key Feature	Use
External procurement	Procure non-stock service parts and external service providers who are required to perform the repair of the object.
Perform repair	Perform the repair for the repair object as defined in the repair order. Record the actual consumption of services, service parts, and expenses in repair confirmations.
Prepare for billing	Trigger the billing process for the diagnosis and the repair.
Create outbound delivery	Create an outbound delivery to send the repair object back to the customer.

3.15.2.3 Planned Recurring Service

Business Background

You can use the planned recurring service to organize, plan, and schedule periodic services that occur repeatedly at certain intervals, such as regular maintenance. The solution saves costs by providing improved and transparent service planning and efficient scheduling.

Key Features

The following table explains the key features available:

Key Feature	Use
Processing maintenance plans for planned recurring service	To plan recurrent maintenance service, you can create time-based and performance-based maintenance plans, and multiple-counter plans. In time-based maintenance planning, maintenance is performed in specific cycles, for example, every two months or every six months. With performance-based maintenance plans, you can plan regular maintenance based on counter readings maintained for measuring points of technical objects and products. • You can create and assign maintenance items that describe which maintenance service must take place regularly for a technical object/product or a group of technical objects/products. You can assign a service order template to the maintenance item to specify the service that must be executed and the required service parts. • You can determine the maintenance cycles as planning data. If the maintenance plan is performance-based, you can assign counters. Furthermore, you can specify other scheduling information, such as shift factors. • You can display the scheduled maintenance calls for a maintenance plan. When you schedule a maintenance plan and generate maintenance calls, the system generates maintenance call objects (service orders) for the due date and copies the relevant planning data into the call object. You can display the scheduled calls using the call history.
Planning recurrent maintenance service with service order templates	Service order templates describe service activities which are performed repeatedly. As a recurring service planner, you can use service order templates to standardize these recurring services. You can create general service order templates or service order templates for specific pieces of equipment, products, or functional locations. You can provide general information and specify validity periods for service order templates. When you assign a service order template to a maintenance item and the corresponding maintenance call is triggered, the system copies the service data from the service order template to the respective service order.
Planning recurrent maintenance service with service contracts	Service contracts describe the sold-to party, sales organization, and technical objects in the service orders generated for recurrent maintenance. When you assign a service contract item to a maintenance item and the corresponding maintenance call is triggered, the system copies the service data from the service contract item to the respective service order.

3.15.3 Customer Service and Support

3.15.3.1 Warranty Management

Business Background

Warranty management enables the user to create, process, and post claims from a customer or to a supplier. As a central step of the process, a validation regarding the warranty terms is done to check the eligibility of reimbursement.

Key Features

The following table explains the key feature available:

Key Feature	Use
Process a claim with the supplier	Warranty claim processing enable users to create warranty claims that are forwarded to suppliers for reimbursement. This includes creating claims (based on repairs), validating claims for completeness and eligibility for reimbursement, and determining correct prices (for example materials, labor tasks) to claim the appropriate amount. Once the supplier responds, the claim processing supports the transparent maintenance of values and posting of the negotiated amount.
Process a customer claim	This scenario enables to create and process warranty claim from a customer that can be validated and decided upon. The payment for the reimbursement can be trigggered then.
Manage master warraties	A warranty master data clerk can create and maintain master warranties, which are used to capture the contractual warranty situation. This builds the foundation for the validation with regards to an eligibility for reimbursement. The master warranty can be assigned to multiple equipment and is validated in the claim process.

3.15.4 Workforce Management

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with a workforce management solution (currently SAP Field Service Management) to enable the features of the workforce management solution for field service or in-house repair activities.

Key Features

When a workforce management solution (for example, SAP Field Service Management) is integrated, you can use the features listed below in field service or in-house repair scenarios in SAP S/4HANA Cloud Public Edition.

The following table explains the key features available:

Key Feature	Use
Release a service or repair order for scheduling and dispatch	By releasing a service or repair order, you replicate the service or repair order to the workforce management solution for scheduling and dispatch.
Update a technician in the corresponding service or repair order	If SAP S/4HANA Cloud Public Edition receives data about the planned service technician, the information is automatically updated in the corresponding service or repair order in SAP S/4HANA Cloud Public Edition.
Create and complete a service or repair confirmation	If SAP S/4HANA Cloud Public Edition receives information about the completed tasks, a service or repair confirmation is created and then completed automatically in SAP S/4HANA Cloud Public Edition.
Complete service items in a service or repair order	If SAP S/4HANA Cloud Public Edition receives information that a service activity is closed, the corresponding service item in the service or repair order is completed automatically.
Complete a service or repair order	When all service items in a service or repair order are completed, the service or repair order is completed automatically in SAP S/4HANA Cloud Public Edition.

3.16 Sourcing and Procurement

Purchasing allows you to order direct materials, consumable materials, and services. The purchasing department keeps track of the procurement process with the purchase order, the goods and invoice receipts, and service entry sheets.

3.16.1 Generic Features Available in Sourcing and Procurement

Business Background

Here, you can get an overview of the generic features that are available in Sourcing and Procurement.

Key Features

The following table explains the key features available:

Key Feature	Use
Managing teams and responsibilities	You can, for example, define which team members are responsible for specific approval steps within the procurement process. For more information, see the section Responsibility Management [page 17].
Using subcontracting documents	You can instruct a supplier (subcontractor) to manufacture materials using components provided by you. Based on the respective purchase order or scheduling agreement, you or a third-party supplier can send the components to your subcontractor, who then manufactures the ordered material. You can monitor the quantity of the needed components and trigger the goods issue, if required.
Managing model product specifications	You can use model product specifications to manage templates with item hierarchies for documents, such as purchase contracts. This allows you to quickly reuse and structure items that you use frequently without having to create them again. You can create new documents based on entire model product specifications, groups of materials and services, or individual items. In addition, you can import model product specifications for creation or update, and you can monitor the import process.

3.16.2 Procurement Analytics

3.16.2.1 Real-Time Reporting and Monitoring

Key Features

The procurement overview provides you with a set of actionable cards that you can easily rearrange as required. You no longer need to start different transactions and reports separately: both operational and analytical cards are visible on one single page. You immediately see your most relevant tasks and can navigate

to KPI drilldowns, worklists, or specific object pages to get more detailed information and take immediate action.

In addition, the monitoring of purchasing document items enables you to immediately assess and resolve critical situations for your company.

The supplier object page is enhanced by analytical real-time insights into supplier evaluation scores, purchase requisition types, as well as purchasing and off-contract spend.

The following table explains the key features available:

Key Feature	Use
Operational cards	Examples of operational cards are the monitoring of contracts, so that you see which contracts are about to expire and require your attention, as well as purchase requisitions, showing you where a source of supply is missing and needs to be assigned. You can also monitor supplier confirmations that are overdue, or that deviate in quantity or delivery date from the purchase order.
Analytical cards	Examples of analytical cards are the actual and planned purchasing spend by supplier and material group, and the monitoring of the supplier performance by analyzing operational data and questionnaires.
Filtering	You can filter the content of cards by various criteria, such as by suppliers, purchasing categories, material groups, and purchasing groups. This enables you to make informed decisions and take immediate action.

Key Feature	Use
Monitoring	With the monitoring apps, you can identify the following, for example: • Overdue purchase order and scheduling agreement items • Next delivery dates and quantities for subcontracting documents • Missing supplier confirmations • Request for quotation items for which no bids were submitted in time for the deadline • Expiring purchase contract items • Variances of material prices in purchase contracts and info records • Purchase requisition items • Request for quotation types • Missing exchange rates for the currencies used in the analytical apps • Scheduled jobs that failed for supplier evaluation scores • Scheduled extraction jobs that failed for central purchasing data from the hub system to an optimized analytical table • Purchase order documents, for which the goods receipt based invoice verification flag is not set, but the goods receipt is posted and returns or cancellations exist. Apart from the regular filter and table section, analytical elements such as visual filters and analytical charts are also provided. These elements support users in immediately identifying the most critical business issues. From the monitoring apps, you can navigate to related apps to trigger follow-on actions, or perform the necessary action directly in the monitoring app (you can, for example, extend the validity of a contract or its target value). In addition to the KPIs, multi-dimensional reports for analyzing the purchasing spend as well as the service spend are available. Users can define dimensions, such as the plant or company code, and measures, such as the spend or the expected spend based on purchase order schedule lines, using drag and drop. Purchasers can check the insights of the instances where the invoices were received before the purchase orders creation. Purchasers can identify the average time taken to approve a purchase order from the time of its creation. Purchasers can get insights on when the contract is changed on various fields. This information is further divided based on various dimensions.

3.16.2.2 Spend Visibility

Key Features

The data that simplifies your daily work can be visualized in various chart types and by criteria such as supplier, purchasing group, purchasing category, or material group. The key performance indicators allow you to directly navigate into other apps, where you can immediately solve business issues.

The following table explains the key features available:

Key Feature	Use
Purchase requisitions	Procurement organizations are measured according to their efficiency. Specifically in the area of managing purchase requisitions, you can notably increase the efficiency and automation of procurement processes. Key Performance Indicators (KPIs) help measure this efficiency and provide real-time insight into areas of improvement, such as the average approval time of a purchase requisition, changes made to a purchase requisition item, or carbon footprint of the products requested in purchase requisitions based on data from an external environmental management system (currently, SAP Product Footprint Management).
Purchasing and invoice spend	To identify cost-saving opportunities, it is essential that you see the purchasing and invoice spend under management. The available KPIs provide insight into purchase order value over time, future purchasing spend based on purchase requisitions that are currently in approval, purchasing spend classified by ABC suppliers, material groups and purchasing groups, invoices without purchase order reference, invoice price changes over time, and automation rates for sending purchase orders and receiving supplier invoices. You can, for example, retrieve the order value for all purchase orders over time, and determine all current values of all purchase orders in the system. Additionally, procurement dashboards for purchasing spend and off-contract spend in SAP Analytics Cloud can be accessed directly from SAP S/4HANA Cloud Public Edition, showing purchasing data in real time.
Contracts and scheduling agreements	Purchasers can manage contracts efficiently and make sure that the right contracts are in place at the right time when needed. They are able to do so by identifying maverick spend and contracts that are not used, contracts that will expire soon, and contracts or scheduling agreements that are almost consumed by comparing target values or target quantities with released values or released quantities.

Key Feature	Use
Supplier evaluation	You can determine the overall score of a supplier in an organization based on the weighted average of the single scores for quantity variance, price variance, time variance, as well as quality scores based on inspection lots and quality notifications. Supplier evaluation scorecards that result from questionnaires enrich these operational supplier evaluation scores. A combined real-time view across operational and questionnaire-based scores provides a holistic view of your supplier's performance. You can also specify individual weighting and scoring factors per criterion and per purchasing category. You can also view the history of supplier evaluation scores. Additionally, you can send output messages (via email or print) with the supplier evaluation scores to the respective suppliers. Output scores can be based on on-the-fly real-time calculation or persisted historical scores. Define custom criteria based on your requirements in order to rate suppliers. Additionally, you can view the number of defective or rejected materials per million in relation to the goods received. This will help you to analyze the performance of a supplier as you can select a supplier with lower parts per million value for your future deals. You can also schedule jobs to persist the parts per million scores as a custom criterion to contribute towards the evaluation of a supplier. Additionally, a dashboard for supplier performance in SAP Analytics Cloud can be accessed directly from SAP S/4HANA Cloud Public Edition, showing supplier evaluation scores in real time.

3.16.2.3 Spend Reporting

Key Features

An SAP Analytics Cloud dashboard where buyers can view insights of the purchasing and off-contract spend. The analyzed data is presented in a broad range of graphs, such as bar charts, column charts, and tables.

The following table explains the key features available:

Key Features

Key Feature	Use
Purchasing spend	To identify cost-saving opportunities, it is essential that you view the purchasing spend details under one dashboard. The dashboard provides purchasing spend details in various formats. Buyers can view information like purchase order net amount and amount spend in individual quarters (current and previous year) on this dashboard. They can also filter the information based on the wide range of filters provided.
Off-contract spend	This dashboard can also be used to measure the percentage of purchases made without any contract being in place. Buyers can view the total amount spend on purchase orders that do not have a purchase contract reference.

3.16.3 Sourcing and Contract Management

3.16.3.1 Source Assignment

Key Features

The following features are available:

Key Feature	Use
Managing source lists	The source list is used in the administration of sources of supply. It specifies the allowed (and disallowed) sources for a material for a certain plant within a predefined period. Each source is defined by means of a source list record.
Managing info records	An info record serves as a source of information for purchasing activities. The info record contains information about a specific material and the corresponding supplier. The supplier's current pricing, for example, is stored in the info record. The info record allows purchasers to quickly determine the following: • Which materials have been previously offered or supplied by a specific supplier • Which suppliers have offered or supplied a specific material

Key Feature	Use
Making mass changes to purchasing info records and monitoring them	Purchasers can select purchasing info records and trigger a mass change for specific fields. You can also change prices in one or more purchasing info records. You can then monitor these mass changes. Purchasers can download information related purchasing info records into a spreadsheet, modify it, and upload it back again. They can create new purchasing info records using the spreadsheet.
Managing quota arrangements	You can use quota arrangements to split up a specific material requirement for a plant to several sources of supply, that is, to several suppliers. This allows you to minimize the risk of delivery failures for important materials.

SAP S/4HANA Cloud Public Edition supports the integration with external procurement systems (for example SAP Ariba Sourcing), also in combination with a business network (for example Ariba Network) to enable a seamless and highly efficient collaboration between your buying organization and your suppliers in the sourcing process.

If an external procurement system (for example SAP Ariba Sourcing) and potentially an external business network (for example Ariba Network) are integrated and support the features listed below, SAP S/4HANA Cloud Public Edition enables you to use the following key features:

Key Feature	Use
Managing requests for quotations	If you do not have a valid source of supply, you can use the requests for quotations process to find one. A request for quotation (RFQ) is a request from a purchasing organization to a supplier to submit a quotation for the supply of materials or lean services. You can create requests for quotations and add attachments, if required. If you want your strategic buyers to invite suppliers to place supplier quotations, you can send the request for quotation (including attachments) to an external procurement system (for example SAP Ariba Sourcing) or directly to your suppliers, for example by e-mail. You can invite suppliers that are maintained in your supplier master data to participate in the bidding process on an external platform (currently, Ariba Network). In SAP S/4HANA Cloud Public Edition, you can then receive the supplier quotations and perform the follow-on activities described below (see *Managing supplier quotations*). RFQ items can be selected for an info record update, which means that the prices from the most recent supplier quotations are transferred to the corresponding info record. You can define approval rules for RFQs. These rules are applied during the awarding process.

Key Feature	Use
Managing supplier quotations	A supplier quotation is an offer from a supplier to a purchasing organization to supply materials or lean services. In SAP S/4HANA Cloud Public Edition, supplier quotations can be created in one of the following ways: • They can be generated from quotations received from an external sourcing system, for example, SAP Ariba Sourcing. • You can create them manually inSAP S/4HANA Cloud Public Edition. If you receive supplier quotations from an external system that have not yet been awarded, you can award them in SAP S/4HANA Cloud Public Edition and create follow-on documents. The same applies to supplier quotations that you have manually created in SAP S/4HANA Cloud Public Edition. If you receive supplier quotations from an external system that have already been awarded, follow-on documents can be automatically created in SAP S/4HANA Cloud Public Edition. Supplier quotations that have not yet been awarded can still be manually changed in SAP S/4HANA Cloud Public Edition. You can define approval rules for supplier quotations. These rules are applied during the awarding process in SAP S/4HANA Cloud Public Edition.
Comparing supplier quotations	You can select up to three supplier quotations and compare them simultaneously in a separate screen. To cover your demand for goods and services at the best price, you can either award one supplier quotation completely, or partially award several supplier quotations.
Situation handling	You can inform specific members in your purchasing organization about the approaching submission deadline for an RFQ and that only a low number of supplier quotations has been received.

3.16.3.2 Purchase Contract Management

Key Features

The following features are available:

Key Feature	Use
Managing purchase contracts	A purchase contract is an outline purchase agreement between the supplier and your company to procure materials against which release orders (releases) can be posted. You can get an overview of all existing contracts, where you can use various sorting and grouping functions. From the list of contracts, you can directly renew a contract and also see the validity status of each contract. You can navigate into a specific contract and process it. The specific purchase contract items view is enhanced by analytical real-time insights into release history, contract consumption, and contract leakage. When you purchase materials or services, you can assign a purchase contract item to several accounts. You can also create purchase contract items of categories, such as Standard, Consignment, Material Group, and Subcontracting. You can duplicate a purchase contract item by copying it. You can also block and unblock items. Furthermore, you can delete and restore items. A contract can be maintained with a special validity time frame and a target quantity or a target value. When the target quantity or value you call off is exceeded, the system issues a warning. You can maintain conditions at the header level and item level of a purchase contract. Also, you can simulate the price for a purchase contract for a given date and maintain the pricing scale. The prices and conditions from the contract will be copied into the purchase order when referring to a contract. You can create item hierarchies with item sets and functional items for purchase contracts. You can also create purchase orders from purchase contract items in the hierarchy list. You can add attachments at the header and item levels of purchase contracts. You can create a contract template, enabling you to reuse data that is inherited from the template whenever you create a new contract. This reduces both the time and effort you spend on filling out the data. You can create purchase orders directly from a purchase contract for any items covered by the purchase contract. You can also withdraw a purchase contract from approval. You can then make the required changes in the purchase contract and submit it again for approval.

Key Feature	Use
Using the approval workflow	You can use the flexible workflow for purchase contracts with either the automatic, one-step, or multi-step approval process. As a configuration expert, you can add approvers and reviewers as recipients of workflow items. You can define recipients using either a role or a user-based assignment. You can mark a workflow step as optional to automatically skip and move to the next step when an approver cannot be determined. You can also choose to exclude restricted agents from being approvers of purchase contracts. You can further define the deadline by which the workflow step should be completed, beyond which an overdue notice is sent to the approver. As an approver, you can get an overview of all the purchase contracts you are responsible for. You can approve or reject purchase contracts and add comments. Based on the workflow configuration, you can also send back purchase contracts to purchasers for rework. As a reviewer, you can monitor the progress of the workflow. As a purchaser, you can view the approval details of a purchase contract. In create/edit mode, the approval details provide a preview of the possible approval steps based on the workflow configuration. In display mode, the approval details show the actual approval steps with the current status. The review steps, if any, are also displayed. You will be notified in case your purchase contract has been rejected or sent back to you for rework. In case of purchase contracts that have been sent back for rework, you can read the comments from the approver, make the required changes, and resubmit the contract. While using the flexible workflow, critical changes made to a purchase contract will retrigger the workflow based on the settings in the system.
Output management	You can use output management to print or email purchase contracts.
Situation handling	You can inform specific members in your purchasing organization about the expiration of a purchase contract 30 days before its expiry.
Making mass changes to purchase contracts and monitoring them	Purchasers can select headers and items of purchase contracts and trigger a mass change for specific fields. You can then monitor these mass changes. Purchasers can download information related purchase contracts into a spreadsheet, modify it, and upload it back again. They can create new purchase contracts using the spreadsheet.

Key Feature	Use
Managing purchase scheduling agreements	Purchase scheduling agreements are a form of outline purchase agreement under which materials are procured on predetermined dates within a certain time period. Purchase scheduling agreements contain prices and conditions for a material item. Releases from a purchase scheduling agreement can occur using the MRP run, or you can release them manually, or you can plan purchase scheduling agreement releases as a background job. You can create and change purchase scheduling agreements as required, and maintain the delivery schedule. You can copy purchase scheduling agreement items. The newly copied purchase scheduling agreement item opens in the edit mode, where you can update and save the information based on your requirements. You can create and save purchase scheduling agreements as a draft, enabling you to temporarily save them for certain reasons, for example, if you need to double check and clarify certain details in the document. You can use the flexible workflow to approve and review purchase scheduling agreements. The approval process of the flexible workflow can be either automatic, one-step, or multi-step. You can also define the deadline by which the workflow step should be completed. While using the flexible workflow, critical changes applied to an approved purchase scheduling agreement retriggers the workflow based on the settings you make in the system.
Making mass changes to scheduling agreements and monitoring them	You can select headers and items of scheduling agreements and trigger a mass change for specific fields. You can then monitor these mass changes.

3.16.4 Operational Procurement

3.16.4.1 Self-Service Requisitioning

Business Background

Self-service requisitioning allows you to create, manage, and track your orders efficiently. You can create items from external catalogs and free-text items. After ordering the products you require, an item or header-based approval process is triggered. Once your purchase requisition has been approved, a purchase order is created.

Key Features

The following table explains the key features available:

Key Feature	Use
Defining default settings for users	For each user, you can maintain default values for fields that are used when the user creates a purchase requisition.
Selecting products	You can order products by selecting them from catalogs, by entering a free-text item, or by selecting a product ID from the product master. The system automatically checks that the most recent price for any product you want to purchase is chosen when you place your order. You can also define a value limit for unplanned services or materials, that is, materials and services that cannot be specified in detail at the time of ordering, by creating a purchase requisition limit item. Based on the settings made in the system, the appropriate purchasing groups are automatically proposed.
Maintaining multiple drafts	You can maintain multiple drafts at a time. The drafts are listed in the home page, and you can continue working on any of these at a later point in time.
Copying purchase requisitions	You can copy an existing purchase requisition. All the items will be copied, along with their attachments, irrespective of the status of the items. You can view supporting information while copying rejected purchase requisitions or rejected purchase requisition items.
Searching and filtering purchase requisitions	You can search and filter the requisition list to view a specific purchase requisition or a set of purchase requisitions. You can view the status and the number of items in the purchase requisition, with a quick summary of key item information.
Using the approval process and monitoring your requisitions	You can use the flexible workflow for purchase requisitions, enabling you to optimize the approval process. The flexible workflow allows you to use either the automatic, one-step, or multi-step approval. From the overview of all requisitions they are responsible for, approvers can either approve or reject them, and add comments, if required. Based on the workflow configuration, approvers can also send back purchase requisitions to requestors for rework. You will be notified if your purchase requisition has been rejected or sent back to you for rework. In case of purchase requisitions that have been sent back for rework, you can read the comments from the approver, make the required changes and resubmit the requisition. You can monitor the status of all your requisitions to see who is responsible for an approval step. For purchase requisitions that were originally created in an external system, the status also reflects the external processing status.
Adding, copying, modifying, and deleting items in existing purchase requisitions	You can add, modify, copy and delete items within an existing purchase requisition, provided that no follow-on document has been created.

Key Feature	Use
Purchase order processing	Once the purchase requisition has been approved, a follow-on document is created and submitted to the supplier.
Confirmation processing	After you have received the products you have requested, you confirm the delivery. If you do not confirm the goods by the delivery date, you will receive a notification asking for a confirmation.
Situation handling	You can receive notifications about overdue confirmations for your deliveries.
Return delivery processing	If you need to return products after you have confirmed the delivery, for example because they are damaged or due to poor quality, the return delivery process is available.
Shopping on behalf of other users	Employees can also shop on behalf of other users, for example a team assistant can procure an item on behalf of the manager.
Managing catalog items	You can see which catalogs are assigned to your users, and also which items are part of which catalog.

3.16.4.2 Requirements Processing

Business Background

A purchase requisition is a request to procure a certain quantity of a material, or a service, so that it is available at a certain point in time. A purchase requisition is used as the starting point in purchasing and can trigger an approval process. A demand from an MRP run, for example, can result in a purchase requisition.

Key Features

The following features are available:

Key Feature	Use
Managing purchase requisitions	Purchasers or other specialists can create purchase requisitions. The items in the purchase requisitions can be maintained as a flat list or a hierarchy list. A hierarchy list contains item sets and functional items arranged in a structured order. The purchase requisitions can be created manually. You can add free text items and catalog items. For catalog items, a price validation can be activated. In this case, they receive the most recent information about the price of the catalog item. The price entered in such purchase requisitions can also be transferred to the follow-on purchase orders. In hierarchy list, you can add items and item sets from model product specifications. You can assign a source of supply from the proposed possible sources of supply, or you can manually assign a supplier. When you purchase materials or services, you can specify an account assignment. You can view a table of commitments of purchase requisition items, whose account assignment is commitment-relevant. You can define a value limit for unplanned services or materials, that is, materials and services that cannot be specified in detail at the time of ordering, by creating a purchase requisition limit item. Purchasers can also modify self-service requisitions. You can also implement an approval process using the flexible workflow for purchase requisitions. You can determine the approver using responsibility management. You can assign a source of supply to the items in a purchase requisition and process them. If no source of supply is available in the system or if several potential sources of supply exist, you can also create a request for quotation to find the most suitable supplier. You can optimize the purchasing process by bundling several purchase requisitions into one purchase order. Alternatively, you can also create a purchase contract if required. If the sources of supply are assigned, you can also plan the automatic creation of purchase orders from requisitions as a background job. Embedded analytics help suppliers to find the best possible source of supply. You can create a list of purchase requisitions based on different attributes, such as the supplier, a material, or an account assignment.

Key Feature	Use
Using the approval workflow	You can use the flexible workflow for purchase requisitions with either the automatic, one-step, or multi-step approval process. As a configuration expert, you can add approvers and reviewers as recipients of workflow items. You can define recipients using either a role or a user-based assignment. You can mark a workflow step as optional to automatically skip and move to the next step, when an approver cannot be determined. You can also choose to exclude restricted agents from being approvers of purchase requisition. You can configure emails with selected email templates to be sent to selected recipients when the approval deadline is reached, or when a purchase requisition has been approved or rejected. As an approver, you can get an overview of all the purchase requisitions you are responsible for. You can approve or reject purchase requisitions, and add comments. You can add decision reasons and comments. Based on the workflow configuration, you can send back purchase requisitions to requestors for rework. You can also add new approval steps to the workflow. As a reviewer, you can monitor the progress of the workflow. As a purchaser or specialist, you can view the approval details of a purchase requisition. In Create/Edit mode, the approval details provide a preview of the possible approval steps based on the workflow configuration. In Display mode, the approval details show the actual approval steps with the current status. You can also add new approval steps to the workflow. You can also view the review steps and decision reasons, if any. You will be notified in case your purchase requisition has been rejected or sent back to you for rework. In case of purchase requisitions that have been sent back for rework, you can read the comments from the approver, make the required changes, and resubmit the requisition. While using the flexible workflow, critical changes made to a purchase requisition will retrigger the workflow based on the settings in the system.
Making mass changes to purchase requisitions and monitoring them	You can select purchase requisitions and trigger a mass change for specific fields. You can then monitor these mass changes.
Sustainability	As a purchaser, you can view the carbon footprint of purchase requisition items based on data from an external environmental management system (currently, SAP Product Footprint Management).
Situation handling	When a contract is created that can be assigned to an existing open purchase requisition, the system notifies the purchaser responsible for the purchase requisition and asks whether the contract should be assigned. For more information on how to determine the purchaser responsible, see the section Responsibility Management [page 17].

Key Feature	Use
Edit purchase requisitions before approving them	As an approver, you can partially edit specific purchase requisitions before approving them or sending them back for rework. You can also add comments, notes, and attachments before approving or sending back for rework.

3.16.4.3 Purchase Order Processing

Business Background

A purchase order is a request or instruction to an external supplier to deliver a specific quantity of materials at a certain point in time, or to perform services within a specific period.

Key Features

The following features are available:

Key Feature	Use
Managing purchase orders	When you create a purchase order, you can base it on a purchase requisition, or use an existing purchase order, an info record, or a contract as a reference. The purchase order can, for example, contain different delivery dates, account assignments, texts, and partners. When you use a contract reference, a contract call-off is initiated. You can also create a new purchase order from scratch. You can assign newly created purchase orders to your own document types copied from the standard document type. You can change purchase order data depending on the existence of follow-on documents, such as a goods receipt, or an invoice. You can purchase materials or services, using product master data or create free-text items without master data. You can also define limits both for unplanned materials and unplanned services. Once the services have been performed, their exact price and quantity can be recorded in the service entry sheet. For limit items for unplanned materials you post the invoice immediately, without creating a goods receipt document. You can request a specific service performer when procuring services. You can assign a purchase order item to one or more accounts and base the account assignment on internal orders or cost centers, for example. If you want to order a specific material or service for which the account assignment is unknown, you can leave the account assignment empty and enter the details during invoicing or service entry sheet processing. You can use the *Evaluated Receipt Settlement* (*ERS*) function. You can use the features provided by Budget Availability Control inOverhead Accounting [page 68] . You can see whether or not a purchase order is relevant for Intrastat reporting. You can use the checks related to International Trade Compliance [page 120]. You can list purchase orders based on attributes such as the supplier, a material, or a plant. You can predict whether the delivery of a purchase order will happen on time or not. For delayed deliveries you can take the appropriate action.
Displaying purchasing related data	You can display statistics for purchasing documents and details about purchasing-related suppliers.

Key Feature	Use
Using the approval process	You can use the flexible workflow for purchase orders with either the automatic, one-step, or multi-step approval. You can approve or reject purchase orders. You can forward approval items and add comments and attachments, and you can withdraw a workflow item from approval if you have the required authorization. All purchase orders that you need to approve or reject are automatically visible for you. Whether or not a purchase order needs to be approved or whether it is released automatically depends on the settings that were made during the workflow configuration process. You can see the details and status of approval items. While using the flexible workflow, critical changes applied to an approved purchase order will retrigger the workflow based on the settings you make in the system.
Making mass changes to purchase orders and monitoring them	You can select purchase orders, purchase order items, and schedule lines to trigger a mass change for specific values. You can then monitor these mass changes. You can also simulate the changes first and then monitor them, using simulated jobs or mass change jobs.
Monitoring follow-on processes	You can check the status of supplier confirmations as well as the status of created goods receipts and supplier invoices.
Situation handling	You can inform specific members in your purchasing organization if a purchase order has missing supplier confirmations or if there is a deficit in the quantity of materials to be delivered by the supplier.
Output management	You can use output management to print or email purchase orders.
Intercompany business processing	You use this feature to process business transactions that take place between two affiliated companies (company codes that may or may not be based in different countries/regions) belonging to the same corporate group.

Related Features

- Invoice Processing [page 243]
- Sales Order Management and Processing [page 196]

3.16.4.4 Purchase Order Collaboration

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with business networks or external systems (for example, SAP Business Network) to enable you to collaborate with your suppliers on purchase orders. You can

do this by exchanging purchase-order-related messages between SAP S/4HANA Cloud Public Edition and the business network or external system.

Key Features

If a business network or external system (for example, SAP Business Network) is integrated and supports the features listed below, SAP S/4HANA Cloud Public Edition enables you to use the following key features:

Key Feature	Use
Sending purchase orders	You can send purchase orders for material items as well as changes to purchase orders or cancellations from SAP S/4HANA Cloud Public Edition to the business network or external system. The following item categories are supported: • Standard items • Third-party items Purchase orders can be transferred including attachments they have at header level.
Receiving confirmations	You can receive purchase order confirmations from your suppliers via the business network or external system.
Receiving advanced shipping notifications	You can receive advanced shipping notifications from your suppliers via the business network or external system, which creates inbound deliveries in SAP S/4HANA Cloud Public Edition.
Sending goods receipts	You can send goods receipts to your suppliers via the business network or external system to inform them that you have received material items, and whether a part of the delivery or the full delivery has been received.

Key Features

It is also possible that you collaborate with your suppliers using a direct integration of SAP S/4HANA Cloud Public Edition with an external supplier system. If an external supplier system is integrated with SAP S/4HANA

Cloud Public Edition and supports the features listed below, SAP S/4HANA Cloud Public Edition enables you to use the following key features:

Key Feature	Use
Sending purchase orders or scheduling agreement releases	You can send purchase orders or scheduling agreement releases to an external supplier system to order materials or lean services (services that are based on standard purchase order items). The following item categories are supported: • Standard items • Third-party items
Receiving confirmations	You can receive order confirmations from your suppliers in the SAP S/4HANA Cloud Public Edition buyer system.
Receiving advanced shipping notifications	You can receive advanced shipping notifications from your suppliers in the SAP S/4HANA Cloud Public Edition buyer system.
Receiving supplier invoices	You can receive supplier invoices from your suppliers in the SAP S/4HANA Cloud Public Edition buyer system.
Sending returns purchase orders	You can send returns purchase orders to your suppliers to return materials. The following item categories are supported: • Standard items • Third-party items
Receiving confirmations	You can receive confirmations for the returns orders in your SAP S/4HANA Cloud Public Edition buyer system.
Receiving credit memos	You can receive credit memos from your suppliers.

3.16.4.5 Service Purchasing and Recording

Key Features

The following features are available:

Key Feature	Use
Purchasing lean services	You can use service purchasing for a wide range of services, such as planned and unplanned maintenance and construction or consulting services. When you request services from your suppliers, you can specify all the services that may be procured in detail or you can just set a limit in the purchase order using a contract for the price definition. It is possible to do the account assignment at a later point in time.

Key Feature	Use
Managing service entry sheets for lean services	Based on purchase orders, you can create service entry sheets to record that the ordered services have been performed within a specified period. Additionally, you can record material items used during the execution of a service. You can search for existing service entry sheets and change them. If you have defined a value limit for unplanned services in the purchase order, you can specify the performed services as well as their exact quantity, and select a contract item in which the price per unit is defined. The services are recorded with their precise value, and the system checks that the limit has not been exceeded. Tax information defined in the purchase order can be displayed and edited in the service entry sheet. Detailed pricing information is displayed and can be edited for specific service items. You can also attach documents and add links to the service entry sheet.
Generation from timesheets	Service entry sheets can also be automatically created based on timesheets of external employees.
Approving service entry sheets for lean services	You can approve or reject service entry sheets. The flexible workflow for service entry sheets allows you to define one or more approvers and to use either the automatic, one-step, or multistep approval. You can approve or reject service entry sheets, withdraw a service entry sheet from approval, or revoke the approval of a service entry sheet under certain conditions. All service entry sheets that you need to approve or reject are automatically visible for you. Whether or not a service entry sheet needs to be approved or whether it is released automatically depends on the settings that were made during the workflow configuration process. When using the flexible workflow, critical changes applied to an approved service entry sheet retrigger the workflow based on the settings you made in the system.
Verification of invoices for lean services	In the final step, you ensure that the service provider's invoices are correct.

3.16.5 Invoice Management

3.16.5.1 Invoice Processing

Key Features

A supplier invoice is a document from a supplier for materials that were delivered or services that were performed. The supplier invoice triggers the payment.

The following table explains the key features available:

Key Feature	Use
Managing supplier invoices	You create a supplier invoice after receiving the invoice from the supplier. You can create the supplier invoice with reference to a purchase order or without any reference. You can select the reference purchase order using the corresponding delivery note, freight order, or service entry sheet, for example. The invoice verification checks the supplier invoice for correctness. Before posting the document, you can simulate the supplier invoice in order to display the account movements. In addition, one clerk can park the invoice document and another clerk can complete the process and post it. When the invoice reduction functionality is used during the creation of an invoice, output management is triggered to inform the supplier. You can schedule the output as a regular job. You can also verify the invoice in the background. In supplier invoices, you can process down payments that originate from a Central Finance system.
Using time-dependent taxes	In supplier invoice processing, time-dependent taxes allow you to define several periods with individual tax rates for one tax code. As a result, you can use one tax code for different tax rates.
Managing supplier invoices with reference to purchase order limit items	You can post a supplier invoice to a purchase order limit item that defines a value limit either for unplanned materials or for unplanned services. In this case, you check the invoice amount directly against the value limit.
Integrating freight orders	The integration of Transportation Management enables you to use the reference document category freight order in the supplier invoice. For this category, you can enter a freight order that refers to a purchase order with lean service items. You can also create direct postings to a G/L account with reference to a freight order.
Uploading invoice documents	When you upload invoice documents, an invoice draft is created to which the uploaded file will be attached.
Working with supplier invoice lists	You can search for supplier invoices and use the search result as a supplier invoice worklist that allows you to display the detail data. For example, you can display a list of blocked supplier invoices and release or reverse them.
Releasing supplier invoices	If you want to release invoices manually, you can select the blocked invoices using different filters. The invoice can also be released automatically. In this case, the system checks each blocking reason to see whether it is still valid.

Key Feature	Use
Approving supplier invoices	You can display supplier invoices that are assigned to you by workflow. In addition, detailed information about the invoice items are available in your inbox. You can approve or reject the corresponding work item. If necessary, you can forward a work item to a different employee for further processing. You can use the workflow, for example, to approve posted supplier invoices that are blocked for payment. You can also define time frames in which a workflow step must be completed. For overdue deadlines, you can set up pre-defined email notifications.
Working with goods receipt and invoice receipt clearing accounts	You can maintain goods receipt and invoice receipt clearing accounts, and cancel the created documents if required.
Consignment and pipeline settlement	For goods withdrawals from consignment stocks or from a pipeline, you do not expect an invoice from the supplier. Instead, you can settle posted withdrawals and return deliveries yourself and send the supplier a statement of the settlement. In this process, a supplier invoice is created in Logistics in addition to a journal entry in Finance. The supplier invoice is integrated into supplier invoice processing in Logistics.
Automatic settlement of invoices	To save costs, you can use automatic settlement, such as consignment and pipeline settlement, evaluated receipt settlement, or revaluation.
Supplier invoice jobs	You can schedule and monitor recurring, supplier invoice related activities as a background job. For example, you can choose the job template Evaluated Receipt Settlement. You can schedule a job for Evaluated Receipt Settlements on the basis of the data in a freight order that refers to a purchase order with lean service items, and you can print the data on a form with the freight order supplier as recipient.
Down payment monitoring for purchase orders	You can monitor purchase orders for which a down payment is planned. Furthermore, you can create down payment requests. If down payment data is maintained in the purchase order, you can post down payment requests and down payments for this purchase order. When you enter an incoming invoice, you can select the down payments and post the down payment clearing documents together with the invoice document.

Related Features

- Purchase Order Processing [page 238]
- For information about accounts payable accounting, see *Finance* > *Financial Operations* > *Invoice Management* > *Accounts Payable Accounting*.

3.16.5.2 Invoice Collaboration

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with business networks or external systems (for example, SAP Business Network) to enable you to collaborate with your suppliers on invoices. You can do this by exchanging invoice-related messages between SAP S/4HANA Cloud Public Edition and the business network or external system.

Key Features

If a business network or external system (for example, SAP Business Network) is integrated and supports the features listed below, SAP S/4HANA Cloud Public Edition enables you to use the following key features:

Key Feature	Use
Receiving supplier invoices	You can receive invoices from your suppliers via the business network or external system. The message transferring the invoice data can also transfer a PDF version of the invoice or other attachments. Error-free supplier invoices can be posted automatically in SAP S/4HANA Cloud Public Edition. Invoices with errors can be saved with errors and can later be processed manually.
Sending CC invoices	You can transfer supplier invoices created in SAP S/4HANA Cloud Public Edition to your suppliers via the business network or external system as CC invoices (carbon-copy invoices). Such invoices are sent for status tracking and follow-on processes.
Sending status updates for supplier invoices	Status updates for the received supplier invoices are sent to your suppliers via the business network or external system. For example, when a supplier invoice is posted, paid, reversed, or when a blocked invoice is released in SAP S/4HANA Cloud Public Edition, a status update is sent. You can also transfer status updates for supplier invoices that you have created in SAP S/4HANA Cloud Public Edition (CC invoices).

Related Information

Dynamic Discounting (Ariba Network Integration) [page 105]
Payment Advice Collaboration (Ariba Network Integration) [page 105]

3.16.6 Supplier Management

3.16.6.1 Classification and Segmentation

Key Features

Supplier classification and segmentation is an ongoing process in which you assess and classify your suppliers at regular intervals and allocate your suppliers to segments of different importance. You can then focus especially on those suppliers that are strategically important and critical to your business, thus enabling you to develop and manage your business relationships.

The following table explains the key features available:

Key Feature	Use
Purchasing Category	Purchasing categories allow you to manage your suppliers according to specific categories of goods and services, for example, hardware and software, or installation and maintenance. They enable you to monitor your pool of suppliers and optimize the purchasing process. Purchasing categories are also an important structuring element in the supplier evaluation process. They enable you to compare the evaluations of all suppliers in the same purchasing category.

3.16.6.2 Supplier Evaluation

Key Features

The following table explains the key features available:

Key Feature	Use
Supplier Evaluation	In supplier evaluation, you send out supplier evaluation requests to appraisers, asking them to fill out questionnaires about a supplier. You first create the questions and the corresponding answer options and then include the questions in one or several questionnaires. You can include the questionnaires in evaluation templates that serve as the basis for sending out evaluation requests. You create questions in the question library. For a better overview, you can use sections to structure the questions. You can display the evaluation scorecards that show the overall result of a supplier evaluation for one supplier.

3.16.7 Integration with Machine Learning Intelligence

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with a machine learning system (currently SAP Procurement Intelligence) to allow users to optimize their procurement processes.

Key Features

If a machine learning system (for example, SAP Procurement Intelligence) is integrated and supports the features listed below, SAP S/4HANA Cloud Public Edition enables you to use the following key features:

Key Feature	Use
Prediction of delivery date for purchase order items	Based on a machine learning algorithm, the system can predict the delivery date for purchase order items.

> **Note**
>
> Some of these key features require a connection to the SAP Cloud Platform.

3.16.8 Central Procurement

With Central Procurement, you can integrate your SAP S/4HANA Cloud Public Edition system with some other enterprise resource planning systems in your system landscape (that is, SAP S/4HANA,SAP S/4HANA Cloud Public Edition, or SAP ERP) to offer centralized procurement processes over your entire system landscape. SAP S/4HANA Cloud Public Edition acts as a hub system and the enterprise resource planning systems act as connected systems in this integration scenario.

3.16.8.1 Central Requisitioning

Business Background

The Central Requisitioning scenario facilitates employees to have a unified shopping experience where they can create self-service requisitions in an SAP S/4HANA Cloud Public Edition system (which acts as a hub system). They can, for example, select materials from the catalogs with desired sources of supply. This scenario also enables you to confirm the ordered goods in the hub system.

Key Features

The following table explains the key features available:

Key Feature	Use
Creating purchase requisitions	Employees can create purchase requisitions in the hub system. When creating a purchase requisition, employees can create purchase requisition items for free-text materials, for the materials that were extracted from the connected systems into the hub system, or for lean services. They can also define a value limit for unplanned services or materials, that is, materials and services that cannot be specified in detail at the time of ordering, by creating purchase requisition limit items.
Shopping on behalf of other users	Employees can also shop on behalf of other users, for example a team assistant can procure an item on behalf of the manager.
Editing purchase requisitions	A purchaser can edit a purchase requisition that was replicated from the hub system in the connected system.
Using the approval workflow	You can use the flexible workflow for purchase requisitions with either the automatic, one-step, or multi-step approval process. As a configuration expert, you can define recipients using either a role or a user-based assignment and select whether the approval step is to be completed by one or all of the recipients. You can mark a workflow step as optional to automatically skip and move to the next step, when an approver cannot be determined. You can also choose to exclude restricted agents from being approvers of purchase requisition. As an approver, you can get an overview of all the purchase requisitions you are responsible for. You can approve or reject purchase requisitions, and add comments. Based on the workflow configuration, you can also send back purchase requisitions to requestors for rework. As a requester, you can view the approval details of a purchase requisition. You will be notified in case your purchase requisition has been rejected or sent back to you for rework. In case of purchase requisitions that have been sent back for rework, you can read the comments from the approver, make the required changes, and resubmit the requisition.
Replicating purchase requisitions to the connected systems	The purchase requisitions are replicated to the connected systems. As a configuration expert, you can configure the replication to happen either before or after the puchase requisitions are approved in the hub system.
Monitoring the replication of purchase requisitions to the connected systems	Configuration experts can monitor purchase requisitions for which the replication has failed in either the hub system or connected systems.
Monitoring extraction jobs for sources of supply	Configuration experts can monitor extraction jobs for sources of supply that have failed.

Key Feature	Use
Creating purchase orders automatically	The purchase orders are created automatically in the connected systems from the replicated purchase requisitions.
Confirming the receipt of goods	Employees can confirm the received goods in the hub system. As a result, confirmations are posted to the connected systems.
Creating a return delivery	If goods are of poor quality or damaged, for example, employees can create a return delivery in the hub system for the confirmed goods.
Updating data between systems	Central purchasers can view the data updated from the connected system to the hub system for approved purchase requisitions.

3.16.8.2 Central Sourcing

Business Background

The Central Sourcing scenario enables central purchasers to get an overview of all purchasing needs across various plants of your company and to source for all plants centrally. This optimizes the procurement process and increases your savings. Central purchasers can check all purchase requisitions in the connected plants or SAP S/4HANA Cloud Public Edition systems and source for these purchase requisitions centrally. Central purchasers can create central requests for quotations, publish them and after the bidding process is completed central purchasers can create central supplier quotations on behalf of suppliers. Central purchasers can create purchase orders or central purchase contracts based on the awarded central supplier quotations.

SAP S/4HANA Cloud Public Edition supports the integration with external procurement systems (for example, SAP Ariba Sourcing). If an external procurement system is integrated and supports the features below, central supplier quotations and follow-on documents such as central purchase contracts or purchase orders can be created automatically.

Key Features

The following table explains the key features available:

Key Feature	Use
Creating central requests for quotations	Central purchasers use this feature to find a source of supply centrally for various plants. Central purchasers check purchase requisitions from different plants and identify the materials and services that can be sourced together and for which there is no valid source of supply. They select purchase requisitions from multiple connected systems and create a central request for quotation, maintain the details and publish it. You can add notes and attachments to the central RFQs, if required. If you want your strategic buyers to invite suppliers to place supplier quotations, you can send the central RFQs (including attachments) to an external procurement system (for example, SAP Ariba Sourcing).You can display the business process flow, along with the status of the sourcing document. You can invite suppliers that are maintained in your supplier master data to participate in the bidding process on an external platform (currently, Ariba Network).
Maintaining central supplier quotations	In SAP S/4HANA Cloud Public Edition, central supplier quotations can be created in one of the following ways: • Central purchasers can create them manually on behalf of suppliers and submit them in SAP S/4HANA Cloud Public Edition. • They can be generated from quotations received from an external sourcing system, for example, SAP Ariba Sourcing.
Creating purchase orders from central supplier quotations	Central purchasers use this feature to create purchase orders from the awarded central supplier quotations directly in the connected systems where the purchase requisitions originated from. For central supplier quotations that have been generated from quotations received from an external sourcing system (for example, SAP Ariba Sourcing), purchase orders are created automatically.
Creating central purchase contracts from central supplier quotations	Central purchasers use this feature to create central purchase contracts from awarded central supplier quotations in the hub system. The central purchase contracts are created in the status "Draft". Central contracts are then distributed to the connected systems and can be used as a source of supply. For central supplier quotations that have been generated from quotations received from an external sourcing system (for example, SAP Ariba Sourcing), central purchase contracts are created automatically.

3.16.8.3 Central Purchase Contracts

Business Background

In an integrated procurement scenario, you can create central purchase contracts. These are global, long-term agreements between organizations and suppliers regarding the supply of materials or the performance of services within a certain period as per predefined terms and conditions. Central purchase contracts enable purchasers from various parts of a company in different locations to take advantage of the negotiated terms and conditions. Central purchase contracts are created in the SAP S/4HANA Cloud system (which acts as a hub system) by a central purchaser and distributed to the connected systems, such as SAP ERP, SAP S/4HANA Cloud, or SAP S/4HANA.

Key Features

The following table explains the key features available:

Key Feature	Use
Managing central purchase contracts	Central purchasers can create, change, copy, renew, and display central purchase contracts. They can create central purchase contracts of type value contract or quantity contract. When creating a central purchase contract, central purchasers can create items for materials fetched directly from connected systems, for materials that were extracted from connected systems into the hub system, or for lean services. They can also create free-text items if none of the materials in the connected system or those extracted into the hub system match their requirements. Additionally, they can maintain the payment terms and incoterms at header and distribution levels of a central purchase contract. They can also maintain the shipping instructions at the item and distribution levels. While creating a central purchase contract, central purchasers can create, edit, and display additional information in the form of texts using notes. They can also search for legal transactions and assign them to a central purchase contract.
Making mass changes to central purchase contracts and monitoring them	Central purchasers can select central contract headers or central contract items of central purchase contracts to trigger a mass change for specific values. They can add header and item distributions to multiple central contract items at a time. They can then monitor these mass changes. Central purchasers can download central contract information into a spreadsheet, modify it, and upload it back again. They can create new contracts and also add items, header distributions, and item distributions to existing contracts using the spreadsheet.

Key Feature	Use
Using workflow-based approval	Approvers/reviewers can use the flexible workflow to approve/review central purchase contracts. The approval process can be automatic, one-step, or multi-step approval.
Distributing central purchase contracts to the connected systems	After a central purchase contract is approved, it is distributed to the connected systems based on the distribution details maintained by the central purchaser when creating the central purchase contract. Because of distribution, outline agreements, such as contracts or scheduling agreements, can be created in the connected systems.
Monitoring the distribution of central purchase contracts	Configuration experts can monitor central purchase contracts for which the distribution has failed either in the hub system or connected systems.
Monitoring the jobs for release order update	Configuration experts can monitor the jobs for release orders that have failed.
Checking errors in contracts and reinitiating distribution	Central purchasers can check whether a contract that resulted in errors during distribution to the connected systems can be distributed now or if it still contains errors that need to be resolved. After all errors are resolved, central purchasers can reinitiate the distribution of such contracts.
Importing release orders into the hub system	Configuration experts can import release orders into the hub system from the connected systems. As a result, central purchasers get an overview of the release orders issued against each distributed contract item in the connected systems. The release information is available only for the distribution lines that result in the creation of contracts in the connected systems.
Situation handling	Central purchasers can receive notifications when the consumption level of a specific central purchase contract item exceeds a predefined threshold. Central purchasers can also receive notifications when a central purchase contract is due to expire.
Withdraw central purchase contracts from approval	Central purchasers can withdraw a central purchase contract sent for approval. They can then make the required changes to it and submit it again for approval.
Managing central purchase contract hierarchies	Central purchasers can create, modify, display, renew, and distribute a central purchase contract hierarchy in the hub system. They can also search for legal transactions and assign them to a central purchase contract hierarchy. Additionally, they can maintain the payment terms and incoterms at header and distribution levels of a central purchase contract hierarchy. They can also maintain the shipping instructions at the item and distribution levels.
Configuring versions for central purchase contracts	Configuration experts can configure the settings to manage the versioning of a central purchase contract and define reasons for changes that result in the creation of newer versions.

Key Feature	Use
Maintaining conditions for central purchase contracts and central purchase contract hierarchies	Central purchasers can add conditions with a validity period for a central purchase contract and central purchase contract hierarchy in the hub system.
Defining price change reasons for conditions of central purchase contracts and central purchase contract hierarchies	Central purchasers can maintain price change reasons when a condition of a central purchase contract or central purchase contract hierarchy is added, changed or deleted in the hub system.
Maintaining a pricing scale for central purchase contracts and central purchase contract hierarchies	Central purchasers can define a pricing scale value and scale types for a central purchase contract and central purchase contract hierarchy in the hub system.
Distributing scales and plant conditions for central purchase contract items	Central purchasers can distribute scales and plant conditions for central purchase contract items in the hub system to the connected systems.
Simulating a price for central purchase contract items	Central purchasers can simulate the price for a central purchase contact for a given date in the hub system.
Creating default conditions for central purchase contract items	Central purchasers can create default conditions for a central purchase contract item when the net order price and price unit is maintained in the hub system.
Configuring versions for central purchase contract hierarchies	Configuration experts can configure the settings to manage the versioning of a central purchase contract hierarchy and define reasons for changes that result in the creation of newer versions.
Enabling pricing and complex conditions from SAP Ariba for central purchase contracts	Central purchasers can view the updated net price and condition record information (including scales) in a central purchase contract that is replicated from an SAP Ariba external system to the SAP S/4HANA hub system.
Distributing notes from hub system to connected systems	Central purchasers can distribute notes at the header and item level of a central purchase contract from the hub system to the connected systems.
Simulating a price for central purchase contract hierarchies	Central purchasers can simulate the price for a central purchase contract hierarchy at an item level for a given date in the hub system.
Creating default conditions for central purchase contract hierarchies	Central purchasers can create default conditions for a central purchase contract hierarchy at an item level when the net order price and price unit is maintained in the hub system.
Comparing versions of a central purchase contract	Central purchasers can compare information between two versions of a central purchase contract in the hub system.
Distributing scales and plant conditions for central purchase contract hierarchies	Central purchasers can distribute scales and plant conditions for central purchase contract hierarchies in the hub system to the connected systems.
Blocking and unblocking items and item distribution lines in central purchase contracts	Central purchasers can block and unblock items and item distribution lines of a central purchase contract in the hub system.

Key Feature	Use
Comparing versions of central purchase contract hierarchies	Central purchasers can compare information between two versions of a central purchase contract hierarchies in the hub system.
Displaying the approval details for central purchase contracts	Central purchasers can view the approval details, such as the processors involved and status, for central purchase contracts in the hub system.
Defining deadlines for the workflow steps for central purchase contracts	Configuration experts can define the deadline by which the workflow step should be completed, beyond which an overdue notification is sent to the approver.
Scheduling output for central purchase contracts	Configuration experts can schedule application jobs to send the outputs of central purchase contracts to the respective suppliers in the hub system.
Subcontracting for central purchasing documents	Central purchasers can create items for a central purchase contract or central purchase contract hierarchy with the item category Subcontracting (L) in the hub system.
Blocking and unblocking items and item distribution lines in central purchase contract hierarchies	Central purchasers can block and unblock items and item distribution lines of a central purchase contract hierarchy in the hub system.
Working with central purchase contracts from third-party systems	Central purchasers can display and manage central purchase contracts from third-party systems to the hub system.
Adding attachments for central purchase contracts and central purchase contract hierarchy	Central purchasers can add attachments at the header level for central purchase contracts or central purchase contract hierarchies in the hub system.
Canceling central purchase contracts and central purchase contract hierarchies	Central purchasers can cancel a central purchase contract or central purchase contract hierarchy in the hub system.
Using the enterprise search for central purchase contracts and central purchase contract hierarchies	Central Purchasers can use the enterprise search to search for central purchase contracts and central purchase contract hierarchies.
Creating consignment items for central purchase contracts	Central purchasers can create items of category 'Consignment (K)' for central purchase contracts in the hub system.
Simulating the distribution of central purchase contracts	Central purchasers can simulate the distribution of central purchase contracts in the hub system and check if the distributed outline agreements would be created successfully or result in errors.
Managing item hierarchies in central purchase contracts	Central purchasers can create item hierarchies with item sets and functional items for central purchase contracts in the hub system.
Editability of distributed purchase outline agreements in connected systems	Purchasers can edit specific fields at the header and item levels of distributed purchase outline agreements in their connected systems.

3.16.8.4 Central Purchasing

Business Background

The Central Purchasing scenario provides a single point of access to display and manage purchasing documents centrally. The purchasing documents include purchase requisitions and purchase orders. These documents can be the ones that are created in the SAP S/4HANA Cloud Public Edition system (which acts as a hub system) or the ones that have been extracted from the connected systems. SAP S/4HANA, SAP S/4HANA Cloud Public Edition, or SAP ERP act as connected systems. Central Purchasing provides the flexibility of connecting multiple systems across an organization and carrying out procurement processes centrally.

Key Features

The following table explains the key features available:

Key Feature	Use
Importing purchasing documents into the hub system	Configuration experts can import purchasing documents into the hub system from the connected systems.
Working with purchasing documents	Central purchasers can display and manage purchasing documents centrally.
Assigning sources of supply to purchase requisitions centrally	Central purchasers can assign sources of supply to the purchase requisition items centrally, for example, by navigating into the specific purchase requisition.
Processing purchasing documents centrally	Central purchasers can process purchasing documents centrally. This option enables the purchasers to block or unblock the automatic creation of follow-on documents in the connected systems. Additionally, they can block or unblock the automatic creation of follow-on documents in the connected systems, based on whether the purchase requisitions are blocked by requestor or blocked for central processing.
Displaying purchasing documents	Central purchasers can display purchasing documents based on the attributes maintained for users.
Editing purchasing documents	Central purchasers can navigate directly to the connected systems to edit the purchasing documents.
Creating purchase orders from purchase requisitions	Central purchasers can create purchase orders from purchase requisitions in the connected systems.
Creating purchase orders centrally	Central purchasers can directly navigate to the connected systems to create purchase orders.

Key Feature	Use
Using the workflow-based approval	Approvers or reviewers can use the flexible workflow to approve or review centrally managed purchase orders, centrally managed purchase requisitions, and central supplier confirmations. The approval process can be either an automatic, a one-step or a multi-step approval. Based on the workflow configuration, approvers can also send centrally managed purchase orders or centrally managed purchase requisition for rework.
Creating purchase requisitions centrally	Central purchasers can directly navigate to the connected systems to create purchase requisitions.
Displaying process flow for purchasing documents	Central purchasers can view the process flow diagram that displays the follow-on documents created for purchase requisitions and purchase orders.
Analyzing and resolving replication errors of central purchase requisitions	Central purchasers can view, analyze, and resolve the replication errors of central purchase requisitions. If the replication of central purchase requisitions from the hub system to the connected systems results in errors, for example, invalid master data in the connected systems, then the central purchase requisitions are saved in held status in the connected systems. When an import of such replicated purchase requisitions is scheduled from the connected systems to the hub system, the associated replication errors are displayed. Once the replication errors are analyzed, the purchasers can resolve them in the connected systems.
Situation handling for purchase order items	Central purchasers are notified about purchase order items that were not delivered by the delivery date confirmed by the supplier.
Creating central purchase contracts from purchase requisitions	Central purchasers can create central purchase contracts from purchase requisitions in the draft mode in the hub system.
Creating central RFQs from purchase requisitions	Central purchasers can create central RFQs from purchase requisitions in the hub system.
Adding purchase requisition items to purchase orders	Central purchasers can add open purchase requisition items to an existing purchase order in the hub system as new line items.
Working with purchase requisition items	Central purchasers can defer a purchase requisition item for a specific period. They can also resume the deferred purchase requisition items and close the purchase requisition items.
Importing central purchase requisitions that are processed in the hub system	Configuration experts can import central purchase requisitions that are relevant for processing in the hub system.
Displaying central purchase requisitions that are processed in the hub system	Central purchasers can display central purchase requisitions that are relevant for processing in the hub system.
Creating purchase orders from central purchase requisitions that are processed in the hub system	Central purchasers can create purchase orders from central purchase requisitions that are relevant for processing in the hub system.

Key Feature	Use
Monitoring extraction jobs for purchase requisitions	Configuration experts can monitor the extraction jobs for purchase requisitions that have failed.
Monitoring extraction jobs for purchase orders	Configuration experts can monitor the extraction jobs for purchase orders that have failed.
Monitoring text extraction jobs	Configuration experts can monitor the extraction jobs for texts that have failed.
Managing rules for automation of business processes	Configuration experts can create and delete rules that are required to automate various business processes in the hub system.
Scheduling automation of business processes	Configuration experts can schedule jobs for the automation of business processes in the hub system, based on the activated rules.
Refreshing purchasing documents	Central purchasers can refresh purchasing documents such as purchase requisitions and purchase orders in the hub system. This extracts the latest details of the selected purchasing documents from the connected systems to the hub system.
Adding purchase requisitions to central purchase contracts	Central purchasers can add open purchase requisitions to an existing central purchase contract in the hub system as new line items.
Processing purchasing documents using the uniquely mapped value help	Central purchasers can search for purchase requisitions and purchase orders using filters that are mapped uniquely from the respective connected systems.
Displaying notes for purchasing documents	Central purchasers can view notes that are maintained and extracted from the connected systems to the hub system for purchase requisitions and purchase orders.
Reassigning purchasing groups to purchase requisition items	Central purchasers can reassign a purchasing group to purchase requisition items to facilitate the transfer of workload from one purchasing group to other based on personnel availability.
Creating extensible fields for centrally managed purchasing documents	Configuration experts can create extensible fields for centrally managed purchase requisitions and purchase orders that correspond with their respective business contexts.
Displaying extensible fields for centrally managed purchasing documents	Central purchasers can view extensible fields that are created for centrally managed purchase requisitions and purchase orders in the hub system.
Displaying attributes of purchasing documents	Central purchasers can search, and display the attributes of purchase requisitions and purchase orders, based on the unified key mapping.
Monitoring the compatibility of central procurement operations	Configuration experts can monitor details in the hub system about the business operations and their compatibility with the corresponding versions of the connected systems, that are required for the business operations to function.
Monitoring the connected systems	Configuration experts can monitor the connected systems, their status (online or offline), and when their status was last checked.

Key Feature	Use
Creating central purchase contract hierarchies from purchase requisitions	Central purchasers can create central purchase contract hierarchies from purchase requisitions in the hub system.
Editing and approving purchase requisitions	Approvers can edit the purchase requisitions in the connected systems before approving them.
Importing history details for purchase orders	Configuration experts can import history details for purchase orders in the hub system.
Extracting purchase orders from third party systems	Configuration experts can extract purchase orders from third party systems to the hub system.
Displaying contact card details of the creator of purchase requisitions	Central purchasers can view the contact card details of the creator of a purchase requisition in the hub system.
Displaying contact card details of the supplier of purchase requisitions	Central purchasers can view the contact card details of the supplier of a purchase requisition in the hub system.
Restricting the editing of purchase requisitions	Central purchasers can restrict the editing of purchase requisitions in the connected system using the block indicators.
Displaying purchase order details	Central purchasers can view the details of a purchase order while adding purchase requisition items to an existing purchase order in the hub system.
Defaulting the material group and material number	Central purchasers can default the material group and material number while adding purchase requisition items to an existing central purchase contract, or to central purchase orders, in the hub system.
Displaying the approval details for replicated purchase requisitions	Central purchasers can view the approval details, such as the processors involved and status, for the replicated purchase requisitions in the hub system.
Defining deadlines for the workflow steps for central purchasing documents	Configuration experts can define the deadline by which the workflow step should be completed, beyond which an overdue notification is sent to the approver.
Displaying the automation status for centrally managed purchase requisitions	Central purchasers can view the automation status for the centrally managed purchase requisitions in the hub system.
Managing outputs for centrally managed purchase orders	Central purchasers can manage and view the output details for centrally managed purchase orders in the hub system.
Scheduling outputs for centrally managed purchase orders	Configuration experts can schedule application jobs to send the outputs for centrally managed purchase orders to the respective suppliers in the hub system.
Working with purchasing documents from third party systems	Central purchasers can display and manage purchasing documents from the third party systems to the hub system.

Key Feature	Use
Resetting automation status for centrally managed purchase requisitions	Central purchasers can reset automation status during extraction of purchase requisitions in the hub system.
Working with automation status for purchase requisitions	Central purchasers can display the automation errors for purchase requisitions. Additionally, they can retrigger the automation rules, reset the automation status of the rules, refresh the automation status of purchase requisitions.
Using the enterprise search for purchasing documents	Central Purchasers can use the enterprise search to search for purchase requisitions and purchase orders.
Managing central supplier confirmations	Central purchasers can manage and view central supplier confirmations for centrally managed purchase orders in the hub system.
Scheduling export of centrally managed purchase orders	Configuration experts can schedule jobs to export centrally managed purchase orders from the SAP S/4HANA Cloud Public Edition system which acts as the hub system. This exported data is used to trigger the training of the intelligent scenario `MM_PUR_HUB_MATGRP_RC` in the *Intelligent Scenario Management* app, which is part of the process to enable material group recommendations in the *Process Purchase Requisitions Centrally* app.
Scheduling import of product group recommendations	Configuration experts can schedule jobs to import the inference (data) to enable material group recommendations for centrally managed purchase requisitions. This data is imported from the intelligent scenario `MM_PUR_HUB_MATGRP_RC`, provided there is a training that is deployed and active.
View material group recommendations	Central Purchasers can use the intelligent scenario `MM_PUR_HUB_MATGRP_RC` (Material Group Recommendations for Centrally Managed Purchase Requisitions) to analyze the free text that is entered in a centrally managed purchase requisition and suggest the most relevant material groups based on previous purchase orders.
Situation handling for purchase requisition items	Central purchasers are notified about the approaching delivery date of centrally managed purchase requisition items. They are also notified if the overall limit of centrally managed purchase requisition items exceeds the configured value.
Situation handling for purchase order items	Central purchasers are notified about purchase order items that were not delivered by the delivery date confirmed by the supplier.
Making mass changes to centrally managed purchase requisition items and monitoring them	Central purchasers can select items of centrally managed purchase requisitions to trigger a mass change for specific values. They can then monitor these mass changes.
Assigning processors to purchase requisition items centrally	Central purchasers can assign and unassign processors to centrally managed purchase requisition items. The assigned processors are responsible for working on the respective items.

3.16.8.5 Central Purchasing Analytics

Business Background

Central Purchasing Analytics provides users with centralized analyses and the necessary capabilities to better understand the procurement areas – both on a holistic level and on a more fine-granular level relating to connected systems. Strategic buyers can analyze the consumption of central contracts across entire organizations, as well as identify where global contracts are not being properly utilized. Additionally, monitoring the global purchasing spend using drill-down capabilities pinpoints the spend volume across the entire organization.

Key Features

The following table explains the key features available:

Key Feature	Use
Analyzing central purchase contracts	Strategic buyers can display central purchase contracts and analyze their consumption. The consumption can be analyzed by supplier or connected purchasing organization, for example.
Analyzing global purchasing spend	Strategic buyers can display purchase orders centrally and analyze the purchase order net amount and planned spend by schedule line, supplier, company code, or purchasing organization, for example. The purchase orders can be those that are created in the hub system, and the ones that have been extracted from other connected systems.
Monitoring central purchase contract items	Central purchasers can monitor the release history of central purchase contract items, for example, and display the items and distribution lines with the highest consumption.
Monitoring purchase order items centrally	Central purchasers can monitor purchase order items centrally, based on filter criteria such as the display currency, supplier, material, or purchasing organization. In addition to this, central purchasers can use the visual filter to monitor the top spend by supplier, for example, and overdue items across the entire organization.
Analyzing central purchase requisition item types	Central purchasers can view and analyze central purchase requisition item types, such as services, materials, or text items.
Monitoring central purchase requisition items	Central purchasers can monitor the open central purchase requisition items (along with open quantities).

Key Feature	Use
Monitoring purchase requisition items centrally	Central purchasers can monitor purchase requisition items centrally, based on filter criteria such as display currency, material group, or purchasing organization. In addition to this, central purchasers can use the visual filters to display data, for example, the total value by purchasing groups.
Analyzing price history for central purchase contract items	Central purchasers can view the price and condition history of central purchase contract items. The data is displayed according to supplier, company code, central purchasing organization and group, and plant.

3.16.9 Integration with External Procurement Systems

SAP S/4HANA Cloud Public Edition supports the integration with external procurement systems (for example SAP Ariba and SAP Fieldglass) to combine the advantages of the integrated product with the integrated business processes and data transparency provided by SAP S/4HANA Cloud Public Edition.

Key Features

If an external procurement system (for example, SAP Ariba and/or SAP Fieldglass) is integrated and supports the features listed below,SAP S/4HANA Cloud Public Edition enables you to use the following key features:

Sourcing and Contract Management

Key Feature	Use
Creation of purchase contracts and/or purchase scheduling agreements initiated from the external procurement system	Contract documents that are created in an external procurement system can initiate the creation of a corresponding purchase contracts and/or purchase scheduling agreements in SAP S/4HANA Cloud Public Edition.
Release of the purchase contract and/or purchase scheduling agreement	When the purchase contract is released as a source of supply and/or the purchase scheduling agreement as a delivery schedule in SAP S/4HANA Cloud Public Edition, the status change can be transferred to the external procurement system.

Operational Procurement

Key Feature	Use
Creation of requisitions initiated from the external procurement system	Requisitions that employees create in the external procurement system can initiate the creation of corresponding purchase requisitions and follow-on documents, such as reservations, purchase orders, goods receipts, and invoices in SAP S/4HANA Cloud Public Edition. In the case of service procurement, service entry sheets are created. Processing of the requisition in the external system can equally initiate an update of the purchase requisition.
Creation of reservations, purchase orders, goods receipts, and service entry sheets initiated from the external procurement system	The creation or processing of documents in the external procurement system can initiate the creation or update of reservations, purchase orders, goods receipts, and service entry sheets in SAP S/4HANA Cloud Public Edition.
Transparency of procurement documents in SAP S/4HANA Cloud Public Edition	The numbers of SAP S/4HANA Cloud Public Edition purchase requisitions, reservations, purchase orders, and follow-on documents are transferred to the external procurement system to be displayed to the employees who created the requisitions.

Invoice Management

Key Feature	Use
Creation of supplier invoices initiated from the external procurement system	The creation or processing of invoice documents in the external procurement system can initiate the creation or update of supplier invoices in SAP S/4HANA Cloud Public Edition. Here, the supplier invoices are made available to accounts payable to be used in follow-on processes.
Transparency of documents in SAP S/4HANA Cloud Public Edition	The numbers of the invoices created in SAP S/4HANA Cloud Public Edition can be transferred to the external procurement system to provide transparency to the users who created the original documents.

3.16.10 Integration of Central Procurement with External Procurement System

Business Background

SAP S/4HANA Cloud Public Edition supports the integration of Central Procurement with an external procurement system (for example SAP Ariba) to combine the advantages of the integrated product with the advantages of a scenario where your professional purchasers can either operate centrally in SAP S/4HANA Cloud Public Edition (acting as a hub system) or directly in the connected systems.

Key Features

If an external procurement system (for example SAP Ariba) is integrated and supports the required functions, SAP S/4HANA Cloud Public Edition enables you to use the following key features:

Key Feature	Use
Validation of requisitions created in the external procurement system and creation of purchase requisitions	Requests that employees create in the external procurement system are validated against the respective connected system in the Central Procurement landscape before they are created in SAP S/4HANA Cloud Public Edition (acting as a hub system) and then forwarded to the connected system.
Approval process	The approval step for requisitions created in the external procurement system can be performed in SAP S/4HANA Cloud Public Edition (acting as a hub system).
Transparency of documents in SAP S/4HANA Cloud Public Edition	The numbers of the purchase requisitions created in SAP S/4HANA Cloud Public Edition (acting as the hub system) and of the follow-on documents (reservations, purchase orders, goods receipts, invoices) created in the connected systems are transferred to the external procurement system to provide transparency to the employees who created the original requisitions.
Creation of central purchase contracts or purchase orders based on awards from the external procurement system	Bidding and awarding for materials can take place in the external procurement system (for example, SAP Ariba Sourcing). For bids that have been awarded in the external procurement system, central supplier quotations and central purchase contracts or purchase orders are automatically created in SAP S/4HANA Cloud Public Edition (acting as a hub system) or in the connected systems.
Creation of purchase contracts initiated from an external procurement system through the Central Procurement hub system	Contracts created in the external procurement system (for example, SAP Ariba) initiate the creation of a central purchase contract in the Central Procurement landscape, that is, SAP S/4HANA Cloud Public Edition (acting as a hub system). Once the central purchase contract is released and approved, purchase contracts are in turn created in the corresponding connected systems. When the central purchase contract is approved in SAP S/4HANA Cloud Public Edition, this status change can be transferred to SAP Ariba.
Creation of order confirmations for centrally managed purchase orders.	Order confirmations can be created by suppliers in the SAP Business Network for centrally managed purchase orders. These order confirmations are transferred back to the hub system and further to the connected system

3.16.11 Integration of Invoice Processing with Optical Character Recognition (OCR) Programs

> ⓘ Note
>
> The below mentioned feature for OCR programs is only available for customers who have licensed this feature including maintenance for this feature before January 01, 2021.
>
> For further information, please contact your SAP Account Executive.

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with OCR programs (currently OpenText) to enable processing of invoices that were converted from picture files into a structured format.

Key Features

If an OCR program (for example, invoice processing by OpenText) is integrated and supports the required functions, SAP S/4HANA Cloud Public Edition enables you to use the following key feature:

Key Feature	Use
Uploading invoice documents	Supplier invoices can be created from data files that were uploaded by an optical character recognition program (currently OpenText).

3.16.12 Integration with an External Invoice Processing System

Business Background

SAP S/4HANA Cloud Public Edition supports the integration with an external invoice processing system (currently SAP Ariba Central Invoice Management).

Key Features

If an external invoice processing system (currently SAP Ariba Central Invoice Management) is integrated and supports data handling, SAP S/4HANA Cloud Public Edition enables you to use the following key feature:

Key Feature	Use
Transferring invoice data	You use this feature for the mutual transfer of invoice data that takes place between an SAP S/4HANA Cloud Public Edition system and an external invoice processing system.

3.17 Supply Chain

3.17.1 Order Promising

3.17.1.1 Available to Promise

Business Background

Internal sales representatives and order fulfillment managers require mechanisms to configure, execute, and monitor availability checks and optimize the distribution of supply. This is important when the availability of materials needed to confirm requirements is limited.

You can use the available-to-promise (ATP) capabilities to confirm on which date and in which quantity a requirement can be fulfilled.

Key Features

The following features are available:

Key Feature	Use
Availability Check	You can use this feature to determine on which date and in which quantity a requirement can be confirmed, based on a specified checking rule and the current supply situation for a specific material. The availability check takes concurrent requirements of differing types and their respective confirmation situation into consideration.
Backorder Processing	You can use this feature to re-prioritize sales orders and stock transport orders and perform automated mass availability checks to ensure that a limited supply of material is distributed in accordance with a specific strategy. Optionally, your system assigns specific supply elements to the individual requirements. You can monitor the check results and, if necessary, re-run the check to improve the confirmations for the requirements.

Additional Information

For information about the key features for the solution capability Advanced Available to Promise, see Advanced Available-to-Promise [page 267].

3.17.1.2 Advanced Available-to-Promise

Business Background

Internal sales representatives, order fulfillment managers, and order fulfillment specialists require mechanisms to configure, execute, and monitor availability checks and optimize the distribution of supply. This is important when the availability of materials needed to confirm requirements is limited.

You can use the advanced Available-to-Promise (aATP) capabilities to confirm on which date and in which quantity a requirement can be fulfilled. With scheduling, you can plan dates (and times) of logistical activities of different business processes. The calculated dates are returned to your business documents.

Key Features

The following table explains the key features available:

Key Feature	Use
Alternative-Based Confirmation	When creating and changing sales orders, you can use this feature to replace the originally requested delivering plant, storage location, or product for a requirement with a substitute delivering plant, storage location, or product: • Substitution is executed inline and at subitem level for delivering plants. • Substitution is executed at subitem level only for storage locations and products, and for third-party substitutions. Furthermore, you can define the subitem to which open remaining quantity is to be assigned when a full confirmation cannot be generated and, to enable the generation of a confirmation, you can define a numeric relationship for converting requested product quantities into substituting product quantities dynamically. Substitutes and, where relevant, numeric relationship data for quantity conversion are displayed during sales order processing and in the results of backorder processing runs. You can also prioritize the determination of substitutes based on different combinations of characteristic values for sales orders using extensibility options. In addition, during the availability check, you can automatically initiate the processing of sales order items by third-party suppliers using a specific substitution strategy. Substitutes with a valid source of supply are determined, and corresponding subitems for third-party processing are created in the sales order. You can also modify the list of substitutes determined using extensibility options.

Key Feature	Use
Product Allocation	You can use this feature to allocate material quantities for a specific time period and to a combination of characteristic values for sales orders, stock transport orders, and scheduling agreements against which availability checks can be run. You can monitor the product allocation situation for product allocation objects, allocation periods, characteristic value combinations, and order items during a specific time period. Using the displayed data, you can take action to optimize the overall product allocation situation.
Release for Delivery	You can use this feature to manually reprioritize due sales orders and stock transport orders to ensure that a limited supply of material is distributed in accordance with a dedicated strategy and available supply. After reprioritization, you can trigger subsequent logistics processes.
Supply Protection	You can use this feature to plan quantities for defined protection groups that can't be consumed by less important demand elements (sales orders, stock transport orders, and so on). The availability check considers the quantities protected by supply protection and reduces the available quantity for demand elements not matching with the protection group of a supply protection object. Demand elements matching with a protection group don't have to respect these restrictions.
Activity Attributes for Business Process Scheduling	You can use this feature to determine durations and working times for logistical activities within certain characteristic combinations. These values are considered for scheduling with Business Process Scheduling. This feature is available for sales documents and stock transport orders.
Review Scheduling Result for Business Process Scheduling	You can use this feature to review the scheduling results for sales orders and sales quotations. It includes information about the scheduling schema, scheduling activities and their attributes.

Additional Information

For information about the key features for the solution capability Available-to-Promise, see Available to Promise [page 266].

For information about the key features for the solution capability *Business Process Scheduling*, see Business Process Scheduling [page 275].

3.17.3 Inventory

Business Background

Inventory covers the following tasks:

- Management and optimization (that is, the recording and tracking) of stocks of materials on a quantity and value basis
- Planning, entry, and documentation of stock movements such as goods receipts, goods issues, physical stock transfers, and transfer postings on daily basis
- Performance of physical inventory (stocktaking) and stock adjustments on periodical basis
- Creating and managing of reservations at plant level, storage location level, or batch level to ensure the availability of materials for planned goods movements
- Optimized data entry supported by barcode scanning (for example, external scanner, device camera)

Inventory is mainly performed by employees managing the company's stocks at plant and storage location level.

Key Features

The following tables explain the key features available:

Goods Movement

Key Feature	Use
Posting goods movements	Even in a computer-supported inventory management system, the accepted accounting principle of no posting without a document applies. According to the document principle, a document must be generated and stored in the system for every transaction/event that causes a change in stock. This feature allows you to post, for example, the following goods movements by generating corresponding material documents: • Initial entry of stock balances An operation performed once at the start of the productive life of the system in which physical stocks on hand or book inventory balances from a legacy system are recorded as opening book balances. • Goods receipts A goods movement with which the receipt of goods from various sources is posted: from a supplier, from production or even goods without any reference to a previous document. A goods receipt leads to an increase in warehouse stock. • Goods issues A goods movement with which a material withdrawal or material issue, a material consumption, or a shipment of goods to a customer is posted. A goods issue leads to a reduction in warehouse stock. • Transfer posting Stock transfers from one storage location to another storage location as well as changes in stock type or stock category of a material. It is irrelevant whether the posting occurs in conjunction with a physical movement or not. Stock transfers can occur either within the same plant or between two plants. • Scrapping A posting in the inventory management system made if a material can no longer be used. • Return delivery A delivery returning goods to the supplier for some reason (for example, due to poor quality or because they are damaged), even if the goods receipt has already been posted. If the supplier sends a substitute delivery,

Key Feature	Use
	the return delivery can be referenced to the goods receipt.
Reporting	The reporting feature includes a range of functions and reports that provide extensive information on all materials and their stock data: • Generating lists of material documents by means of various search criteria • Displaying single material documents • Displaying basic information of existing batches • Evaluating total stocks of given materials at plant and storage location level • Evaluating stocks that are located in a plant's stock in transit • Analyzing average stock value and inventory turnover within a specific time period • Analyzing the goods movements • Displaying single physical inventory documents • Identifying overdue stock transfers • Identifying overdue materials that were already posted into the non-valuated goods receipt (GR) blocked stock • Identifying slow or non-moving materials • Identifying dead stock
Displaying price change documents	This feature allows you to display price change documents that specify the valuation price of materials.
Reservations	This feature enables you to make a request to the warehouse to keep materials ready for withdrawal at a later date and for a certain purpose. The purpose of a reservation is to ensure that a material will be available when it is needed. This simplifies and accelerates the goods movements process. A reservation for goods issue can be requested by various departments for various account assignment objects (such as cost center, order, asset, etc.). A reservation can be taken into account by material requirements planning, which means that required materials are procured in time if they are out of stock.

Inventory Analytics and Control

Key Feature	Use
Analyzing and evaluating inventory management Key Performance Indicators (KPIs)	You have various options for analyzing and evaluating inventory management processes based on, for example, stock value by stock type, warehouse throughput history, or overdue materials. In addition, you can monitor KPIs effectively to ensure forecast and inventory accuracy in a timely manner and visualize this in a meaningful way. You can identify critical KPIs to monitor the inventory flow or investigate potential problems.
Analyzing stock differences	You can analyze and monitor goods movement postings for one or more materials in a defined date range: • Display of stock quantities and values on the defined analytical start and end date • Comprehensive analysis of all goods movements • Option to run an immediate background job on material stocks and material postings
Ensuring forecast and inventory accuracy	You have various options for collecting and evaluating data in order to create business inventory analytics as well as to derive trends and provide recommendations for senior management. You can, for example, monitor stock aging in order to potentially adjust inventory levels to minimize fixed capital.
Analysis on transfer posting	You can get an overview of the overdue materials for which a stock transport order has been created.
Monitoring and adjusting inventory process tasks	You have various options for monitoring and adjusting inventory processes supporting day–to–day tasks based on, for example, recent inventory counts, warehouse throughput history, or outbound delivery lists.

Physical Inventory

Key Feature	Use
Physical inventory / inventory count and adjustment	This feature allows you to perform the periodic process of making necessary adjustments to stock on hand after a physical count. The benefits are: • Transparent view on the stocks currently available • Efficient processing of inventory adjustments (including initial counts and recounts) • Device integration for physical inventory counting; for example, by using barcode scanner The process begins with the generation of the required inventory count sheets. Materials can be blocked here for posting during the physical inventory. Once the inventory sheets are printed out, the actual physical inventory count is realized for the given materials. Afterwards, the count result is entered in the system and then any discrepancies against the system quantities are reviewed. The inventory may be recounted until final counts are accepted and inventory differences are posted.

3.17.4 Logistics Cross Topics

3.17.4.1 Handling Unit Management

Business Background

Handling Unit Management (HUM) supports you in reflecting packing-based logistics structures in the SAP system. Using this method, you can track the movements of entire handling units and the materials they contain, rather than tracking each material individually. When you base logistics processes on handling units, goods movements processing is made easier, which in turn optimizes all logistics operations.

Key Features

The following table explains the key features available:

Key Feature	Use
Manage Handling Units	A handling unit is a physical unit consisting of packaging materials and the products contained in it. A handling unit is a combination of products and packaging materials. All the information contained in the product items is retained in the handling units and is always available. A handling unit has a unique, scannable identification number that you can construct according to different requirements.
Manage Packaging Material	Packaging materials are intended to enclose or hold together the materials that are to be packed. In other words, the material that is to be packed can be packed into or onto the packaging material. The packaging material can be a load carrier. The most important packaging materials include boxes, wire baskets, and pallets.
Manage Handling Unit Identification	In a customer system, a handling unit is identified uniquely across all locations. The uniqueness of handling unit numbers is ensured by using the following number range objects: • Internal Numbering • Serial Shipping Container Codes (SSCC) • Global Transport Label (GTL)
Manage Packing Instructions	Customers often specify precisely the quantity in which their goods should be packed in a specific combination of packaging materials. These requirements for specific packing procedures often cause considerable costs for the supplier of the products concerned. Packing instructions enable the supplier to automate the packing process. Depending on specific characteristics, the system creates proposals for handling units based on the previously defined packing instructions. Based on this proposal, the supplier can pack the materials according to customer requirements, and then create the HU in the system.
Monitor Handling Units	You can get an overview of handling units (HUs) created in your plant, warehouse, and storage location and directly monitor all HU-relevant information.

Key Feature	Use
Output Processing	Output Management for Handling Unit Management supports you in fulfilling certain printing standard requirements: • HU Shipping Label is a printout to support the shipping process of a delivery. • HU Shipping Label is a special printout to support the automotive industry with unique global transport labels. • HU Label is a printout which includes the HU number and the packaging material.

3.17.4.2 Business Process Scheduling

Business Background

Scheduling allows you to plan dates (and times) for logistical activities of different business processes. The calculated dates are returned to your business documents. High scheduling precision allows you to optimize the way you use your resources.

Key Features

The following table explains the key features available:

Key Feature	Use
Define scheduling schemas	You can use this feature to configure your own scheduling schema with the logistical activities it consists of. For each logistical activity you can determine the source for the attributes calendar, duration, and time zone, which Business Process Scheduling considers for scheduling.
Define time granularity	You can use this feature to determine whether scheduling is performed with time granularity in days or seconds.
Consider working times when scheduling with time granularity in days	You can use this feature to consider the working times and durations in hours for one scheduling activity in your business process when scheduling with time granularity in days. For the other activities, only the factory calendar (working days) and duration in days are considered for scheduling.

For information about the key features for the solution capability *Advanced Business Process Scheduling*, see Advanced Available-to-Promise [page 267].

3.17.5 Warehousing

3.17.5.1 Warehouse Management

Business Background

Warehouse Management provides support with and real-time transparency into managing and processing material movements flexibly in a warehouse with its own stock.

Key Features

The following table explains the key features available:

Key Feature	Use
Warehouse Structure	Warehouse Management (WM) supports you from the very beginning, starting with configuring your warehouse, as follows: • You define the warehouse number that identifies the warehouse. • You define storage types • You define the units of measure, and number ranges to be used in the warehouse. • You can create storage bins • You can use storage sections to group storage bins • You can use storage bin types to further classify storage bins • You can define staging areas • You can define activity areas and assign bins to them • You can define work centers for your warehouse You can assign your warehouse number to multiple storage locations.
Warehouse Products	You can define and maintain warehouse-specific attributes for your products. You can assign the following: • Putaway and removal strategies • Storage section strategies • Profiles, such as serial number profiles

Key Feature	Use
Inventory Management	You can map your warehouse in the system. This gives you an overview of the total quantity of each product in the warehouse. You can also always see exactly where a specific product is, at any time, in your warehouse. You can manage the product quantities in different stock categories on the following levels: • At storage bin level • On staging areas for receiving, shipping, and production supply • In handling units and nested handling units You can also store and manage batch-managed and serialized products in your warehouse. You can upload your stock from a file during your warehouse set-up.
Handling Units	A handling unit is a physical unit consisting of packaging materials (load carriers or packing material) and the goods contained in it. A handling unit is always a combination of products and packaging materials. All the information contained in the product items, for example, about batches, is retained in the handling units and is available as long as the handling unit is used in the warehouse. You can receive planned handling units from inbound deliveries. You can include shipping handling unit information in outbound deliveries. A handling unit has a unique identification number. You can nest handling units. You can attach files to handling units.
Inbound Processing	You can receive products from the following sources: • Vendors • Production • Customer returns • Other parts of your company • Customer returns that have been returned to another storage location You assign a putaway rule. You can create and confirm putaway tasks for the putaway of the products. You can define your own strategies to determine storage types, storage sections, and storage bin types. You can trigger quality checks for products received from external vendors. You can trigger quality checks for products received from production. You can trigger follow-up actions for customer returns. You can attach files to WM inbound deliveries. You can specify the serial numbers being received.

Key Feature	Use
Outbound Processing	You can pick products and send them out of your warehouse for the following scenarios: • Send ordered product to external customers, or internal customers, such as other plants • Supply products to production • Confirm stock transfer for Kanban • Return products to vendors • Supply products to internal consumers, for example, a cost center • Supply products for maintenance orders You can post goods issue for the picked products. You can post unplanned goods issue for scrapping, sampling, stock correction, moving stock to a new storage location, or consumption. You assign a stock removal rule. You can define your own removal strategies to determine the most suitable source bin to pick from. You can configure the stock determination. You can attach files to WM outbound delivery orders. You can set up the automatic creation of warehouse tasks for picking at defined time intervals. You can combine or split warehouse request items into waves. You can specify the serial numbers being picked or shipped.
Cross-Process Functions	You can configure and assign rules to bundle warehouse tasks into warehouse orders. You can use layout-oriented storage control to use intermediate bins. You can perform ABC analysis to analyze confirmed warehouse tasks and update your putaway strategies. You can create your own exception codes to handle exceptions during warehouse task processing. You can define queues to group warehouse orders and specify how queues are assigned.

Key Feature	Use
Internal Warehouse Movements	You can plan, create and confirm tasks for moving products to different areas inside the warehouse. You can perform ad-hoc internal warehouse movements from the warehouse monitor. You can also repack stock in the warehouse, for example, splitting a pallet into two pallets or adding a product to another pallet. You can replenish stock from reserve areas to fill up your storage bins on a regular basis. You can schedule this replenishment on a regular basis, and perform replenishment based on orders.
Posting Changes	You can change stock attributes, for example, by posting free stock into quality stock or blocked stock. You can post from vendor consignment stock to your own stock. You can schedule posting changes on a regular basis.
Physical Inventory	You can plan, conduct, and confirm regular counts of actual product quantities in the warehouse and compare the physical stock to the data in the system. For example, cycle counting or a scheduled yearly count. You define tolerances for posting differences in physical inventory Following the count, you can update the data for the stock in the case of differences between the quantity of physical stock and the quantity in the system.
Warehouse Monitor	You can use the warehouse monitor to keep constantly up-to-date as to the current situation in the warehouse, and to initiate appropriate responses to situations that arise. The warehouse management monitor gives you full transparency about the following attributes of your warehouse: • Warehouse activities • Stock and bins, including fixed bins • Executed movements • Planned movements • Inbound deliveries • Outbound deliveries • Products in the warehouse • Preallocated stock • Resources and queues The warehouse monitor also contains alert monitoring capabilities, which highlight actual and potential problematic situations in the warehouse.

Key Feature	Use
Mobile Warehousing	You can use mobile radio frequency devices to perform warehouse operations, such as putaway, picking, packing, or counting physical inventory. You can use queues or single warehouse documents as a basis for your mobile warehouse operations. You can configure verification controls to determine the fields to be scanned during mobile operations.
Integration with Transportation Management	**Advanced Shipping and Receiving** You can integrate shipping-and-receiving processes with Transportation Management. Advanced shipping and receiving is an integrated, end-to-end process that allows you to send products out of your warehouse and transport them. You can coordinate the outbound process from the arrival of trucks at the gate to the final goods issue in the warehouse. You can also coordinate the inbound process from the arrival of trucks at the gate to the final putaway of goods in the warehouse.
Production Integration	**Advanced Production Integration** You can integrate the supply of products to production from your warehouse. The staging and consumption of products for production can be managed in a flexible way.
Analytics	You can get an overview and specific insights into daily operations in your warehouse.
Connecting to External Warehouse Control Systems	You can transmit open warehouse tasks to a non-SAP system for processing and confirm them in Warehouse Management.

3.17.5.2 Basic Integration with an External Warehouse Management System

Business Background

SAP S/4HANA Cloud Public Edition supports an integration scenario for logistics execution processes with an external warehouse management on premise system, that is, SAP Extended Warehouse Management (SAP EWM) as of Release 9.5 Feature Pack 02.

Key Features

The following table explains the key features available:

Key Feature	Use
Transfer of master data	You can use this feature to transfer warehouse-relevant master data (for example, material, customer, supplier) from the SAP S/4HANA Cloud Public Edition system to your external warehouse management system.
Integration of inbound processing (goods receipt)	This feature supports the inbound process from procurement, stock transport order, or from customer returns. When you create a goods receipt in your external warehouse management system the data is transferred to the SAP S/4HANA Cloud Public Edition system for further processing.
Integration of outbound processing (goods issue)	This feature supports the goods issue from sales process or from stock transport order process. You can create a delivery in your SAP S/4HANA Cloud Public Edition system and transfer it to your external warehouse management system for further processing.
Integration of production (production supply and goods receipt from production)	This feature supports the delivery-based production process. Production supply: You can create an outbound delivery from production in SAP S/4HANA Cloud Public Edition. The outbound delivery is transferred to your external warehouse management system for further processing. Goods receipt from production: When you create a goods receipt in your external warehouse management system, the data is transferred to the SAP S/4HANA Cloud Public Edition system for further processing.

3.17.6 Delivery and Transportation

3.17.6.1 Delivery Management

Business Background

Delivery management is an important part of the logistics chain in which guaranteed customer service and distribution planning support play major roles. In delivery processing, all delivery procedure decisions can be made at the start of the process by doing the following:

- Taking into account general business agreements with your customer
- Recording special material requests

- Defining shipping conditions in the sales order

The result is an efficient and largely automatic shipping process in which manual changes are only necessary under certain circumstances.

Key Features

The following features support you to perform your tasks:

Key Feature	Use
Inbound Delivery Processing	The inbound delivery process starts when the goods are staged at the supplier's shipping point, and it ends when the ship-to party posts a goods receipt for the delivered items. After a purchase order or a scheduling agreement has been created, a goods receiving point is determined. You can then create an inbound delivery manually. If necessary, you can reverse a goods receipt.
Outbound Deliveries	You can create outbound deliveries from a list of sales documents by manually starting a collective run or by scheduling a job to run in the background. You can also display logs with information related to your sales orders or deliveries. Additionally, a pick list can be automatically printed in the background and you can use this list to help you locate and pick goods for your delivery. Depending on the current goods issue status, you can either post or reverse the goods issue. If the entries in the list have a different goods issue status, you can still select them for posting or for goods issue reversal. The system keeps track of which entries are candidates for which action and applies the respective actions only on the list entries with a status that matches the particular action. You can analyze outbound delivery logs, that is, you can check the system messages that have been logged during the collective creation run of the outbound deliveries, either with or without success. In case of a failed delivery, it is up to you to correct the issues that are mentioned in the log and then create a new delivery for the respective sales order. For each delivery log, you can look up the messages that the system has logged during the creation run. These messages can be related to a sales order, an individual delivery item, or to a delivery as a whole. You can also find out the numbers of the deliveries that the system has created.

3.17.6.2 Transportation Management

Business Background

Transportation Management (TM) supports transportation planning and execution in SAP S/4HANA Cloud Public Edition. Order- or delivery-based transportation demands (freight units) are built considering transportation constraints, such as freight unit building rules.

The freight units can either be sent to a decentral transportation planning system or can be planned in SAP S/4HANA Cloud Public Edition:

- If planning is performed in a decentral transportation planning system, the planning result is received in SAP S/4HANA Cloud Public Edition from the decentral system as freight orders.
- If planning is performed in SAP S/4HANA Cloud Public Edition, you can create freight orders and freight bookings based on freight units using the transportation cockpit. Alternatively, you can create freight orders and freight bookings in the list views of the corresponding apps and assign freight units directly in the business document.
- For transportation mode *Sea*, you can create ocean freight bookings to consolidate the freight units into container items for full container loads (FCL) or without container items for less than container loads (LCL). For the container items, you can create freight orders for pick-up or delivery to transport the containers to and from a port.
- For transportation mode *Air*, you can create air freight bookings to consolidate loose cargo. You can create freight orders for pick-up or delivery to transport goods to and from the airports of departure and destination.

These scenarios support freight units based on sales orders, purchase orders, stock transport orders, deliveries, and customer returns.

You can trigger the creation of deliveries based on the consolidation information. You can also calculate charges based on freight agreements and confirm freight costs.

Key Features

The following table explains the key features available:

Key Feature	Use
Freight agreement management	You can use this feature to create and maintain freight agreements as the basis for calculating transportation charges billable to you by your carrier. You use freight agreements, along with calculation sheets, rate tables (both kinds of rate table, including local rate tables), and scales, to efficiently manage long-term contracts with your carriers.
Creation of central rate tables	You can create and edit rates centrally in rate tables for transportation charges that are frequently needed in freight agreements. You can then use these rate tables in contracts with multiple carriers.

Key Feature	Use
Master data and transportation network	You can use preconfigured truck types, railcar types, and container types provided in the system. You can also define your own equipment types for these categories. You can use these equipment types in road freight orders, rail freight orders, and ocean freight bookings. Note that you cannot use container types in air freight bookings. You can use preferred equipment groups and types to automatically create local items, such as container items, in capacity documents during planning. You can create entries for commodity codes and assign the commodity codes to products. You can create and use central master data such as business partners and products for transportation-related processes. In addition, you can use transportation-specific data such as locations to set up your transportation network.
Creation of freight units	When a sales order, purchase order, stock transport order, delivery, or customer return is saved, the freight units are created automatically. You can predefine the relevance of sales orders, purchase orders, or deliveries for transportation planning as well as freight unit building rules.
Monitoring of freight units	You can display and check the freight units that have been created during sales order, purchase order, or delivery creation.
Creation of freight orders and freight bookings	You can create freight orders and freight bookings based on freight units or freight unit groups using manual planning in the transportation cockpit. Manual planning also takes into account your settings in your planning profiles and subprofiles. For road freight orders, automatic determination of dates and times is supported.
Transfer of freight units to a decentral transportation planning system	You can use this feature to transfer the freight units that have been created to a decentral transportation planning system.
Receipt of freight orders from a decentral transportation planning system	You can use this feature to receive the freight orders that have been created based on the transferred freight units from a decentral transportation planning system.
Creating, editing, and monitoring of freight orders	You can display and check the freight orders that have been received from a decentral transportation planning system. You can make changes to these freight orders, such as assigning and unassigning freight units and adjusting charge calculation. The changes are then transferred to the decentral transportation planning system again. Furthermore, you can create, edit, cancel, set statuses, and monitor the execution of freight orders. When the freight order is ready for transportation execution, the system automatically creates consignment orders. In the outbound process, the system sends an advanced shipping notification based on a consignment order after goods issue has been posted for the assigned deliveries. You can also post accruals for each of the invoicing carriers in a rail freight order, where you have a different invoicing carrier for each stage.

Key Feature	Use
Creating, editing, and monitoring of freight bookings	You can create, edit, cancel, set statuses, and monitor the execution of freight bookings.
Creation of container items for freight orders and ocean freight bookings	You can create container items and consolidate freight units into containers. You can display or enter information, for example, about seals and the verified gross mass of the container.
Creation of railcar items for rail freight orders	You can create railcar items to model your railcars.
Creation of freight orders for pick-up and delivery for freight bookings	You can create freight orders for pick-up and delivery for freight bookings. For the pick-up freight orders in outbound processes, you can also use a storage location managed with Warehouse Management.
Dangerous goods checks	Dangerous goods are checked in freight orders and freight bookings.
Considering pallet spaces and loading meters	You can define a unit of measure (UoM) for pallet spaces (for example EPL) and UoM for loading meters (for example LDM). These UoMs enable you to measure transportation demands and capacities in normalized floor space in trucks.
Calculating greenhouse gas emissions	You can configure CO_2 emission parameters for your vehicle types. CO_2 emissions for road freight orders are then calculated during manual planning, and the results are reflected in the road freight order user interface and the transportation cockpit. For the calculation, a distance-weight-based calculation method is used.
Charge calculation	When receiving the freight orders from an external system or saving a freight order or freight booking, charge calculation is triggered automatically. You can also calculate the transportation charges for a freight order or freight booking manually.
Monitoring of charge calculation errors	You can monitor and prioritize charge calculation errors in freight orders or freight bookings.
Creation of deliveries	You can trigger delivery creation by the system based on freight orders or freight bookings, both for inbound and outbound processes.

Key Feature	Use
Freight cost confirmation and posting	You can confirm the transportation costs for freight orders and post the costs to Financial Accounting (FI). You can perform this as a manual action or you can use business rules to automate the action. You can monitor any errors that occur during the confirmation and posting of transportation costs. You can use precise message logging and reporting at the level of freight document and carrier or service provider. You can reprocess freight orders that contain errors to complete the posting. This becomes the basis for processing invoices for the freight order. For rail freight orders, you can post freight settlements at stage level. The system distributes freight costs at the level of order and delivery item in the freight order. The system posts the costs in a material valuation in an inbound process, or in an expense account in an outbound process. You can review the relevant freight cost allocation document. The system automatically releases the freight cost allocation document to accounting. In special cases, you can manually release the freight cost allocation document. You can confirm and post accruals for freight costs that arise from ocean and air freight bookings. You can post allocated freight costs in the context of an advanced intercompany sales process and an advanced intercompany stock transfer process. Note: The handling of Incoterms is harmonized between Sales, Sourcing and Procurement, Logistics Execution, and TM. You can use different Incoterm versions and a second Incoterm location in TM.
Freight invoicing	You can add an independent charge for a freight document and carrier or service provider combination, after you have verified an invoice. You can create and verify invoices from your carrier or service provider. Your carrier or service provider can use an electronic business-to-business (B2B) message to submit an invoice to you, the shipper. You can process unplanned freight costs for an invoice. The system automatically posts the freight cost variances during invoicing to an expense or material account depending on the business scenario.
Warehouse integration	You can integrate shipping-and-receiving processes with inventory-managed warehouses or with warehouses managed by Warehouse Management. Advanced Shipping and Receiving is an integrated, end-to-end process that allows you to send, receive, and transport products. You can coordinate the process steps, for example, from the arrival of trucks at the gate to the final goods movement in the warehouse. You can also use ocean or air scenarios based on pick-up or delivery freight orders.

Key Feature	Use
Integration of third-party warehouse management	You can integrate a third-party warehouse management system with Transportation Management. This scenario supports manual transportation planning only.
Integration of scheduling agreements	You can integrate scheduling agreements from Sales and Distribution (SD) with TM. The integration is based on delivery schedules and can be triggered by the creation or change of schedule lines.
Text integration	You can specify which texts (notes) from sales orders or purchase orders are taken over into freight units.
Enablement of stock transfer process with Warehouse Management	You can integrate WM-managed storage locations into the outbound part of your two step-stock transfer process.
Enablement of batch-managed products in freight business documents	You can display detailed batch information for batch-based products in freight business documents.
Freight cost calculation and freight settlement based on net weight	You can calculate transportation charges for freight documents based on the net weight of cargo items.
Enablement of subcontracting purchase order integration	You can integrate subcontracting purchase orders with TM. You can now plan the transportation demand based on subcontracting purchase order requirements, execute the corresponding transportation activities, and perform freight cost calculation and settlement for both outbound and inbound processes.
Enablement of customer consignment fill-up and pickup orders	You can manage the complete transportation process for customer consignment fill-up and pickup orders, including planning transportation demand and executing deliveries. You can also perform freight cost calculation and settlement.
Enablement of cross-company purchasing organization in freight documents	You can use a cross-company purchasing organization in transportation freight documents to procure transportation services within TM.
Enablement of advanced intercompany sales with Warehouse Management	You can integrate WM-managed storage locations into advanced intercompany sales ensuring that physical warehouse execution, transportation execution, and intercompany financial postings remain synchronized without manual intervention.
Enablement of advanced intercompany stock transfer with Warehouse Management	You can integrate WM-managed storage locations into advanced intercompany stock transfer ensuring that physical warehouse execution, transportation execution, and intercompany financial postings remain synchronized without manual intervention.
Enablement of sales scheduling agreements with Warehouse Management	This integration supports long-term customer supply commitments with pre-planned quantities and delivery schedules. You can efficiently perform planning, execution tracking, and freight cost settlement, also for supplying plant's outbound operations managed by Warehouse Management.

3.18 Industries

3.18.1 Public Sector

3.18.1.1 Public Sector

The following public sector-specific business processes and features for budgeting, funding, and managing grants in organizations are summarized as solutions under the Public Sector Management (PSM) umbrella.

> ⓘ Note
>
> The PSM specific features listed below are available for the United States, Canada, United Kingdom, Germany, Netherlands and Australia. For more information, please view the SAP roadmap and contact your SAP account executive.

3.18.1.1.1 Budget and Finance

3.18.1.1.1.1 Public Sector Accounting and Budget Operations

3.18.1.1.1.1.1 Budget Maintenance

Business Background

Budget maintenance enables you to organize and monitor public funds. You can upload approved budget from external sources, transfer approved budgets, for example to other projects and departments, and monitor and track changes throughout the entire budget cycle.

Key Features

The following table explains the key features available:

Key Feature	Use
Master Data	You can create master data (such as funds, cost center, budget accounts, and so on) to reflect your organizational requirements. Global hierarchies can be created using this master data, to support a budget structure for your organizational units, sources of funding and other account assignments that are used to represent and control your budget. You can use a budget address to control which of your account assignment elements become key elements in your budget process.
Upload budget data	You can upload approved budgets from external sources, such as from a budget preparation system.
Update budget data	You can use budget documents to: • Reflect the processing of approved budgets, such as transfer, supplement, and return. • Act as an audit trail, allowing you to track changes to your budgets and enter descriptions or explanations for each transfer.
Release budgets	You can control the use of available funds by releasing your budget in tranches throughout the fiscal year.

3.18.1.1.1.1.2 Budget Execution

Business Background

Budget execution enables the integration between operational processes and accounting processes by deriving public sector master data for budget consumption. Real-time budget controls help you to monitor and control funds.

It is based on a unified data storage of Public Sector Management (PSM) account assignments and attributes in the universal journal, along with financial account assignments as the basis for budget execution and reporting.

Key Features

Key Feature	Use
Joint financial and budgetary data	All financial and budgetary data is managed in a joint environment.
Budget availability checks	You can: • Monitor and compare budget values with commitment and actual budget values. • Define budget availability control checks. • Set a threshold for the available budget. • Define what happens if budget consumption reaches or exceeds this threshold.
Update operational processes that commit budget	All information that is relevant to the commit budget process is recorded, allowing you to refer back to the original business process or document, or even to a preceding step in the process that commits budget.
Update operational processes that consume budget	All accounting information that is relevant when calculating the budget consumption is recorded. This enables you to see the movement of goods, the status of invoices and payments, and to check budget availability.
Earmarked funds	You can use earmarked funds to reserve part of the available budget for expected expenditures.

3.18.1.1.1.1.3 Budget and Financial Closing and Reporting

Business Background

This process enables the planning, standardizing, scheduling, and monitoring of financial and budget closing activities.

Key Features

Key Feature	Use
Reporting	You can use reports to support the budget execution process. This means monitoring can be used to provide the following information: • Get overviews of budget maintenance, budget execution and budget availability. List the operational transactions that affect budget execution. • Display commitment and actual line items. • Compare budget lines with commitment and /or actual line items. • Display key performance indicators (KPIs) for the budget overview, budget consumption, and budget availability data.

3.18.1.1.1.1.4 Fund Accounting

Business Background

Fund Accounting enables government organizations to produce full financial statements by fund according to generally accepted accounting principles. This process is closely integrated with other processes and their respective master data.

Key Features

The following table explains the key features available:

Key Feature	Use
Fund accounting enablement	You can use Fund Accounting to: • Support full and modified accrual accounting principles according to US GASB. • Support direct method cash flow reporting. • Support balance sheet for each fund and high-level organization. • Display key performance indicators (KPIs) for fund accounting data.

Key Feature	Use

Interest apportionment	You can use interest apportionment to:
	• Define rules to manage interest apportionment from pooled fund to participating account assignments.
	• Schedule interest apportionment and:
	  • Create an interest apportionment report with daily balances, total daily balances and percentages for each participating account assignment.
	  • Post the interest apportionment from the pooled fund to destination account assignments.

3.18.1.1.2 Grants Management

3.18.1.1.2.1 Grants Management for Grantee

3.18.1.1.2.1.1 Grant Budget Management

Business Background

Grant budget management enables you to adapt a grantee's organizational structure to meet a sponsor's business requirements. This process helps users to manage grant information and provide status indicators for grant processing.

Users can maintain master data components that are used for managing, controlling, and reporting grants based on the sponsor's administration requirements.

Key Features

The following table explains the key features available:

Key Feature	Use
Master Data	You can create master data (such as grants, funds, sponsored programs, sponsored classes) to reflect your organizational needs.
Upload Budget Data	You can upload approved budgets from external sources, such as from a budget preparation system.

3.18.1.1.2.1.2 Grant Posting Control, Overhead, and Cost Sharing

Business Background

Grant posting control involves the integration of operational processes and accounting processes by deriving Grants Management master data for budget consumption. Requirements for sharing costs between a sponsor and a grantee are implemented using cost sharing rules.

It is based on a unified data storage of Grants Management account assignments and attributes in the universal journal, along with financial account assignments, which are used as the basis for budget execution and reporting.

Key Features

The following table explains the key features available:

Key Feature	Use
Joint financial and grant data	All financial and grant data is managed in a joint environment.

Key Feature	Use
Grants budget availability checks	You can: • Monitor and compare budget values with commitment and actual budget values. • Define budget availability control checks. • Set a threshold for the available budget. • Define what happens if budget consumption reaches or exceeds this threshold.
Run overhead or indirect cost calculation	Based on sponsor defined rules and guidelines, you can charge the necessary grant overhead to the sponsor by increasing the grant expense and billing it for reimbursement.
Cost share percentages in grant master data	You can define and record the cost share requirements according to the grant agreements.

3.18.1.1.2.1.3 Grant Reporting

Business Background

Grant Reporting enable you to monitor and control grant funds according to the grant's rules and guidelines and according to the sponsor perspective.

Key Features

The following table explains the key features available:

Key Feature	Use
Reporting	You can use reports to support the following grant execution processes: • Monitor all attributes for a specific sponsor or grant agreement or series of these. • Show deviations from cost share requirements in budget data and budget consumption. • Display key performance indicators (KPIs) for sponsors and grant data.

3.18.1.1.2.1.4 Grants Billing and Receivables

Business Background

Grants Billing and Receivables enables you to maintain sponsor billing methods and to ensure proper accounting and timely reimbursement.

Key Features

The following table explains the key features available:

Key Feature	Use
Manual billing	You can manually request payback to the grantee organization.
Resource-related billing	You can bill grant expenses based on consumption.

3.18.2 Banking

3.18.2.1 Accounting Enhancements for Banking

Business Background

Accounting Enhancements for Banking allows you to perform accounting tasks specifically for banks.

It extends the chart of accounts to include additional accounts that are needed for banks. Further banking-specific dimensions (such as product groups or branches) are provided on top of the standard accounting dimensions (such as cost centers or segments).

Key Features

Accounting Enhancements for Banking is based on General Ledger Accounting, which means that the features described in General Ledger Accounting [page 74] also apply to Accounting Enhancements for Banking.

> ⓘ Note
>
> However, there are some exceptions as not all features are supported for Accounting Enhancements for Banking. For more information about the restrictions, please contact your SAP Account Executive.

3.18.2.2 Average Daily Balances

Business Background

Average Daily Balances (ADB) allows banks to calculate key figures such as the month-to-date, quarter-to-date, and year-to-date average daily balances of G/L accounts in real time. You can calculate these key figures for any key date in the current fiscal year.

Key Features

The following table explains the key features available:

Key Feature	Use
Analyze ADB trial balance KPIs	You can view key figures like the month-to-date, quarter-to-date, and year-to-date average daily balances of your G/L accounts for any key date in the current fiscal year.

3.18.2.3 Error Correction and Suspense Accounting

Business Background

Error Correction and Suspense Accounting allows banks to validate data and streamline the error correction process.

Key Features

The following table explains the key features available:

Key Feature	Use
Upload journal entries	You can upload journal entries to SAP S/4HANA Cloud Public Edition through the error correction and suspense accounting (ECS) layer.
Process error documents	You can view, edit, and post error documents.

Key Feature	Use
Reverse posted documents	You can reverse an error document and the corresponding journal entries.
Reverse posting run	You can reverse the complete set of error documents and journal entries created during a posting run.

3.18.3 Insurance

3.18.3.1 Accounting Enhancements for Insurance

Business Background

Accounting Enhancements for Insurance allows you to perform accounting tasks specifically for insurers.

It extends the chart of accounts to include additional accounts that are needed for insurers. Further insurance-specific dimensions (such as product groups or branches) are provided on top of the standard accounting dimensions (such as cost centers or segments).

Key Features

Accounting Enhancements for Insurance is based on General Ledger Accounting, which means that the features described in General Ledger Accounting [page 74] also apply to Accounting Enhancements for Insurance.

> ⓘ Note
>
> However, there are some exceptions as not all features are supported for Accounting Enhancements for Insurance. For more information about the restrictions, please contact your SAP Account Executive.

3.18.4 Oil & Gas

3.18.4.1 Field Logistics

Business Background

Field Logistics helps to manage movement of products required for maintenance operations between a supplying base and a remote location. The forward scenario deals with material procurement and supply from a base location to a remote location. Returns deals with movement of items from a remote location to a base location for scenarios such as repair, recertification, scrapping, or storage.

Key Features

The following table explains the key features available:

Key Feature	Use
Field Logistics (FL) Plants	You use this feature to determine FL based plants to execute supply scenarios for FL execution and planning.
Default Supply Plant	You use this feature to determine the supplying plant for each demand plant for the supply scenarios.
Supply Process Determination	Supply processes for each remote location (demand plant) are determined by a combination of demand plant, demand plant MRP type, and supply plant MRP type.
Supplier Owned Item logistics	You use this feature to manage the forward and return logistics of rental and third party items between base and remote location.
Exchange of Supplier Items with External Systems	SAP S/4HANA Cloud Public Edition allows you to exchange supplier item data with external systems via technical interfaces.
Process Receipt for Unified Receiving of all Logistics Items	You use this feature to receive stock, non-stock, and supplier items.
Manage Container Master	You use this feature to create and display the container master data, maintain certification and rental details for a container, and modify the container master data. Additionally, you can also create and display FL package master data.
Loading in Container	You use this feature to load items in containers, assign to voyages and trigger the logistics to base and remote locations.
Supply Processing at Remote Location	You use this feature to receive and process the stock, non-stock, and supplier items sent from the base to the remote location
Returns Initiation	You use this feature to identify the items for return and initiate the returns process. The subsequent load and dispatch of the item from the remote location can also be carried out.
Returns Processing at Base Location	You use this feature to receive the returned stock, non-stock, and supplier items at the base location. It also facilitates the subsequent handling of these items.
Manage Field Logistics Voyage	You use this feature to create, display or edit a voyage. You can also maintain stages and perform actions such as dispatch, set them to arrived and print the voyage summary document.
Receipts and Returns Overview	You use this feature to be able to view overall volumes of receipts activities (including delayed or failed receipts) as well as returns activities for all logistics items: stock, non-stock, and supplier items.

Key Feature	Use
Rig to Rig Transfer for Rentals and Third-Party Items	You use this feature to trigger the execution of logistics transfer operations between remote plants based on an identified need or issue in the supply chain process.
Manage Single Plant Scenario	You use this feature to support the single plant scenario where there is only one plant that acts both as a forward operating location and a remote receiving location.
Kitting	You can use this feature to show a kit as a logical grouping of all items sourced from the base and belonging to the same maintenance order (or operation). The kit view is updated with changes to the items.
Logistics Tracking	You can use this feature to track logistics items which meet the demand originating from the maintenance orders throughout the supply and return flows. You can view the progress of stock, non-stock, and supplier items associated with a service in a pre-defined sequence of logistics milestone events. The details of the risks which occur in the logistics journey are displayed from where you can navigate to the related business documents.

3.18.4.2 Production Volume Capture

Business Background

Upstream oil and gas price list item is based on Barrel of Oil Equivalent per Day (BOEPD). The basis for BOEPD is either a customer's planned daily production or actual net daily production. Production Volume Capture provides functions to manually capture the production volumes and also to make corrections.

Key Features

The following table explains the key features available:

Key Feature	Use
Production Volume Capture	You can upload mass data of production volumes for well or well and well completion combination via technical interfaces to record and analyze production volumes of wells. You can also adjust detailed production volume data..

3.18.4.3 Mass Processing of Assets

Business Background

With the high number of assets in different lifecycle stages, Oil and Gas companies always need to manage their asset tracking records in order to report in a timely, accurate and effective manner. Mass Processing of Assets enables Oil and Gas companies to create, change, transfer, adjust, and retire multiple assets at the same time.

Key Features

The following table explains the key features available:

Key Feature	Use
Mass Processing of Assets	The feature supports you with mass processing of assets for asset data, for example mass creation, mass change or mass retirement of assets.

3.18.4.4 Asset Retirement Obligation Management

Business Background

The need for the recognition and reporting of asset retirement obligations (AROs) arises from requirements issued by Financial Accounting Standards Board (FASB), International Accounting Standards (IAS), and other standard-setting entities.

FASB Statement provides guidance for when and how to recognize a liability for AROs with the goal to establish accounting standards for recognition and measurement of a liability for an asset retirement obligation and an associated asset retirement cost.

Asset retirement obligation management helps you manage your asset retirement obligations (AROs) from an accounting point of view. The application automates the recognition and reporting of AROs and supports different accounting principles while leveraging integration with SAP S/4HANA Cloud Public Edition. The application supports relevant business transactions, such as cost estimation adjustments. It triggers the necessary postings in the general ledger, accruals, and asset accounting using accounting integration.

Key Features

The following table explains the key features available:

Key Feature	Use
Creation of Asset Retirement Obligations	You can create obligations regarding cost estimation master data.
Change of Asset Retirement Obligations	You can change obligations regarding the following details:
Display of Asset Retirement Obligations	You can use the display mode to monitor obligations.
Creation and Change of Underlying Objects	You can create, change, and delete obligations for underlying objects.

3.18.4.5 Finance for Oil and Gas

For information about Joint Venture Accounting, see *Finance* > *Advanced Accounting and Financial Close* > *Joint Venture Accounting*.

3.18.4.6 Production and Revenue Accounting

> **Note**
>
> The below mentioned features for Production and Revenue Accounting are only available for customers who have licensed these features before SAP S/4HANA Cloud 2402 including maintenance for these features. For further information, please contact your SAP Account Executive.

Business Background

Production and Revenue Accounting provides a comprehensive solution that enables Upstream Oil and Gas companies to efficiently manage their vital Revenue Accounting processes.

Key Features

The following table explains the key features available:

Key Feature	Use
Ownership	This feature manages Division Order information to provide a single source for use throughout the Revenue Accounting process, including complete tracking of owner transfers with automatic prior period notification/adjustment to revenue.
Production	This feature provides for allocation of material volumes such as oil or gas from custody transfer points and other points for measurement back to the source well completions.
Contractual Allocation and Balancing	This feature module extends the allocation of volumetric data out of Production to associated contracts and owners and provides for management of product sales imbalances between operators and working interest partners.
Valuation/Revenue Distribution	This feature derives the value-based outcomes from allocated product volumes in a sales period and allocates these values to working interest and royalty owners, posting detailed accounting entries to a common ledger. Additional features provided include: • Settlement diversity: valuation of a royalty owner on a different basis than the producer • Prior period adjustments, including re-allocation of funds due to historic owner transfers
Check Input	With this feature you can process payments received from a third party purchaser or remitter's remittance statements into the system with standardized data. This process includes support for formatting and processing inbound CDEX files.
Payment Processing	This feature provides a dedicated solution for managing payments to upstream oil and gas royalty owners, including: • Step-wise execution of the payment process to enable corrections and adjustments before final checkwrite • Payment runs at company, state, and/or owner level • Creation of CDEX outbound files for management of standard check file distribution
Account Receivable	With this feature, you can manage accounts receivable balances: • Balances are updated real time when respective Accounting Document postings take place • You can view information on current, accounting periods, and historical accounts receivable balances, create comments and categorize balances, transfer balances and write-off balances

Key Feature	Use
Production Regulatory Reporting	You can produce state/federal agency required volumetric reports based on production data.
PRA Interest Processing	PRA Interest Processing provides apps for the calculation, review, and processing of interest on late royalty payments. With this feature, you can do the following: • Review the calculated interest before posting with the summary and detail interest reports. The functionality also offers an option to auto-post based on the specified threshold amount. • Override the interest option and recalculate the interest for selected record(s), along with an option to reverse a posted interest. • Review a company level summary of the total interest paid over the last 12 months.
Tax and Royalty Compliance Reporting	You can produce state/federal agency required reports of severance taxes generated and royalty payments required based on results from the Valuation/Revenue Distribution process.
Generic Tax Reporting	With this feature, you process and generate data generically for the configured tax agency in the Process 2.0 framework. Configuration required to prime this functionality is included as part of the Best Practice for PRA.
Test Validation	Test Validation apps provide features to onboard Regression Test Scenarios from Production, Contractual Allocation (CA), and VL/RD. Test validation apps provide the ability to baseline previously allocated results and automatically compare Production, CA, and Valuation allocation results from current allocations with previously baselined results.
Valuation Prerequisite Setups	With this feature, sample state tax rates and sample state tax classification data is now available for use for various states in Revenue (valuation) processing.
Oil and Gas Scenario Masters	With this feature, demo (master) data for Oil and Gas scenarios is available for customers to validate Production, Ownership, Contractual Allocation, and Valuation functionalities.
Migration Objects	Migration objects are built for initial migration of your data to your SAP S/4HANA Cloud system. This means that you can create data with a migration object, but you can't change or update existing data with it. For the 2208 release, there are 11 new migration objects.
Delivery Network Automation	With this feature, customers can enable automated behaviors for Delivery Network (DN) processing through the stages of Production Allocation, Contractual Allocation, Valuation, and Posting. Possible automated behaviors include executing processes, evaluating run outcomes in a trial mode, and controlling next steps based on detailed automated run observations.

3.18.5 Retail

3.18.5.1 Master Data Management

Business Background

Master data is used to support operational processes in all areas of retail merchandise management business. Master data contains the most important information about sites and business partners, such as suppliers and customers, as well as about all articles.

Master data management significantly reduces the time required to perform tasks because data is proposed automatically and is based on one single source of truth. Master data objects such as assortments or product taxonomy facilitate the daily work of different retail or fashion specialists and help processes run smoothly.

Key Features

Product Data Management

Key Feature	Use
Compact product overview	• Display product master data and context information. • Navigate directly to related business objects.

Key Feature	Use

Article maintenance	• Use the article master to store data about all individual articles that a company purchases, sells, or produces.
	• Maintain article information:
	  • Descriptive information such as article description or weight
	  • Identifying information such as Global Trade Information Numbers (GTIN)
	  • Available units of measurement such as piece, carton, or pallet
	• Maintain control information that determines how articles are processed in:
	  • Logistics
	  For example, in replenishment.
	  • Sales
	  For example, selling prices and validity periods.
	  • Purchasing
	  For example, supplier relationships and purchase conditions.
	• Display information associated with articles such as stock levels or stock values.
	• Classify and structure articles according to a product taxonomy.
	• Maintain specific information for different kinds of articles, such as fresh produce and clothing.
	• Collectively maintain generic articles with many variants, for example, with different colors and sizes.
	• Maintain structured articles that consist of a specific set of individual articles, such as sales sets and displays.

Product Taxonomy Management

Key Feature	Use
Merchandise category hierarchy	• Group articles in merchandise categories according to common properties. • Apply a hierarchical structure to merchandise categories to create a merchandise category hierarchy.
Reclassification	• Move objects such as articles, merchandise categories, and merchandise category hierarchy levels in the merchandise category hierarchy structure if necessary.

Site Management

Key Feature	Use
Compact site overview	• Display site master data and context information. • Navigate directly to related business objects.

Key Feature	Use
Site maintenance	• Model an organizational unit that carries out logistical processes involving articles, such as inventory management, sales, and procurement. A site corresponds to the term location and can be either a store or a distribution center. • Enhance site master data with business partner information that is needed for a site to assume the role of a customer or a supplier in processes such as receiving, billing, and distribution.
Site classification	• Group sites to simplify the maintenance process.

Season Management

Key Feature	Use
Season management	• Use seasons for time-dependent structuring by bundling articles according to their limited product life cycle. Seasonal attributes are especially but not limited to fashion articles, for example, snow shovels are seasonal. Examples of seasons are summer, winter, and fall; however, a season can also be defined at a more detailed level, by collection or theme.

Value-Added-Services Management

Key Feature	Use
Value-added-services management	Manage value-added services that enhance the value, worth, functionality, or usefulness of ordered articles. Value-added services can be either articles or activities such as putting shirts on hangers, ironing, or labeling.

3.18.5.2 Assortment Management

Business Background

Companies strive to offer products in the right place and at the right time in order to meet consumer needs and expectations. To achieve this goal and support their retail processes, companies use assortments to model the assignments of the product mix (articles) to stores or store clusters according to aspects such as regional considerations.

Key Features

Key Feature	Use
Assortment management	• Create assortments by assigning articles and site(s) with the relevant validity periods.
Listing maintenance and analysis	• List articles as a result of maintaining assortments. The article-site-validity period combination specifies when the respective articles can be ordered by the respective stores. • View current listing conditions for a product. • Control logistical processes by using listings.

3.18.5.3 Merchandise Buying

Business Background

Retailers need to be able to source and buy merchandise and services using procurement processes and control mechanisms across the supply chain. Through effective buying processes, companies can procure goods faster and at lower cost from suppliers globally in order to:

- Contribute to the bottom line through informed negotiating, while achieving compliance and increasing automation.
- Reduce cost and react flexibly to dynamic market conditions.
- Support effective sourcing, contracts, operational buying, and management of large volumes of invoices.
- Adopt buying processes to specific merchandise and handle purchase orders efficiently and accurately.
- Increase procurement process efficiency and transparency through order consolidation.

Key Features

The following table describes how the key features available for merchandise buying can be used.

Key Feature	Use
Purchase order processing	The specific use cases in retail processes are: • Create purchase orders for single articles, generic articles together with variants, structured articles with sub-items. • Provide variant quantities easily and conveniently in a variant matrix. • Review information about season assignment, value-added services, and related retail allocations and promotions.

Key Feature	Use

Collective purchase order management	• Collect and consolidate multiple store orders into a single purchase order for external suppliers to:
	  • Eliminate inefficient manual procurement activities associated with large numbers of individual orders.
	  • Speed up supply chain processes from supplier to warehouse to retail location.
	• Combine the requirements of recipients that may exist as warehouse orders to create a single order for a supplier (pull process).
	• Use distribution data for a collective purchase order to control and monitor the distribution of merchandise to recipients.

3.18.5.4 Replenishment Planning

Business Background

Companies often face the challenge of having to deliver optimized quantities of merchandise to a large number of stores on a regular basis. Replenishment is a pull process that ensures stores are efficiently stocked with merchandise. It involves calculating the optimal procurement dates and quantities for re-orderable items to meet consumer demand. Supplies may be sourced from either a distribution center or an external supplier. Demand is typically forecasted using historical consumption data, with additional factors such as current stock situation, planned goods receipts, and target stock quantities influencing the calculation. Once the required quantities and dates are determined, replenishment triggers the creation of purchase requisitions.

Key Features

Key Feature	Use
Replenishment planning	• Perform replenishment planning for the entire set or a selected subset of assortments in a stores. • Utilize forecasted data, stock levels, open purchase orders, and supplier information to accurately determine the required quantities and procurement dates • Create the respective purchase requisitions • Monitor the execution of replenishment planning and review the generated procurement documents. • Use order proposals as the basis for creating purchase orders for external suppliers.

3.18.5.5 Inventory Management

Business Background

Companies need to manage inventory, that is, the quantities and the value information for articles carried at sites need to be managed across many locations and channels. Goods movements need to be reflected in inventory, such as an increase in inventory when a goods receipt is posted or a decrease in inventory when a goods issue for a sales transaction is posted. Physical inventory supports the processes of counting article quantities and posting the resulting adjustments. The transparency of inventory information is crucial to the success of any company with retail processes.

A sales order represents an agreement between a retailer and a customer concerning the sale and delivery of goods. Sales order fulfillment comprises the follow-on processes in the supply chain that result in the handover of merchandise to a customer and is completed by the billing process.

Key Features

The following table describes how the key features available for omnichannel inventory and order management can be used.

Key Feature	Use
Inventory management	The specific use cases in retail processes are: • Review stock for generic articles with variants. • Review inventory values at retail price.
Goods receipt	The specific use cases in retail processes are: • Enter quantities for variants of generic articles using a matrix. • Consider tied empties, for example, bottles and crates, during goods receipt. • Optionally explode structured articles such as displays at goods receipt into their individual components (often used during in-store goods receipt)
Supplier consignment	The specific use cases in retail processes are: • Define the consignment control for an article for each site, for example, distribution centers and stores, independently of each another. • Automatically convert goods that are to be transferred from a site's consignment stock to a site's own stock. • Transfer goods from a consignment stock to other sites and retain the consignment stock category.

Key Feature	Use
Inventory valuation	The specific use cases in retail processes are: • Enable valuation at retail price in parallel in one currency. • Automatically valuate all goods movements at retail based on the material ledger and post physical inventory differences at retail. • Automate revaluation of inventory at retail if sales prices are recalculated for inventory management.
Merchandise distribution	• Plan, control, and manage the flow of merchandise from suppliers to distribution centers and then on to stores. • Carry out cross-docking in the distribution center using pull processes through collective purchase orders to move the merchandise through the distribution center more quickly, thereby reducing the costs for processing and storage. • At goods receipt, automatically or manually adjust the distribution data to correspond with the quantities actually delivered and then distribute the merchandise among the recipients.
Order management	The specific use cases in retail processes are: • Create and maintain sales orders for single articles, generic articles along with variants, structured articles with sub-items. • Provide variant quantities easily and conveniently in a variant matrix. • Review and change season assignments and/or value-added services.

3.18.5.6 Retail Price Management

Business Background

A key aspect of how retailers address the market is the price strategy. That is, sales prices are planned based on various factors such as purchasing prices and margin goals, taking into consideration what consumers are willing to pay for products in stores or through non-store channels. Once a price strategy has been defined, it needs to be implemented, for example, by making the relevant sales prices available to stores and all other sales channels.

Key Features

The following table describes how the key features available for retail price management can be used.

Key Feature	Use
Retail price planning	• Define retail sales prices for articles at the level of sales channels or sites with a validity period based on strategies such as planned markups on procurement prices. • Recalculate and maintain retail sales prices based on changes in influencing factors, such as purchase price adjustments or the need to comply with a new business strategy.

3.18.5.7 Promotion Management

Business Background

Retail promotions are marketing activities targeted at consumers and used by retailers over a limited timeframe to increase customer retention and boost sales volumes.

Effective promotion planning and management allows companies with retail processes to adjust price schedules to match customer and market needs that vary with channel and location.

Key Features

The following table describes how the key features available for promotion planning and management can be used.

Key Feature	Use
Compact promotion overview	• Display promotion data and context information. • Navigate directly to related business objects.

Promotion logistics	• Create a promotion or execute promotion planning requirements for participating stores to support use cases such as:
	  • Consumer promotions designed to promote or boost sales through price deals for consumers
	  • Stock reduction strategies, for example, reduce stock levels of seasonal merchandise through attractive price deals
	  • Product launch, for example, through effective in-store presentation
	• Activate follow-on processes based on the promotion data for each specific use case.
	• Maintain and monitor planned and execution data of promotions.

3.18.5.8 Store Merchandise and Inventory

Business Background

Solutions for store merchandise and inventory must let retail store associates and managers:

- Access product and inventory data from anywhere in stores and at any time.
- Improve productivity and accuracy.
- Enable customer service and inventory management.

Solution capabilities for store merchandise and inventory must provide comprehensive, role-based functionality that is easy to learn and use. Retail store associates and managers have real-time access to product and inventory data for all locations in the area, from desktops, laptops, and mobile devices. Companies can increase workforce efficiency, improve store performance, and increase store sales, shopper loyalty, and customer and employee satisfaction.

Key Features

Store Merchandise and Inventory

Key Feature	Use
Store assignment	• Create and view store assignments for your own user and other users.
Store monitoring	• Monitor and analyze key KPIs of a store.
Product lookup	• Access real-time product, promotions, and stock information. • View style, color, or size variants of products. • Check product availability in nearby stores.
Stock adjustment	• Perform regular and reason-triggered stock counting in stores for different storage locations. • Adjust the stock of multiple products for different reasons such as shrinkage or spoilage.
Product ordering	• Order products by reviewing order proposals. • Order products ad hoc when standing in front of the shelf.
Product and stock transfer	• Transfer products from one store to another store or from a store to a distribution center. • Pack products in separate boxes for a transfer.
Handling of received products	• Post receiving for goods from internal and external suppliers. • Support trusted goods receipt and/or detailed goods receipt.

Key Feature	Use
Stock inventory count	• Perform cycle counting and zone-based physical inventory. • View stock inventory counts for monitoring purposes and approve or initiate a recount.
Label printing	• Print labels ad hoc, for example, if labels are missing or are damaged.
Online order fulfillment	• Pick products for online orders in retail stores. • Hand over products to customers in retail store or centralized collection point.
Creation of in-store sales order	• Order products for customers for immediate pickup and pickup at a later point in time. • Partial down payment through point-of-sales (POS) transaction for sales orders.

3.18.5.9 Store Connectivity

Business Background

Store connectivity includes the connection of point-of-sale (POS) or store merchandise management solutions to support the exchange of master data and transactional data.

Typically, most information about articles, prices, and promotions is maintained at the corporate headquarters and needs to be distributed to the point of sale (POS) or to store merchandise management solutions in the relevant stores. The sales and other transactions, such as financial transactions, that are performed using the local POS or store merchandise management solution need to be transferred back to the central system and processed.

Key Features

Key Feature	Use
POS inbound data	• Transfer and process transactions from POS and store merchandise management solutions, such as sales, returns, and financial postings.
POS outbound data	• Transfer information needed at POS and store merchandise management solutions in addition to article information.

3.18.5.10 Merchandise Allocation Execution

Business Background

Companies often face the challenge of having to deliver optimized quantity of merchandise to a large number of stores on a regular basis. To achieve this, automated processes can be implemented to optimize and integrate merchandise flow across the supply chain, including processes that involve third parties. One method is the push principle: An overall quantity of an article is distributed to the stores. Retail allocation is a push process whereby a retail company centrally allocates merchandise to a number of stores in order for this merchandise to be distributed.

Key Features

Key Feature	Use
Compact allocation table overview	• Display allocation table data and context information. • Navigate directly to related business objects.
Merchandise allocation execution	• Create a merchandise allocation to control which stores get which merchandise in which amount and when (push process). • Define how merchandise is distributed, for example, through a third-party process such as ordering products from suppliers or through stock reduction, that is, by using existing stock, which controls further process steps in the supply chain. • Generate follow-on documents, for example, purchase orders and stock transfer orders. • Move merchandise to stores. • Base merchandise allocation optionally on promotions.

3.18.5.11 Integration with Other SAP Products

Business Background

SAP S/4HANA Cloud Public Edition supports integration with other SAP products to deliver an end-to-end, omnichannel retail experience. Modern retail businesses operate across multiple channels including physical stores, e-commerce platforms, mobile applications, and beyond. To remain competitive, retailers require a

unified, intelligent, and real-time connected ecosystem to seamlessly manage pricing, promotions, point-of-sale transactions, and sales audit trails.

Integration with SAP Omnichannel Promotion Pricing

Key Feature	Use
Consistent application of pricing across systems	• During sales order entry, instantly identifying applicable promotions, discounts or free items. • During sales order save, active promotions are automatically determined and applied directly to the pricing. For example, the system can automatically create new lines for "Buy One, Get One" items or reduce the price of specific items or the total amount based on the promotion rules.

Integration with SAP Omnichannel Sales Transfer and Audit

Key Feature	Use
Optimized sales data validation	• Capture every POS transaction from in-store sales channels. • Trigger of error identifications for timely manual intervention as needed.
Automated audit processing	• Identify and resolve data gaps, duplicates, inconsistent totals, and configuration mismatches. • Monitor real-time store sales data.
Scalable retail operations foundation	Format validated sales, financial, and totals transactions for downstream ERP systems.

Integration with SAP Customer Checkout, Cloud Edition

Key Feature	Use
Standardized integration for master data, pricing inventory and financial settlement	• Centralized master data and price management. • Ensure accurate inventory and faster reconciliation with compliant POS sales and return capture and near-real-time posting. • Store day-end closing and tender reconciliation aligned with SAP S/4HANA Cloud Public Edition for finance.

3.19 Country/Region Availability

The features listed in the lines of business mentioned above are available for the countries/regions listed below.

> **Note**
>
> However, there are some exceptions as not all features are provided for each and every country/region. For more information about restrictions for certain countries/regions, please contact your SAP Account Executive.

- Argentina
- Australia
- Austria
- Belgium
- Brazil
- Bulgaria
- Canada
- Chile
- China
- Colombia
- Croatia
- Czech Republic
- Denmark
- Egypt
- Finland
- France
- Germany
- Greece
- Hong Kong
- Hungary
- India
- Indonesia
- Ireland
- Israel
- Italy
- Japan
- Kazakhstan
- Kuwait
- Luxembourg
- Malaysia
- Mexico
- Netherlands
- New Zealand

- Norway
- Oman
- Peru
- Philippines
- Poland
- Portugal
- Qatar
- Romania
- Russia
- Saudi Arabia
- Serbia
- Singapore
- Slovakia
- Slovenia
- South Africa
- South Korea
- Spain
- Sweden
- Switzerland
- Taiwan
- Thailand
- Turkey
- Ukraine
- United Arab Emirates
- United Kingdom
- United States
- Vietnam

4 Security Aspects

Security has always been an important element for the complete product life cycle of all SAP products, including product development, planning, and quality assurance. Like the other SAP products, SAP S/4HANA Cloud Public Edition was designed to fulfill the highest security standards.

SAP takes care of some of the security focus areas, while others have to be handled by you:

Security Focus Areas Handled by SAP

- Application-specific virus scans
- Data storage security
- Security-relevant logging and tracing
- Internet communication framework security
- Security aspects of data, data flow and processes
- Security patching

Security Focus Areas Handled by the Customer

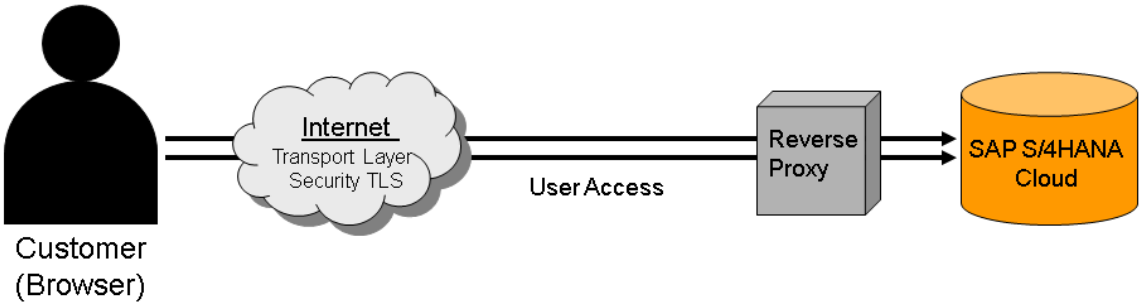
- User administration and authentication
- Authorizations
- Protection of personal data
- Session security protection
- Certificate trust lists
- Clickjacking protection
- Security for additional applications

4.1 Technical System Landscape

SAP S/4HANA Cloud Public Edition deals with business data from your core business processes. So, SAP is committed to the highest security and quality requirements:

- The business data is stored in data centers reflecting highest security standards.
- Data residing in the SAP HANA database is encrypted at rest with state-of-the art encryption keys.
- Customers may access SAP S/4HANA Cloud Public Edition from any network with internet access via encrypted (HTTPS) browser communication. Data-in-transit is encrypted using state-of-the-art TLS settings.
- Customers may share physical hardware, but their data is always kept well-separated into logical tenants.
- Users who require access to the business data must authenticate themselves, and their identity must be verified by user and access management.
- Customer data always belongs to the customer.

Customers may access SAP S/4HANA Cloud Public Edition by browser from any network with internet access. The following diagram summarizes the technical system landscape for standard user access:



System Landscape

Communications between customer browser and the system landscapes of SAP S/4HANA Cloud Public Edition are secured by industry best practices and state-of-the-art open cryptographic standards. Customers use a unique, customer-specific URL. Communication is carried out via the Reverse Proxy (RP) component. The Reverse Proxy is the SAP Web Dispatcher, which is developed and maintained by SAP. The communication channels are secured by using Transport Layer Security (TLS) protocols. For standard users the only way of authentication is SAML 2.0 assertions (SSO), based on SAP Cloud Identity.

4.2 Security of Data Centers and External Auditing

SAP follows operating best practices for data centers by deploying computation and storage parts of the solution over separated fire-safe areas to support disaster recovery in the event of a fire.

For data backup and recovery purposes, a redundant hardware storage system performs regular backups. To provide enhanced data integrity, SAP S/4HANA Cloud Public Edition uses an advanced database management solution to store customer data and securely isolate each customer's business information in its own database instance.

Data centers used by SAP maintain multiple connections to several power companies, making a complete power outage highly unlikely. Even if the local power grid were to fail, the data centers supporting SAP S/4HANA Cloud Public Edition have an uninterruptible power supply for short-term outages, and a diesel generator backup power supply for longer-term outages. Therefore, power interruptions or outages are unlikely to affect customer data or solution access.

Data centers used by SAP are logically separated and staffed around the clock, 365 days a year. A security system permits access only to authorized personnel, and the data centers are partitioned such that authorized personnel can access only their designated areas.

Network for SAP S/4HANA Cloud Public Edition

The network for SAP S/4HANA Cloud Public Edition employs a number of security technologies. The multilayered, partitioned, proprietary network architecture permits only authorized access to the data centers that support SAP S/4HANA Cloud Public Edition with features that include:

- A Web dispatcher farm that hides the network topology from the outside world
- Multiple Internet connections to minimize the impact of distributed denial-of-service (DDoS) attacks
- Layered security measures that continuously monitors solution traffic for possible attacks
- Multiple firewalls that divide the network into protected segments and shield the internal network from unauthorized Internet traffic
- Third-party audits performed throughout the year to support early detection of any newly introduced security issues

SAP is committed to third-party validations, standards, and certifications of the policies and procedures we use to maintain our customers' security, privacy and data integrity. SAP maintains several certifications and accreditations to ensure that we provide the highest standards of service and reliability to our customers. SAP will continue efforts to obtain the strictest of industry certifications in order to verify its commitment to provide secure and reliable services.

4.3 Secure Communication

Secure communication is required in all integration scenarios that connect SAP S/4HANA Cloud Public Edition to other systems.

When establishing the secure communication, the external system must prove its identity using a server certificate that is signed by a trusted certificate authority (CA).

A list of all root CAs approved by SAP Global Security is available in SAP Note 2801396 (SAP Global Trust List).

Inbound Integration

In integration scenarios from a customer system to SAP S/4HANA Cloud Public Edition (inbound integration), the customer system must use a client certificate signed by an appropriate certification authority (CA).

Outbound Integration

Outbound integration scenarios may include the communication between SAP S/4HANA Cloud Public Edition and:

- other SAP cloud systems
- customer on-premise systems
- third party systems (cloud, non-cloud)

For secure communication to SAP-owned systems and services, SAP S/4HANA Cloud contains a preconfigured list of trusted CAs (marked as *Managed By SAP*, not changeable by customers).

For integration to non-SAP systems, the customer can maintain the list of trusted CAs (*Managed By Customer*).

4.4 Data Protection

Business Background

Data protection is associated with numerous legal requirements and privacy concerns. In addition to compliance with general data protection acts, it is necessary to consider compliance with industry-specific legislation in different countries/regions. SAP provides specific features and functions to support compliance with the relevant legal requirements and data protection, for example, functions are available for various applications that simplify the blocking and deletion of personal data.

> ⓘ Note
>
> Compliance with data protection law depends on organizational and technical measures.
>
> SAP software supports data protection by providing security features and specific data protection-relevant functions such as functions for the simplified blocking and deletion of personal data. SAP does not provide legal advice in any form. The definitions and other terms used in this document are not taken from any given legal source.
>
> The management of data in an extension scenario deviates from the management of data in the standard scenarios. You are responsible for ensuring that the data used in an extension scenario is managed in accordance with any applicable legal requirements or business needs, such as data protection legislation or data life cycle requirements. Please note that the extensibility framework is currently not integrated in the privacy-by-default functionality. Therefore, the extensibility framework should not be used for the processing of personal data if this processing falls under any applicable data protection legislation.

Please consider that SAP's responsibility for the usage of personal data of SAP as a data processor ends as soon as personal data is in any form extracted or transmitted or transferred manually or via technical interfaces to third-party products outside SAP's cloud services. In such an integration scenario, the customer is responsible for ensuring data protection compliance of these products.

Key Features

The following table explains the key features available:

Key Feature	Use
Separation of business partner master data based on data controllers	Provides clarity about who is organizationally responsible and authorized to deal with a set of data.
Deletion and blocking: End of purpose check	Determines whether data is still relevant for business activities based on the residence period defined for the data.
Deletion and blocking: Blocking of data	Prevents the business users of SAP applications from displaying and using data that may include personal data and is no longer relevant for business activities. Only users with special authorization can display blocked data; they are not authorized, however, to create, change, or copy business objects with blocked data, or perform follow-on activities with these business objects.
Monitoring and logging data access	You can use read access logging (RAL) to monitor and log access to personal data. The information provided may include, for example, which business users accessed business partner personal data, and in which time frame. Logging happens, for example, for fields related to bank accounts, credit cards, social security number. Default RAL configurations are generally delivered for various applications. By default, RAL is deactivated but can be activated by the user.
Tracing changes of business objects	Many business objects are changed frequently. Sometimes it is necessary to trace the changes that have been made. If changes are logged, you can analyze in change documents what has been changed, when, and how. This analysis can be used for errors as well as for auditing purposes.
Information Retrieval	Supports the data subject's right to get information about their data that is being processed.
ILM Business Rule Creation	Simplifies the process of defining residence and retention rules for your ILM objects.
Consent Administration	Provides functions to import consent records as copies and to search for and display stored consent records.

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