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⚠️ Caution

Make sure you have the latest version of this document. You can find the latest version at the following location: https://help.sap.com/s4hana_ce_1905

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

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>2019-05-06</td>
<td>First version</td>
</tr>
</tbody>
</table>
1  SAP S/4HANA Cloud - Feature Scope Description

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

SAP S/4HANA Cloud is fully built on the in-memory platform SAP HANA. Using the advanced potential of SAP HANA, SAP S/4HANA Cloud 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 is also already connected to business networks and company-internal collaboration networks (for example, SAP Jam Collaboration) 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 is available as software-as-a-service.
2 About this document

This feature scope description will show you which features, product documentation, and services are available for SAP S/4HANA Cloud.

Product documentation

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

- This feature scope description
- Configuration information available in the app Manage Your Cloud Solution under Configure Your Solution.

**Note**

If you need further configuration than available in Configure Your Solution, please contact SAP for consulting and support. This service might be subject to a fee.

- 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 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.
- You might need an additional license for other products.

For further information, please contact your SAP Account Executive.
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 What's New

This section gives you an overview of the new features available as of SAP S/4HANA Cloud 1905. The following table describes what is new, enhanced, changed or deleted:

<table>
<thead>
<tr>
<th>Status</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>New countries available: Portugal, Russia</td>
</tr>
</tbody>
</table>


4 SAP S/4HANA Cloud

4.1 Generic Information

4.1.1 Functions for Implementing SAP S/4HANA Cloud Solutions

Business Background

SAP S/4HANA Cloud offers you an assisted way to implement business processes in your SAP S/4HANA Cloud system. Besides exploring the solution scope and configuring the solution, you can test your business processes and perform data migration for a solution.

Key Features

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explore the solution scope</td>
<td>Users can display the selected business processes of the solution and display information about the functional scope of each business process.</td>
</tr>
<tr>
<td>Configure the solution scope</td>
<td>Key users can adjust the business configuration for a pre-configured solution by viewing and adjusting basic configuration settings using configuration activities. They can also add customer-specific business processes and activities.</td>
</tr>
<tr>
<td>Test the business processes</td>
<td>Testers and key users can test the business configuration by using test runs for process-oriented tests, including changing master data for test runs and documenting test runs. Key users can also author the test processes.</td>
</tr>
<tr>
<td>Data Migration</td>
<td>Key users can start and execute data migration using pre-defined migration objects and can get overviews and statuses for their migration projects.</td>
</tr>
<tr>
<td>Feature Management</td>
<td>After an upgrade, selected new features are available in deactivated form. 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, you can familiarize yourself with the new features first and bring them into active use at your own pace.</td>
</tr>
</tbody>
</table>
4.1.2 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

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.

4.1.3 Data Aging

Business Background

With the data aging feature, you can manage the lifecycle of current and historical data.

i Note

This feature is currently available only for a few data aging objects.

Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing historical data</td>
<td>Data aging offers the option of moving large amounts of data within a database to gain more working memory. With this, you can manage current and historical data using the data aging framework.</td>
</tr>
</tbody>
</table>
4.1.4 Output Control

Business Background

SAP S/4HANA output control enables business applications to perform all output-related tasks.

Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Channels</td>
<td>• Printer - cloud-enabled using print queues/cloud printing manager</td>
</tr>
<tr>
<td></td>
<td>• Email - allows flexible configuration of sender and recipients</td>
</tr>
<tr>
<td></td>
<td>• EDI - Electronic Data Interchange</td>
</tr>
<tr>
<td>Attachments</td>
<td>Printing attachments and sending attachments via email.</td>
</tr>
<tr>
<td>Forms</td>
<td>Forms are using SAP Cloud Platform Forms by Adobe.</td>
</tr>
<tr>
<td>Master Form Templates</td>
<td>Allow flexible branding of print forms by separating static layout parts such as header, footer, or logos from the application content.</td>
</tr>
<tr>
<td>Email Templates</td>
<td>Allow predefining email subject and email body, including variables for dynamic content.</td>
</tr>
<tr>
<td>Output Parameter Determination</td>
<td>Allows sending multiple messages to multiple recipients using multiple channels at the same time.</td>
</tr>
<tr>
<td></td>
<td>Flexible definition of business rules without the need for implementation.</td>
</tr>
<tr>
<td></td>
<td>Easily extensible with SAP standard fields and customer fields.</td>
</tr>
<tr>
<td>Manage Output Items</td>
<td>Central overview of outputs sent via various channels and their status. View and process multiple outputs at the same time.</td>
</tr>
</tbody>
</table>
4.1.5 Manage Teams and Responsibilities

Business Background

This feature enables you to group responsible members, who perform specific functions in a business process, as a team. You can refer to these teams, members, and functions in frameworks, such as workflows or situation handling as 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain team owners</td>
<td>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.</td>
</tr>
<tr>
<td>Maintain teams</td>
<td>Create, edit, delete, and copy team information</td>
</tr>
<tr>
<td>Manage team members</td>
<td>Add members to, or remove them from, a team</td>
</tr>
<tr>
<td>Assign functions to team members</td>
<td>Add or remove functions that a team member can use</td>
</tr>
<tr>
<td>Maintain responsibility definitions for teams</td>
<td>Add values to responsibility definitions created for teams</td>
</tr>
<tr>
<td>Change log</td>
<td>See details (old and new values) about the changes made to a team definition</td>
</tr>
</tbody>
</table>

4.1.6 Business Event Handling

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

Business Background

Business event handling enables applications, partners, and customers to consume events related to all S/4HANA business objects.
In addition, you can view and manage subscriptions, read outbound queues, and view business events.

### Key Features

The following table explains the key features that are available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>View Subscription</td>
<td>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.</td>
</tr>
<tr>
<td>Manage Subscription</td>
<td>You use this feature to create, update, and delete already subscriptions.</td>
</tr>
<tr>
<td>Read Outbound Queue</td>
<td>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.</td>
</tr>
<tr>
<td>View Business Events</td>
<td>You use this feature to view the number of events that are raised for a particular business object.</td>
</tr>
</tbody>
</table>

### 4.1.7 Enterprise Event Enablement

#### Business Background

The enterprise event enablement framework enables the exchange of events across different platforms for seamless event-driven communication.

#### Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check Connection</td>
<td>You use this feature to test the connection between SAP S/4HANA Cloud and SAP Cloud Platform Cloud Foundry.</td>
</tr>
</tbody>
</table>
4.1.8 Situation Handling

Business Background

Situation handling brings urgent matters to the attention of specific groups of users who can then react immediately to the notifications they receive. This not only speeds up the handling of specific situations in your company but also supports the optimization of your business processes.

Key Features

This table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy and adapt situation types</td>
<td>Create ready-to-use situation types that can be adapted to your requirements.</td>
</tr>
<tr>
<td>Adapt conditions</td>
<td>Adapt conditions based on which situations occur.</td>
</tr>
<tr>
<td>Edit texts</td>
<td>Edit the texts for situations that are displayed to the end user.</td>
</tr>
<tr>
<td>Define notification recipients</td>
<td>Select teams, functions, and other attributes by using integrated responsibility management to define who receives certain notifications.</td>
</tr>
<tr>
<td>Monitor status of situation instances</td>
<td>Monitor the handling of situation instances that occur in your company.</td>
</tr>
</tbody>
</table>

Example

Situation handling enables your end users to focus on specific circumstances or business situations. For example, the end users get a heads-up about upcoming deadlines, receive warnings on delays, or are informed about tasks need to be followed-up on as soon as possible.

4.1.9 Released ABAP Artifacts

Business Background

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

This table explains the available key features:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details about whitelisted artifacts</td>
<td>You use this feature to see the documentation and application components of whitelisted 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.</td>
</tr>
</tbody>
</table>

4.1.10 License Compliance Digital Access

Business Background

With the introduction of the new license model for SAP S/4HANA Cloud, customers can subscribe to the SAP S/4HANA Cloud Digital Access Enablement Package for documents. This enables the creation of unique records in Cloud Services by non-SAP technologies (including bots, IoT devices and sensors, intelligent devices, third-party systems, and apps developed by customers or partners).

To provide transparency about the actual usage, the Digital Access application for License Compliance shows the number of documents that have been created in the current license period.

Key Features

This table explains the key features that are available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entitlement of the license</td>
<td>See the entitlement of the Digital Access license for the respective license period</td>
</tr>
<tr>
<td>Consumption of the license</td>
<td>See the actual, real-time consumption of the license. This number is calculated for the entitlement. For each document type, you can see the number of created document items and the weighted count.</td>
</tr>
<tr>
<td>Metered data view</td>
<td>See metered data for a document created on a particular date</td>
</tr>
<tr>
<td>Detailed metered data</td>
<td>See active and deleted metered data instances for a document created on a particular date</td>
</tr>
</tbody>
</table>
4.1.11 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explore extensibility options based on solution scope and scope items</td>
<td>Identify the technical artifacts of a business context that are enabled for extensibility</td>
</tr>
<tr>
<td>View details of extensible objects for a business context</td>
<td>Create in-app extensions (custom fields and business logic) or side-by-side extensions using information from the cockpit</td>
</tr>
<tr>
<td>View the capacity usage of a business context</td>
<td>Identify the available capacity to carry out structural enhancements for a business context</td>
</tr>
<tr>
<td>Change the appearance of a result list on all screens</td>
<td>Refine and reorder extensibility data for a better display</td>
</tr>
<tr>
<td>Search for extensible objects</td>
<td>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</td>
</tr>
</tbody>
</table>

4.1.12 CDS View-Based Replication

Business Background

With CDS View-Based Replication for SAP S/4HANA Cloud, users can replicate data from an SAP S/4HANA Cloud (source) to the SAP Cloud Platform HANA system (target) based on released CDS views.
Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reuse Data Model</td>
<td>Reuse one data model for multiple cases, which ensures consistent behavior between the source and target system.</td>
</tr>
<tr>
<td>Design-Time Tools</td>
<td>Make use of the design-time tools, including calculation views, predictive analytics, and graph engine.</td>
</tr>
<tr>
<td>Identical Data Stacks</td>
<td>Identical data stacks in the source and target system thanks to automated near real-time data replication.</td>
</tr>
<tr>
<td>Data Integration Scenarios</td>
<td>Deploy various data integration scenarios, including side-by-side extension and data-mart scenarios. You can also integrate your own data from third-party applications, and build new ones.</td>
</tr>
<tr>
<td>Reliable Data Interface</td>
<td>Reliable, semantically-rich data interface.</td>
</tr>
<tr>
<td>Data Replication</td>
<td>Full data availability and near real-time replication in the SAP HANA target system.</td>
</tr>
</tbody>
</table>

4.1.13 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.

Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Search</td>
<td>This feature enables you to search for different business objects and apps from the Fiori Launchpad and start the apps directly from the search results. The apps are a separate entity which performs tasks that are part of business processes.</td>
</tr>
<tr>
<td>Personalized Search</td>
<td>Using this feature, you can enable or disable the tracking of a user’s search activities. The search data is retained in the database. This data can be used for user specific ranking of search results in the Enterprise Search.</td>
</tr>
</tbody>
</table>
4.2 Analytics

4.2.1 Analytical Tools

Business Background

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

Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPI Visualization</td>
<td>You can visualize and comprehend data from different virtual data models that represent different business areas. You can configure business metrics, interpret and interact with your data in real-time; visualize and analyze the data. This data analysis will help in accurate decision-making. You can create KPI groups, KPIs, and drill-downs.</td>
</tr>
<tr>
<td>Report Visualization</td>
<td>You can create reports for the same KPIs. These reports helps you to dwelve deeper into the business metrics, performances, and you can drill down into the areas that need improvement. You can create reports and configure drill-downs</td>
</tr>
</tbody>
</table>
4.2.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>View Browser</td>
<td>With this feature, you can search, browse, and tag analytical and non-analytical queries.</td>
</tr>
<tr>
<td>Date Function</td>
<td>This feature enables you to create date functions that can be used by other apps to calculate single dates and date ranges.</td>
</tr>
<tr>
<td>Custom Analytical Queries</td>
<td>This feature enables you to maintain queries as the prerequisite for multidimensional apps based on those queries.</td>
</tr>
<tr>
<td>Create Tile for Analytic Cloud Story</td>
<td>This feature enables you to create tiles on the SAP Fiori Launchpad that directly launch Analytical Cloud Stories in a connected SAP Analytics Cloud tenant.</td>
</tr>
<tr>
<td>Query Browser</td>
<td>With this feature, you can search, browse, and tag only authorized analytical queries. You can view only authorized SAP released analytical queries and authorized customized analytical queries.</td>
</tr>
</tbody>
</table>

4.2.3 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configure APF-based apps</td>
<td>You can use this feature to build and enhance interactive analytical web applications.</td>
</tr>
<tr>
<td>Execute APF-based apps</td>
<td>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.</td>
</tr>
</tbody>
</table>

4.2.4 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.

i 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
</table>
| 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.                                                                 |
| 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. SAP S/4HANA Cloud provides an interface through which you can also integrate predictive use cases from another system, currently SAP Analytics Cloud Smart Predict. |

4.3 Asset Management

4.3.1 Plant Maintenance

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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
</table>
| 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. |
| 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. |
Key Feature | Use
--- | ---
**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.

---

### 4.4 Finance

#### 4.4.1 Cost Management and Profitability Analysis

##### 4.4.1.1 Overhead Cost Accounting

**Business Background**

This application area covers the journal entries for Overhead Cost 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master data in cost accounting</td>
<td>You can create various types of master data, such as</td>
</tr>
<tr>
<td></td>
<td>● Cost centers</td>
</tr>
<tr>
<td></td>
<td>● Cost center groups</td>
</tr>
<tr>
<td></td>
<td>● Activity types</td>
</tr>
<tr>
<td></td>
<td>● Activity type groups</td>
</tr>
<tr>
<td></td>
<td>● Statistical key figures</td>
</tr>
<tr>
<td></td>
<td>● Statistical key figure groups</td>
</tr>
<tr>
<td>Activity prices</td>
<td>You can enter activity prices for any combination of cost center and activity type. Activity prices are needed to provide the charge basis for the internal activities.</td>
</tr>
<tr>
<td>Statistical key figures</td>
<td>You can enter statistical key figures, which serve as a basis for internal allocations.</td>
</tr>
<tr>
<td>Overhead allocation between cost centers</td>
<td>You can allocate costs between cost centers, which is a typical task during the monthly closing process.</td>
</tr>
<tr>
<td>Reporting</td>
<td>You can report on actual and plan data for selected periods for the following objects:</td>
</tr>
<tr>
<td></td>
<td>● cost centers</td>
</tr>
<tr>
<td></td>
<td>● market segments</td>
</tr>
<tr>
<td></td>
<td>● P&amp;L statements</td>
</tr>
<tr>
<td></td>
<td>● functional areas</td>
</tr>
<tr>
<td></td>
<td>● profit centers</td>
</tr>
<tr>
<td></td>
<td>● projects</td>
</tr>
</tbody>
</table>

### 4.4.1.2 Profitability and Cost Analysis

#### Business Background

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

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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real-time profitability</td>
<td>We provide real-time 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.</td>
</tr>
<tr>
<td>Profitability reporting based on journal entries</td>
<td>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.</td>
</tr>
<tr>
<td>Event-based revenue recognition</td>
<td>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.</td>
</tr>
</tbody>
</table>
| 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. |
### Key Feature

| 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 simulated invoices and goods issues using sales order data. The extension of predictive accounting 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. |
| Realignment with master data | The market segment attributes for postings related to customer projects are usually derived in real time, 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. |
| Real-time work in process (WIP) | Shows real-time WIP information from the make-to-stock production process, with production orders and process orders, in discrete manufacturing. Enables you to settle real-time business results during the production process. |

### 4.4.1.3 Budget Availability Control

#### Business Background

You can control the budgets in your projects and cost centers. When you post an expense, the available budget is checked. When the budget consumption reaches a defined limit, either a warning or an error message appears.
Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget Availability Control Profile</td>
<td>You use this feature to create a budget availability control profile and specify budget tolerance limits for it. If the budget consumption reaches these tolerance limits, either a warning or an error message appears.</td>
</tr>
</tbody>
</table>

4.4.2 Accounting and Financial Close

4.4.2.1 Financial Accounting

4.4.2.1.1 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:

<table>
<thead>
<tr>
<th>Function</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Data</td>
<td>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&amp;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.</td>
</tr>
<tr>
<td>Postings and Journal Entries</td>
<td>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.</td>
</tr>
</tbody>
</table>
### Closing Operations and Reporting

For closing operations at period-end closing, you can use the programs available for analyzing, valuating, and reclassifying journal entries.

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).

There are different programs available for sales/purchases tax declarations and tax payable postings.

SAP recommends using only certified providers for the external tax calculation process.

**Note**

The internal tax calculation in SAP S/4HANA Cloud, 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 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. Under this arrangement, tax calculation and tax reporting are performed by your tax partner.

#### 4.4.2.1.2 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 28].

Key Features

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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Data</td>
<td>Using the asset master record, you can create, edit, and manage the master data of Asset Accounting.</td>
</tr>
</tbody>
</table>
| 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.                                                                     |

4.4.2.1.3 Inventory Accounting

Business Background

You use Inventory Accounting 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, real-time 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 statutory requirements such as Lowest Value or FIFO, or product cost management requirements such as standard costing.

**Key Features**

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic valuation of material inventories</td>
<td>Valuation of material inventories in multiple currencies in parallel</td>
</tr>
<tr>
<td>Optional price controls for materials</td>
<td>Perpetual valuation of material inventories and movements at standard cost or moving average</td>
</tr>
<tr>
<td>High throughput of logistics data</td>
<td>Manage high logistics data volumes</td>
</tr>
<tr>
<td>Manual adjustments to material costs and inventory values</td>
<td>Adjust material costs and inventory values manually</td>
</tr>
<tr>
<td>Periodic valuation of material inventories</td>
<td>Valuation of material inventories according to statutory or product cost management requirements</td>
</tr>
<tr>
<td>Analyze inventory values</td>
<td>Real-time line item reports aggregated to inventory positions on the fly, with drilldown capabilities</td>
</tr>
</tbody>
</table>

**4.4.2.1.4 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event-Based Revenue Recognition</td>
<td>Event-based revenue recognition posts recognized revenue for every cost posting on customer projects and sell-from-stock orders.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Contract-Based Revenue Recognition</td>
<td>Contract-based revenue recognition creates revenue contracts corresponding to provider contracts, that are created in Contract Accounting and Invoicing.</td>
</tr>
<tr>
<td></td>
<td>You can identify the performance obligations included in each revenue contract based on the items in the provider contract.</td>
</tr>
<tr>
<td></td>
<td>You can determine the total price by aggregating the pricing conditions and then allocating the total price among the performance obligations based on the standalone selling price.</td>
</tr>
<tr>
<td></td>
<td>The revenue for performance obligations is recognized as they are fulfilled over time.</td>
</tr>
<tr>
<td></td>
<td>You calculate contract liability and contract asset values and make postings to the general ledger to reflect revenue-related recognition transactions.</td>
</tr>
</tbody>
</table>

**4.4.3 Treasury Management**

**4.4.3.1 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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Positions</td>
<td>You can use this feature to check the actual and forecasted cash positions to assist cash allocation decision-making.</td>
</tr>
<tr>
<td>Banks and House Banks</td>
<td>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.</td>
</tr>
<tr>
<td>Bank Account Master Data</td>
<td>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.</td>
</tr>
<tr>
<td>Memo Record</td>
<td>You can use this feature to create memo records manually and edit memo records in a list.</td>
</tr>
</tbody>
</table>

4.4.4 Financial Operations

4.4.4.1 Receivables Management

4.4.4.1.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring of receivables</td>
<td>You can manage receivables, display customer balances, and process individual customer items.</td>
</tr>
<tr>
<td>Clearing of open items</td>
<td>You can post incoming payments, manage down payment requests, clear open items manually, and reprocess bank statement items.</td>
</tr>
</tbody>
</table>
4.4.4.1.2 Credit Management

Business Background

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

Key Features

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit Check</td>
<td>You can assign credit limits to credit accounts. The system can automatically check incoming sales orders against these credit limits.</td>
</tr>
</tbody>
</table>

4.4.4.2 Invoice Management

4.4.4.2.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import of supplier invoices</td>
<td>You use this feature to import multiple supplier invoices all at once.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Analysis of payments to suppliers</td>
<td>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.</td>
</tr>
<tr>
<td>Management of cash discounts</td>
<td>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.</td>
</tr>
<tr>
<td>Clearing of open items</td>
<td>You can post outgoing payments, manage down payment requests, and clear open items manually.</td>
</tr>
<tr>
<td>Reviewing of cleared overdue invoices</td>
<td>You use this feature to get details and statistical facts about cleared overdue invoices.</td>
</tr>
<tr>
<td>Evaluation of days payable outstanding</td>
<td>You use this feature to identify suppliers with the highest or the lowest days payable outstanding.</td>
</tr>
<tr>
<td>Management of payments</td>
<td>You use this feature to create, post, and, if necessary, reverse payments.</td>
</tr>
<tr>
<td>Management of payment blocks</td>
<td>You use this feature to set and remove payment blocks on invoices or supplier accounts.</td>
</tr>
<tr>
<td>Management of payment proposals</td>
<td>You use this feature to revise and release payment proposals. Journal entries are then generated in the finance system.</td>
</tr>
<tr>
<td>Reviewing of checks</td>
<td>You use this feature to display a check from a payment run as a PDF. You can then view the check details.</td>
</tr>
<tr>
<td>Management of payment media</td>
<td>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.</td>
</tr>
</tbody>
</table>

### Related Features

For information about invoice processing in Sourcing and Procurement, choose [Sourcing and Procurement > Invoice Management > Invoice Processing](#).
4.4.4.2.2 Discount Collaboration (Business Network Integration)

Business Background

SAP S/4HANA Cloud supports the integration with business networks or external systems (currently the Ariba 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 and the business network.

If the business network or external system (for example, Ariba Network) is integrated and supports the features listed below, SAP S/4HANA Cloud 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

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

4.4.4.2.3 Payment Advice Collaboration (Business Network Integration)

Business Background

SAP S/4HANA Cloud supports the integration with business networks or external systems (currently the Ariba Network) to enable you to collaborate on payment advices with your suppliers. You can do this by exchanging messages between SAP S/4HANA Cloud and the business network or external system.
If the business network or external system (for example, the Ariba Network) is integrated and supports the features listed below, SAP S/4HANA Cloud enables you to collaborate with your suppliers by sending them payment advices via the business network or external system.

### Key Features

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment advices</td>
<td>Send payment advices to suppliers via the business network or external system.</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Monitor, troubleshoot, resend, and cancel outbound messages.</td>
</tr>
</tbody>
</table>

### 4.4.4.3 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invoice processing</td>
<td>You avoid accounting and settlement errors and delays thanks to immediate access to invoice copies.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Secure payments</th>
<th>You can better control the time of payment and manage cash flow thanks to simplified and secure processing of electronic payments.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master data management</td>
<td>You manage the master data of your accounts, including contact information, bank information, and credit cards.</td>
</tr>
<tr>
<td>Account statement monitoring</td>
<td>You view the statements for your accounts.</td>
</tr>
<tr>
<td>Account assignment</td>
<td>You define the accounts that should be assigned to each user.</td>
</tr>
<tr>
<td>Custom fields</td>
<td>You can add custom fields to meet your business needs.</td>
</tr>
<tr>
<td>Table layout customization</td>
<td>You can customize the layout of the tables to view only the columns that you need.</td>
</tr>
</tbody>
</table>

### 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
</table>
| 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

<table>
<thead>
<tr>
<th>Condition contract settlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use</td>
</tr>
<tr>
<td>Get a compact overview of settlement documents that enables the user to display settlement document information and navigate directly to the documents.</td>
</tr>
<tr>
<td>Create credit memos (settlement documents) to the customers, suppliers and external sales agents for the business volume already reached and to reverse the accruals.</td>
</tr>
<tr>
<td>Create settlement documents for each customer, supplier or external sales agent with the contract relevant revenues for condition contracts with multiple customers.</td>
</tr>
<tr>
<td>Create collective settlement documents for 2-step condition contracts.</td>
</tr>
<tr>
<td>Execute partial settlements.</td>
</tr>
<tr>
<td>Execute a final settlement.</td>
</tr>
<tr>
<td>Reverse and correct settlement documents.</td>
</tr>
<tr>
<td>Get support from notifications for scheduled jobs.</td>
</tr>
<tr>
<td>Facilitate your business processes by configuring workflows for the approval of settlement documents.</td>
</tr>
</tbody>
</table>

### Integration of Settlement Management

- SAP S/4HANA Cloud 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.
- SAP S/4HANA Cloud 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.

## 4.4.5 Governance, Risk, and Compliance for Finance

### 4.4.5.1 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 export
- Managing of licenses in accordance with legal control for export (sales orders and deliveries) and import (purchase orders)
- Managing and release of blocked legal control documents
- Managing countries 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

Integration with SAP Watch List Screening

- Integration allows to screen names and addresses for sales orders and outbound deliveries and purchase orders

4.4.5.1.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage commodity codes</td>
<td>You can manage the commodity codes that you require for your Intrastat declarations.</td>
</tr>
<tr>
<td>Classify products with commodity codes</td>
<td>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.</td>
</tr>
<tr>
<td>Reclassify products with commodity codes</td>
<td>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.</td>
</tr>
<tr>
<td>Manage Intrastat service codes</td>
<td>You can manage Intrastat service codes that you require for your Intrastat declarations.</td>
</tr>
<tr>
<td>Classify products with Intrastat service codes</td>
<td>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.</td>
</tr>
<tr>
<td>Reclassify products with Intrastat service codes</td>
<td>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.</td>
</tr>
<tr>
<td>Classify Products - Legal Control</td>
<td>You can assign control classes and control groupings time-dependently to products that have not yet been classified for legal control.</td>
</tr>
<tr>
<td>Reclassify Products - Legal Control</td>
<td>You can re-assign another control class or control grouping time-dependently to products that have already been classified for legal control.</td>
</tr>
<tr>
<td>Manage Control Classes</td>
<td>You can manage control classes to classify products for legal control later.</td>
</tr>
<tr>
<td>Manage Control Groupings</td>
<td>You can add a description to a control class and specify its validity.</td>
</tr>
<tr>
<td>Manage Control Groupings</td>
<td>You can manage control groupings to classify products for legal control later.</td>
</tr>
<tr>
<td>Manage Customs Tariff Numbers</td>
<td>You can manage the Customs Tariff Numbers that you require for your Intrastat declarations.</td>
</tr>
<tr>
<td>Classify Products - Customs Tariff Numbers</td>
<td>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.</td>
</tr>
</tbody>
</table>
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.

4.4.5.1.2 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:

- Sales Order
- Outbound Delivery
- Purchase Order
Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Licenses</td>
<td>You can manage licenses to comply with bans and restrictions against specific product/product groups for authorities.</td>
</tr>
<tr>
<td>Manage Documents – Trade Compliance</td>
<td>You can display the legal control status of documents and confirm or release Embargo blocks.</td>
</tr>
<tr>
<td>Resolve Blocked Documents – Trade Compliance</td>
<td>You can resolve legal control blocks of documents, if they are missing classification and/or Licenses.</td>
</tr>
<tr>
<td>Manage Countries under Embargo</td>
<td>You can manage countries for which there is an embargo situation.</td>
</tr>
<tr>
<td>Manage Rules for Legal Control</td>
<td>You can manage legal control rules to determine Blacklisting, Whitelisting, or License terms in a specific order. You can define these rules yourself to consider your specific requirements or specific legal requirements.</td>
</tr>
</tbody>
</table>

4.4.5.1.3 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage providers of information</td>
<td>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. You need to record the provider-of-information data of your company. In addition to general address data, the data for the provider of information includes data to identify the company for the authorities.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Intrastat declarations</td>
</tr>
</tbody>
</table>

You can record the necessary statistics data for a month in Intrastat declarations for the following types of shipments:

- Receipts to your company from other member states of the European Union
- Dispatches from your company to other member states of the European Union

<table>
<thead>
<tr>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select dispatches and customer returns for Intrastat declarations</td>
</tr>
</tbody>
</table>

You can select dispatches and customer returns based on billing documents to create data for Intrastat declarations.

<table>
<thead>
<tr>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select receipts and returns to supplier for Intrastat declarations</td>
</tr>
</tbody>
</table>

You can select receipts and returns to supplier based on purchase orders and intercompany billing documents to create data for Intrastat declarations.

### You can create Intrastat declarations for the following countries:

- AT (Austria)
- BE (Belgium)
- DE (Germany)
- DK (Denmark)
- ES (Spain)
- FI (Finland)
- FR (France)
- GB (United Kingdom)
- HU (Hungary)
- IE (Ireland)
- IT (Italy)
- LU (Luxembourg)
- NL (The Netherlands)
- PL (Poland)
- PT (Portugal)
- RO (Romania)
- SE (Sweden)

### 4.4.5.1.4 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integration with SAP Global Trade Services for Compliance Management</td>
<td>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.</td>
</tr>
<tr>
<td>Integration with SAP Global Trade Services for Customs Management</td>
<td>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. By integrating with Customs Management, no customs procedures with economic impact are supported.</td>
</tr>
<tr>
<td>Integration with SAP Global Trade Services for Preference Management</td>
<td>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.</td>
</tr>
<tr>
<td>Schedule Transfer of Master Data</td>
<td>You can schedule the transfer of the following master data for SAP Global Trade Services:</td>
</tr>
<tr>
<td></td>
<td>● Suppliers</td>
</tr>
<tr>
<td></td>
<td>● Customers</td>
</tr>
<tr>
<td></td>
<td>● Products</td>
</tr>
<tr>
<td></td>
<td>● Contact Persons</td>
</tr>
<tr>
<td></td>
<td>● Bill of Materials</td>
</tr>
<tr>
<td></td>
<td>● Procurement Indicators</td>
</tr>
<tr>
<td></td>
<td>● Product Prices</td>
</tr>
<tr>
<td></td>
<td>● Min./Max. Product Prices</td>
</tr>
<tr>
<td></td>
<td>● Customer Product Name</td>
</tr>
<tr>
<td></td>
<td>● Supplier Product Name</td>
</tr>
<tr>
<td>Assignment of Customs Offices</td>
<td>You can assign Customs Offices for use in SAP Global Trade Services to the following attributes:</td>
</tr>
<tr>
<td></td>
<td>● Routes</td>
</tr>
<tr>
<td></td>
<td>● Countries</td>
</tr>
</tbody>
</table>
4.4.5.1.5 Integration with SAP Watch List Screening

Business Background

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

With the integration, you can screen names and addresses for the following document types:

- Sales orders
- Outbound deliveries
- Purchase orders

Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule Postprocessing – Watch List Screening</td>
<td>You can schedule the postprocessing of Watch List Screening relevant documents</td>
</tr>
</tbody>
</table>

4.4.6 Integration with other SAP products in Finance

4.4.6.1 Integration with Concur Solutions

Business Background

This scenario enables you to connect your SAP S/4HANA Cloud system with your Concur solutions. The integration simplifies expense processes with regard to cost object export as well as financial posting of expense reports and cash advances.
Key Features

The following features support you with this process:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export cost object data</td>
<td>Transfer cost centers, internal orders, and project WBS (work breakdown structure) elements from your SAP S/4HANA Cloud system to your Concur system in order to assign expenses to them and to post the expense reports accordingly.</td>
</tr>
<tr>
<td>Import financial data</td>
<td>Create an expense report or cash advance in your Concur system and post the document in SAP S/4HANA Cloud with a scheduled batch job.</td>
</tr>
</tbody>
</table>

4.5 Human Resources

4.5.1 Core HR and Time Recording

4.5.1.1 Time Sheet

Business Background

Use Time Sheet to do activity-based time recording for billing and invoicing of projects assigned to you. You can also record time for non-project tasks, such as administration, training, travel time, and so on.

Key Features

The following features are available:

<table>
<thead>
<tr>
<th>Key Features</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record time</td>
<td>Navigate to the required week and create, edit, and delete time entries. You can record time against any of the Work Items assigned to a Work Package (in hours).</td>
</tr>
<tr>
<td>Key Features</td>
<td>Use</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Create a note</td>
<td>Create a note for a time entry field to specify any additional information related to the recorded time.</td>
</tr>
<tr>
<td></td>
<td>You can enter text up to 300 characters in the Timesheet note. This long text note will also be displayed in the Timesheet Approval and in the Customer Invoice.</td>
</tr>
<tr>
<td>Filter work packages</td>
<td>Perform filtering to view your required work packages and also non-project-related tasks.</td>
</tr>
<tr>
<td>Define first day of the week</td>
<td>Set any day as the first day of the week for your time recording.</td>
</tr>
<tr>
<td>Contingent worker</td>
<td>You can record time for a purchase order. You can also add a new task to the worklist.</td>
</tr>
<tr>
<td></td>
<td>When you create, update or delete time entries against a Purchase order in the Timesheet, service entry sheets are now created, updated, or deleted automatically.</td>
</tr>
<tr>
<td></td>
<td>You can now access the full end-to-end process for activity-based time recording for billing and invoicing of projects assigned to contingent workers.</td>
</tr>
<tr>
<td>Subcontractor</td>
<td>You can now record time for subcontractors (for both intra and inter company processes).</td>
</tr>
<tr>
<td>Work Location</td>
<td>As an employee or contingent worker when maintaining your time entries, you can also now maintain the specific location where you have worked.</td>
</tr>
<tr>
<td>Overtime</td>
<td>As an employee maintaining your time entries, you can also now maintain the overtime hours you have worked on a project work package.</td>
</tr>
<tr>
<td>Time Recording without staffing</td>
<td>As an employee or a contingent worker, you can also now maintain your time entries for projects that you are not staffed to. You can use the Create Tasks Unstaffed projects option to create a task using the project work package details provided by your manager and then use this task to record your time.</td>
</tr>
<tr>
<td>Key Features</td>
<td>Use</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Approve timesheets</td>
<td>You as a Project manager can now approve or reject time entries by accessing the new Approve Timesheet app, which is embedded into the unified My Inbox. You can approve or reject the timesheets of internal employees and contingent workers that are sent for approval. You can also sort, group, or filter the time entries that are sent for approval. In addition, you can also check and review the ‘Work Location’ and ‘Overtime category’ hours maintained in the timesheet entries before approving or rejecting the timesheet entries.</td>
</tr>
<tr>
<td>Missing time</td>
<td>As a Cost Accountant – Overhead, you can schedule a job for a fixed or flexible period to send e-mails to employees with missing time.</td>
</tr>
<tr>
<td></td>
<td>As a Project Manager, you can send a reminder e-mail to employees (both internal and external) who have not recorded adequate time as planned for a project.</td>
</tr>
<tr>
<td></td>
<td>You can now use the Custom email template in the Notify missing time app to define your own email reminder.</td>
</tr>
<tr>
<td>Extensibility</td>
<td>You can use the extensibility option to add the customer fields to your timesheet.</td>
</tr>
<tr>
<td></td>
<td>You can also enable the extensibility option to add the same customer fields to the My Inbox- Approve Timesheet app.</td>
</tr>
<tr>
<td></td>
<td>You can also use the extensibility option to determine the approver for all the accounting objects that are supported by the Manage my timesheet app.</td>
</tr>
<tr>
<td></td>
<td>Under Flexible time slots, earlier you can record time in minute based time slots (less than 30 minutes). Now you can record minimum timeslot of 1 minute.</td>
</tr>
<tr>
<td>Team utilization</td>
<td>You as line manager can use this feature to view the average utilization of your team and also take actions like editing the timesheet on behalf of an employee or contingent worker.</td>
</tr>
<tr>
<td>Flexible time slots</td>
<td>You can record time in minute based time slots (less than 30 minutes).</td>
</tr>
<tr>
<td>Record time on behalf</td>
<td>You as a project manager or line manager can record time on behalf of an internal employee or contingent worker.</td>
</tr>
<tr>
<td>Configure task types</td>
<td>You can now add new task types for time recording using the Self Service Configuration UI.</td>
</tr>
</tbody>
</table>
### Key Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grouping of task types</td>
<td>You can now group task types for better classification and to support easier search while recording time.</td>
</tr>
<tr>
<td>View timesheet records which are changed after approval</td>
<td>You can now see the timesheet entries, which have been changed after approval in the Timesheet.</td>
</tr>
<tr>
<td>View Deleted time entry (Zero Hours’ Time Entry)</td>
<td>As an employee, you can view the deleted/zero hour time entries which have been saved, submitted for approval or has been rejected by the Manager in the Timesheet. The zero hour time entry won’t be shown in the Timesheet calendar when this entry is approved by the Manager.</td>
</tr>
<tr>
<td>Record time for multiple active employments (Concurrent Employments)</td>
<td>As an employee, if you have more than one active employment contracts for the current period, you will now be able to select one of your active employments and record time against that employment contract.</td>
</tr>
<tr>
<td>Notifications for Rejected time entries</td>
<td>You as a consultant can now view notifications on the launchpad for the rejected time entries. You can also navigate to the timesheet by clicking on the notification to the correct and the rejected Time entry and submit it again.</td>
</tr>
</tbody>
</table>
## 4.5.1.2 Employee Connectivity

### Key Features

The following features are available:

<table>
<thead>
<tr>
<th>Key Features</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Creation</td>
<td>In S/4HANA, there are three options to create employees and/or contingent workers along with their employment data. You can create employees and contingent workers via the Import Employee app, Public Workforce Master Data API or via the replication from SuccessFactors system to S/4HANA (JB1 Scope Guide for Integration between SF and S/4HANA). Whenever an employee is created, a corresponding business partner is created with roles BUPO03 for employee or BBP005 for service performers and BBP010 for freelancers. When creating an employee (BUPO03) with an address information and payment information, then a supplier role is also created for the generated business partner. The address information in general is derived from the company code address if no address is provided during the creation of an employee.</td>
</tr>
<tr>
<td>Display log</td>
<td>If the employee creation is done via the Import Employee app and errors are appearing, then the corresponding error messages are displayed in the app Monitor Employee Imports. If errors accruing by creating the Business Partner, they can be viewed in the app Monitor Data Synchronization.</td>
</tr>
<tr>
<td>Search</td>
<td>With the employee or contingent worker search, you can search for employees or contingent workers and lookup for employee or contingent worker details in the Employee Fact-sheet.</td>
</tr>
<tr>
<td>Delete Employment Data</td>
<td>An employee’s employment data can be deleted but before you are able to delete it, you need to block the Business Partner. The success and failure messages if any is displayed accordingly.</td>
</tr>
</tbody>
</table>
4.5.2 Integration with External HR System

Business Background

SAP S/4HANA Cloud 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 enables the external HR system to provide the following key features:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee data and contingent worker data integration</td>
<td>You can integrate employee and contingent worker data like basic data and contact details from SAP SuccessFactors Employee Central to SAP S/4HANA Cloud system.</td>
</tr>
<tr>
<td>Employment data integration</td>
<td>You can integrate employment data like job title, job information, employment status from SAP SuccessFactors Employee Central to SAP S/4HANA Cloud system.</td>
</tr>
<tr>
<td>Financial data integration</td>
<td>You can also integrate financial data such as company code and cost center.</td>
</tr>
<tr>
<td>Employee photo integration</td>
<td>You can integrate employee photo from SAP SuccessFactors Employee Central to SAP S/4HANA Cloud system.</td>
</tr>
<tr>
<td>Availability integration</td>
<td>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.</td>
</tr>
</tbody>
</table>

4.6 Manufacturing

4.6.1 Production Engineering

4.6.1.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage bills of material</td>
<td>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).</td>
</tr>
<tr>
<td>Assign BOMs to plants</td>
<td>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.</td>
</tr>
<tr>
<td>Monitor multilevel BOM assignment</td>
<td>You can use a reporting function that determines all components (assemblies and individual parts) in a product and displays them per low-level code.</td>
</tr>
</tbody>
</table>
| 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. |

**4.6.1.2 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:

<table>
<thead>
<tr>
<th>Key Features</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage the objects and persons involved in the production process</td>
<td>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.</td>
</tr>
<tr>
<td>Monitor bills of material</td>
<td>You can display and monitor the following:</td>
</tr>
<tr>
<td></td>
<td>• Bills of material created by the product engineers</td>
</tr>
<tr>
<td></td>
<td>• Assignment of bills of material to plants</td>
</tr>
<tr>
<td></td>
<td>• Multilevel BOM explosion</td>
</tr>
<tr>
<td></td>
<td>• Where an object is used and the quantity that is required (Find BOM for component)</td>
</tr>
<tr>
<td>You use this information as a reference when determining the process steps for production in the routing/recipe.</td>
<td></td>
</tr>
<tr>
<td>Model the production process</td>
<td>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 data about the work centers/resources at which the operations/process steps are carried out and the BOM components that are required.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Model production versions</td>
<td>The production version determines the production techniques according to which a material is to be manufactured.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>
4.6.2 Production Planning

4.6.2.1 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 available on time and to avoid any disruptions due to missing parts.

Key Features

The following features are available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage planned independent re-</td>
<td>You can create and change planned independent requirements.</td>
</tr>
<tr>
<td>quirements</td>
<td></td>
</tr>
<tr>
<td>Perform material requirements</td>
<td>You can automate the planning of the procurement process. You can schedule your MRP runs to be executed automatically on a regular basis.</td>
</tr>
<tr>
<td>planning</td>
<td>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.</td>
</tr>
<tr>
<td>Monitor and manage supply and</td>
<td>You can monitor and adjust the current supply and demand situation using a selection of tools.</td>
</tr>
<tr>
<td>demand</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>
## Key Feature

<table>
<thead>
<tr>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>You can convert planned orders into production orders, process orders, or purchase orders.</td>
</tr>
</tbody>
</table>

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 inhouse to 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 to 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 or process orders.

You convert planned orders for materials that are to be purchased externally into purchase requisitions or purchase orders. In this case, the responsibility for the orders is passed on to the purchasing department.

## 4.6.2.2 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:

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

4.6.3 Production Operations

4.6.3.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring and adjusting the production worklist</td>
<td>You can change production orders or process orders, perform scheduling, and check component availability.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Releasing production orders/process orders</td>
<td>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.</td>
</tr>
<tr>
<td>Monitoring production execution</td>
<td>You have various options for monitoring the production progress.</td>
</tr>
<tr>
<td></td>
<td>● 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.</td>
</tr>
<tr>
<td></td>
<td>● 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.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 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. |

### 4.6.3.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring released production orders/</td>
<td>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.</td>
</tr>
<tr>
<td>process orders</td>
<td></td>
</tr>
<tr>
<td>Picking</td>
<td>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.</td>
</tr>
<tr>
<td>Confirming production</td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td>- Updates order data (quantities, activities, dates, status, for example)</td>
</tr>
<tr>
<td></td>
<td>- Backflushes material components</td>
</tr>
<tr>
<td></td>
<td>- Posts goods receipts</td>
</tr>
<tr>
<td></td>
<td>- Updates costs</td>
</tr>
<tr>
<td></td>
<td>You can cancel or partially cancel confirmations.</td>
</tr>
<tr>
<td></td>
<td>You can reprocess goods movements.</td>
</tr>
</tbody>
</table>

### 4.6.3.3 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.
The following features are available:

<table>
<thead>
<tr>
<th>Key Features</th>
<th>Use</th>
</tr>
</thead>
</table>
| 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. |

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SAP S/4HANA Cloud PUBLIC 63
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

### 4.6.3.4 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control cycle maintenance</td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td>• Kanban circulation, that is, the number of kanbans that circulate between the supply source and demand source and the material quantity per kanban.</td>
</tr>
<tr>
<td></td>
<td>• Basic data required for the automatic kanban calculation in the control cycle, if necessary.</td>
</tr>
<tr>
<td></td>
<td>• Replenishment strategy such as in-house production, external source, or stock transfer.</td>
</tr>
<tr>
<td></td>
<td>• Printing kanbans, if necessary.</td>
</tr>
<tr>
<td></td>
<td>• Delivery address, if necessary.</td>
</tr>
<tr>
<td></td>
<td>• 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).</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 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. |
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.

4.6.3.5 Outsourced Manufacturing

4.6.3.5.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
</table>
| 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**

| 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.

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**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.

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### 4.6.3.5.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning externally processed operations</td>
<td>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.</td>
</tr>
<tr>
<td>Scheduling externally processed operations</td>
<td>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.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 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 valued. 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. |
4.6.3.6  Just-In-Time (JIT) Supply to Customer from Stock

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 from Stock 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing master data of JIT-relevant customers</td>
<td>You can manage master data pertaining to JIT-relevant customers, including customer destinations, customer external statuses, and call processing information. This feature provides the following capabilities: ● Preparation and maintenance of master data for JIT-relevant customers ● Addition and maintenance of customer destinations and external status mapping ● Activation or deactivation of created or changed JIT-relevant customer master data ● Logging of changes made to each JIT-relevant customer’s master data</td>
</tr>
<tr>
<td>Managing JIT-relevant customer supply controls</td>
<td>Supply controls enable you to control the business processing of JIT calls received from customers. These controls can be at various levels, for example, at customer or customer supply area level. With this feature, you can create and manage JIT-relevant customer supply controls.</td>
</tr>
<tr>
<td>Overview of JIT calls and JIT-relevant customers</td>
<td>You can view the total number of received JIT calls or JIT-relevant customers, along with a status-wise classification of either. You can also view JIT calls classified according to their lifecycle status for ship-to parties. Alert notifications keep you informed in case of errors or warnings. You can access the details of each individual JIT call or JIT-relevant customer for further monitoring or processing.</td>
</tr>
<tr>
<td>Managing of customer JIT calls</td>
<td>You can modify JIT calls received through EDI. You can also create JIT calls manually for your customers.</td>
</tr>
</tbody>
</table>
## Key Feature

Managing package specifications for sequenced JIT calls

You can create or modify package specifications. You can also group slots in a package specification.

Creation of outbound deliveries from summarized JIT calls

This feature allows you to create outbound deliveries (including partial deliveries) from summarized JIT calls on component groups.

Creation of outbound deliveries from sequenced JIT calls

With this feature, you can create outbound deliveries from sequenced JIT calls on a package unit.

Stock availability analysis for JIT calls

Using this feature, you can view a mapping of components requested in JIT calls to the available stock. In other words, you can analyze which JIT calls from customers can or cannot be fulfilled by the available stock of components.

## 4.6.4 Quality Management

### 4.6.4.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality-related master data</td>
<td>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.</td>
</tr>
</tbody>
</table>
4.6.4.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspection planning</td>
<td>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).</td>
</tr>
<tr>
<td>Inspection lot creation</td>
<td>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.</td>
</tr>
<tr>
<td>Inspection execution</td>
<td>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.</td>
</tr>
<tr>
<td>Inspection completion</td>
<td>Once the inspection results have been recorded, the inspection lot is completed with a usage decision.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic modification of the inspection scope</td>
<td>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.</td>
</tr>
<tr>
<td>Defects recording</td>
<td>This feature allows you to manually record defects and to manage defects that were automatically recorded during the inspection process.</td>
</tr>
<tr>
<td>Quality certificates</td>
<td>You can manage quality certificates for goods receipts and for outbound deliveries.</td>
</tr>
</tbody>
</table>

### 4.6.4.3 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality notifications</td>
<td>This feature allows you to record and process complaints from customers and complaints against suppliers, and to execute the problem-solving process.</td>
</tr>
<tr>
<td>Nonconformance manage­ment</td>
<td>This feature enables you to record defects and to manage and process defects that have been recorded manually or automatically. To correct the defects and to prevent them from recurring, you can trigger and process tasks.</td>
</tr>
<tr>
<td>Quality analytics</td>
<td>You can perform different quality evaluations, for example:</td>
</tr>
<tr>
<td></td>
<td>• You can analyze inspection lots with regard to the usage decisions that have already been made.</td>
</tr>
<tr>
<td></td>
<td>• You can analyze inspection results that have been recorded for inspection characteristics.</td>
</tr>
<tr>
<td></td>
<td>• You can analyze defects (with and without assignment to a quality notification).</td>
</tr>
</tbody>
</table>
4.7 Professional Services

4.7.1 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, project managers can release billing proposals, 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.

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create customer projects</td>
<td>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.</td>
</tr>
<tr>
<td>Manage customer projects</td>
<td>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).</td>
</tr>
</tbody>
</table>

**i Note**

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

**i Note**

Staffing screens do not provide the possibility to distinguish and staff resources by their employment.
<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor customer projects</td>
<td>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.</td>
</tr>
<tr>
<td>Review customer projects</td>
<td>You can carry out monthly reviews of projects to measure progress and forecast project outcomes such as EAC and margin. You can improve the accuracy of costs at the completion of a project, with the ability to adjust estimate to complete (ETC) or deviations from planned quantities against roles and staffing. You can also simulate the effect of ETC changes on project EAC, PoC, and margin. You can manage statuses and trends, and view a historical record of statuses and trends across a project’s lifecycle.</td>
</tr>
<tr>
<td>Fixed price billing</td>
<td>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.</td>
</tr>
<tr>
<td>Periodic billing processes</td>
<td>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).</td>
</tr>
<tr>
<td>Resource-related intercompany billing</td>
<td>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 only use this process when the ordering company is in Germany and the delivering company is in the USA. You can create customer projects. You can check for intercompany sales orders in the list of sales orders. You can create and change intercompany sales orders. You can create and change debit memo requests. You can create billing documents from debit memo requests in the billing due list. You can process open customer invoices and monitor incoming payments. You can view key performance indicators (KPIs) for invoices and process invoices.</td>
</tr>
<tr>
<td>Time and material and WIP clearance bills</td>
<td>You can bill customers for the time, materials, and other expenses incurred by their projects.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>On-account billing</td>
<td>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.</td>
</tr>
</tbody>
</table>
| Release billing proposals    | You can get an overview of all the open billing proposals within the projects assigned, prepare the list of billing proposals to be released and subsequently trigger billing processes.  
A billing proposal represents a collection of billing plan items of either time and expenses, fixed-price billing type that are planned to be billed on a target billing date. One or several billing proposals of the same project can be released simultaneously to create a debit memo request for further processing and billing. |
| 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. |
| 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. |

**i Note**

Staffing screens do not provide the possibility to distinguish and staff resources by their employment.
<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatically adjust project dates while copying projects</td>
<td>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.</td>
</tr>
<tr>
<td>Automatically adjust project dates</td>
<td>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.</td>
</tr>
<tr>
<td>SAP Jam Collaboration</td>
<td>For collaboration purposes, you can use the SAP Jam social software platform. You can achieve better team engagement where all project team members can drive and coordinate planning, implementation, and project execution.</td>
</tr>
<tr>
<td>Plan revenue for expenses</td>
<td>You can plan revenue from expenses, and later on bill such expenses to clients during downstream processes.</td>
</tr>
<tr>
<td>Increased visibility of revenues as planned and revenues as sold</td>
<td>You can assess the impact of project planning on as-sold revenues, and also while making changes to project during execution.</td>
</tr>
<tr>
<td>Analyze project margins</td>
<td>Key stakeholders such as project managers or project controllers can benefit from broader coverage of project reporting, through generic reporting tools such as analysis path framework.</td>
</tr>
<tr>
<td>Enhanced extensibility of projects</td>
<td>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, using the web-based query designer.</td>
</tr>
<tr>
<td>Project plan versions</td>
<td>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.</td>
</tr>
<tr>
<td>Integration with resource management</td>
<td>During the process of planning customer or internal projects, you can create resource requests for a resource manager to act on.</td>
</tr>
<tr>
<td>Set the forecast month</td>
<td>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.</td>
</tr>
</tbody>
</table>
4.8 R&D / Engineering

4.8.1 Enterprise Portfolio and Project Management

4.8.1.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
</table>
| Maintenance of template projects | You can define a project and its related elements for operative usage. This serves 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. |


**Key Feature**

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.

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 analyses of individual actual cost postings per various criteria. A number of functions support you in analyzing line items in reporting. These include sorting, filtering, or totaling.

Monitoring project related procurements

Using project control analytics you can monitor purchase requisitions, purchase orders, and account assigned to projects or project elements.

**4.8.2 Product Structure Management**

**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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage product structure</td>
<td>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.</td>
</tr>
</tbody>
</table>

### 4.9 Sales

### 4.9.1 Order and Contract Management

### 4.9.1.1 Sales Master Data Management

#### Business Background

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

#### Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item proposal management</td>
<td>You use this feature to store frequently used combinations of materials and order quantities as item proposals. You can then retrieve all or some of the materials and quantity data from the item proposal during sales order processing.</td>
</tr>
</tbody>
</table>
4.9.1.2  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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price master data</td>
<td>You use this feature to define price master data.</td>
</tr>
<tr>
<td>Configuration of pricing</td>
<td>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.</td>
</tr>
<tr>
<td>Pricing process in business documents</td>
<td>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.</td>
</tr>
</tbody>
</table>

4.9.1.3  Sales Quotation Management

Business Background

You can create sales quotations for your customers.
**Key Features**

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales quotation processing</td>
<td>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.</td>
</tr>
<tr>
<td>Sales quotation approval processing</td>
<td>You can implement a workflow to optimize the approval process for internally-created sales quotations. All sales quotations that require approval become visible to the responsible user. Whether or not a sales quotation needs to be approved, or whether it is released automatically, depends on the settings made during the configuration process.</td>
</tr>
</tbody>
</table>

**4.9.1.4 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract processing</td>
<td>You use this feature to create, change, display, and list contracts. You can list incomplete contracts, completed contracts, expiring contracts, and expired contracts.</td>
</tr>
<tr>
<td>Contract fulfillment rate tracking</td>
<td>You can analyze how the sales contracts that you are 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.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Contract release order processing</td>
<td>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.</td>
</tr>
<tr>
<td>Sales scheduling agreement processing</td>
<td>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.</td>
</tr>
<tr>
<td>Delivery schedule of sales scheduling agreement processing</td>
<td>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.</td>
</tr>
<tr>
<td>Data aging</td>
<td>The system moves your old sales data to the historical area of the database during data aging. When you analyze contract fulfillment rates, the system uses current data only and does not retrieve historical data.</td>
</tr>
</tbody>
</table>

### 4.9.1.5 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sell from stock</td>
<td>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 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.</td>
</tr>
<tr>
<td>Sales order processing with customer down payment</td>
<td>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.</td>
</tr>
<tr>
<td>Credit management</td>
<td>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.</td>
</tr>
<tr>
<td>Inquiry processing</td>
<td>You can use this feature to enable your customer to request a quotation or sales information without obligation. An inquiry can relate to materials or services, conditions, and if necessary, delivery dates. The sales area that accepts the inquiry becomes responsible for providing a quote.</td>
</tr>
<tr>
<td>Consignment processing</td>
<td>You use this feature to enable a vendor (that is, an external supplier) to manage a stock of materials at the customer site (that is, the purchaser site). The vendor retains ownership of the materials until they are withdrawn from the consignment stores. Payment for consignment stock is required only when the material is withdrawn for use. For this reason, the vendor is informed of withdrawals of consignment stock on a regular basis.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Make-to-order sales processing</td>
<td>You use this feature for production in which products are made upon receipt of an order from a customer.</td>
</tr>
<tr>
<td>Free-of-charge delivery processing</td>
<td>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.</td>
</tr>
<tr>
<td>Third-party order processing</td>
<td>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.</td>
</tr>
<tr>
<td>Returnable package processing</td>
<td>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.</td>
</tr>
<tr>
<td>Listing and exclusion</td>
<td>You use this feature to control the sale of specific materials to a customer. Your customer can only buy materials included in the material listing assigned to them. The system does not allow you to enter materials that are not included in the material listing in a sales document for a customer.</td>
</tr>
<tr>
<td>Customer material info record</td>
<td>You use this feature when your customer manages a material with a number that differs from the one your company uses.</td>
</tr>
<tr>
<td>Processing sales documents with customer expected prices</td>
<td>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.</td>
</tr>
<tr>
<td>Listing sales documents by object status</td>
<td>You use this feature to search for sales documents and sales document items and display them in a list.</td>
</tr>
<tr>
<td>Sales order approval processing</td>
<td>You can implement a workflow to optimize the approval process for internally-created sales orders. All sales orders that require approval become visible to the responsible user. Whether or not a sales order needs to be approved, or whether it is released automatically, depends on the settings made during the configuration process.</td>
</tr>
</tbody>
</table>

**Related Information**

- Sales Quotation Management [page 83]
- Logistics Execution [page 125]
4.9.1.6 Sales Billing

Business Background

You can create and manage billing documents, post them to financial accounting, and output them to a variety of channels. You can also create and manage billing-related documents such as invoice lists, preliminary billing documents, and billing document requests.

Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debit memo processing</td>
<td>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.</td>
</tr>
<tr>
<td>Credit memo processing</td>
<td>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.</td>
</tr>
<tr>
<td>Billing document processing</td>
<td>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.</td>
</tr>
<tr>
<td>Preliminary billing document processing</td>
<td>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.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Invoice correction processing</td>
<td>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.</td>
</tr>
<tr>
<td>Invoice list processing</td>
<td>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.</td>
</tr>
</tbody>
</table>

### 4.9.1.7 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omnichannel convergent billing</td>
<td>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 SAP S/4HANA Cloud 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.</td>
</tr>
</tbody>
</table>

4.9.1.8 Sales Rebate Management

Business Background

You can use Settlement Management for your sales rebate management.

Related Information

Settlement Management [page 38]

4.9.1.9 Incentive and Commission Management

Business Background

You can use Settlement Management for your incentive and commission management.
4.9.1.10 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Returns management processing</td>
<td>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 material 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.</td>
</tr>
<tr>
<td>Credit memo request approval processing</td>
<td>You can implement a workflow to optimize the approval process for internally-created credit memo requests. All credit memo requests that require approval become visible to the responsible user. Whether or not a credit memo request needs to be approved, or whether it is released automatically, depends on the settings made during the configuration process.</td>
</tr>
</tbody>
</table>

4.9.1.11 Sales Monitoring and Analytics

Business Background

You can efficiently check the status of your sales orders.
### Key Features

The following features are available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing sales plans</td>
<td>You can create, change, release, and display sales plans. In a sales plan, you set sales targets on various dimensions for a planned period.</td>
</tr>
<tr>
<td>Comparing planned and actual sales data</td>
<td>You can analyze to what extent your sales targets are being achieved and thus gain insights into your current sales performance.</td>
</tr>
<tr>
<td>Analyzing quotation conversion rates</td>
<td>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.</td>
</tr>
<tr>
<td>Analyzing incoming sales orders</td>
<td>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, materials, material 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, material group, and sold-to party.</td>
</tr>
<tr>
<td>Listing incomplete sales documents</td>
<td>You can search for incomplete sales documents and display them in a list. You can display the number of issues with incomplete data.</td>
</tr>
<tr>
<td>Managing duplicate sales documents</td>
<td>You can search for duplicate sales documents (for example, sales orders, quotations, and returns) and reject the ones not required.</td>
</tr>
<tr>
<td>Monitoring sales order fulfillment</td>
<td>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.</td>
</tr>
<tr>
<td>Predicting delivery delay</td>
<td>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.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>-------------</td>
<td>-----</td>
</tr>
<tr>
<td>Tracking sales orders</td>
<td>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.</td>
</tr>
<tr>
<td>Checking confirmed sales orders, backorders, and demand fulfillment</td>
<td>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.</td>
</tr>
<tr>
<td>Monitoring delivery performance</td>
<td>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.</td>
</tr>
<tr>
<td>Analyzing sales volume</td>
<td>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.</td>
</tr>
<tr>
<td>Analyzing sales volume in detail</td>
<td>You can customize a step-by-step analysis path that drills down into your sales volume on different dimensions.</td>
</tr>
<tr>
<td>Predicting sales volume</td>
<td>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.</td>
</tr>
<tr>
<td>Checking sales volume and open sales</td>
<td>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.</td>
</tr>
<tr>
<td>Checking sales volume and profit margin or credit memos</td>
<td>You can check the relationship between sales volume, profit margin, and credit memos, to help you to increase your sales volume.</td>
</tr>
<tr>
<td>Analyzing customer returns</td>
<td>You can analyze the monthly rolling trend of your customer returns based on flexible combinations of dimensions.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display an overview of sales data</td>
</tr>
<tr>
<td>• You can display sales information such as customer returns or blocked credit memo requests.</td>
</tr>
<tr>
<td>• You can create sales documents (for example, sales orders, sales quotations, credit memo requests, and customer returns).</td>
</tr>
<tr>
<td>Displaying a sales management overview</td>
</tr>
<tr>
<td>You can get a graphical overview of various sales data as a sales manager.</td>
</tr>
<tr>
<td>Data aging</td>
</tr>
<tr>
<td>The system moves your old sales data to the historical area of the database during data aging. When you analyze incoming sales orders, sales volume, and quotation conversion rates, the system uses current data only and does not retrieve historical data.</td>
</tr>
</tbody>
</table>

### 4.10 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.

### 4.10.1 Service Master Data and Agreement Management

### 4.10.1.1 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 by using the corresponding app.
**Key Features**

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service contract processing</td>
<td>You can create service contracts and service contract items and work with them through their entire life cycles. You can set billing plans, adapt prices, trigger the billing process, and enable auto renewal for service contract items. You can cancel service contracts and service contract items.</td>
</tr>
<tr>
<td>Scheduling of billing document request creation</td>
<td>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.</td>
</tr>
<tr>
<td>Billing plans</td>
<td>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.</td>
</tr>
<tr>
<td>Auto renewal</td>
<td>You can enable auto renewal for a service contract item if you would like the item to be renewed automatically at the end of the contract.</td>
</tr>
<tr>
<td>Price adaptation</td>
<td>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.</td>
</tr>
<tr>
<td>Price agreements</td>
<td>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 copied to the service orders (resources-related) that are assigned to service contracts after service contract determination.</td>
</tr>
<tr>
<td>Service contract determination</td>
<td>The system automatically searches for and displays service contract items that service orders (resource-related) can be assigned to.</td>
</tr>
</tbody>
</table>

**4.10.2 Service Operations and Processes**

**4.10.2.1 Service Order Management**

**Business Background**

The service solution supports a variety of functions for processing service orders and service confirmations.
A service order is a short-term agreement between a service provider and a service recipient, and it contains the relevant information for the specific service process. Service confirmations are used to confirm service orders.

You can manually create and edit service orders and service confirmations. You can also process 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service order types</td>
<td>You can create and edit two types of service orders: resource-related service orders where your customer is billed for the time and materials consumed and service orders where you have agreed a fixed price with your customer.</td>
</tr>
<tr>
<td>Service contract determination</td>
<td>The system automatically searches for and displays service contract items that you can assign to resource-related service orders.</td>
</tr>
<tr>
<td>Service order processing</td>
<td>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.</td>
</tr>
<tr>
<td>Service confirmation types</td>
<td>You can create and edit service confirmations for the two types of service orders. Alternatively, you can use partial service confirmations.</td>
</tr>
<tr>
<td>Service confirmation processing</td>
<td>You can cancel completed 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.</td>
</tr>
</tbody>
</table>

**4.10.2.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service transaction fulfillment</td>
<td>You can monitor and display issues that impede the fulfillment of service transactions in real time. The cockpit offers a list of service contracts, service orders, and service confirmations that cannot be completed or billed for various reasons. The cockpit also provides information on service transactions that contain errors as well as rejected service orders.</td>
</tr>
<tr>
<td>Service management overview</td>
<td>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 repair time of service orders. You can also display overview information regarding the release for billing status of service order items and service confirmation items.</td>
</tr>
<tr>
<td>Service contract analysis</td>
<td>You can obtain information on key performance indicators for service contracts.</td>
</tr>
<tr>
<td>Service order analysis</td>
<td>You can obtain information on incomplete service orders.</td>
</tr>
</tbody>
</table>

4.11 Sourcing and Procurement

Purchasing allows you to order direct materials, consumable materials, and services. You can order consumable materials for use in a project through external procurement, and direct materials using purchase requisitions. The purchasing department keeps track of the procurement process with the purchase order, the goods and invoice receipts, and service entry sheets.

4.11.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing teams and responsibilities</td>
<td>You can, for example, define which team members are responsible for specific approval steps within the procurement process. For more information, see the section Manage Teams and Responsibilities [page 13].</td>
</tr>
<tr>
<td>Using subcontracting documents</td>
<td>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.</td>
</tr>
</tbody>
</table>

4.11.2 Procurement Analytics

4.11.2.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational cards</td>
<td>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.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Analytical cards</td>
<td>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.</td>
</tr>
<tr>
<td>Filtering</td>
<td>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.</td>
</tr>
</tbody>
</table>
| 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                                      |
|                      | 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. |

### 4.11.2.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase requisitions</td>
<td>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, or changes made to a purchase requisition item.</td>
</tr>
<tr>
<td>Purchasing and invoice spend</td>
<td>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, and invoice price changes over time. 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.</td>
</tr>
<tr>
<td>Contracts and scheduling agreements</td>
<td>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.</td>
</tr>
<tr>
<td>Supplier evaluation</td>
<td>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, procurement dashboards for purchasing spend and off-contract spend in SAP Analytics Cloud can be accessed directly from SAP S/4HANA, showing purchasing data in real time.</td>
</tr>
</tbody>
</table>

4.11.3 Sourcing and Contract Management
4.11.3.1 Source Assignment

Key Features

The following features are available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing source lists</td>
<td>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.</td>
</tr>
</tbody>
</table>
| 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 |
| 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 supports the integration with external procurement systems (currently SAP Ariba Sourcing), also in combination with a business network (currently the 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 (currently SAP Ariba Sourcing) and potentially an external business network (currently the Ariba Network) are integrated and support the features listed below, SAP S/4HANA Cloud enables you to use the following key features:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
</table>
| 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 (currently SAP Ariba Sourcing) or directly to your suppliers, for example by e-mail. In SAP S/4HANA Cloud, 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. |
| 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, 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 in SAP S/4HANA Cloud.  
If you receive supplier quotations from an external system that have not yet been awarded, you can award them in SAP S/4HANA Cloud and create follow-on documents. The same applies to supplier quotations that you have manually created in SAP S/4HANA Cloud.  
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.  
Supplier quotations that have not yet been awarded can still be manually changed in SAP S/4HANA Cloud.  
You can define approval rules for supplier quotations. These rules are applied during the awarding process in SAP S/4HANA Cloud. |
| 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. |
4.11.3.2 Purchase Contract Management

**Key Features**

The following features are available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing purchase contracts</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>The prices and conditions from the contract will be copied into the purchase order when referring to a contract.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>You can use the flexible workflow for purchase contracts with either the automatic, one-step, or multi-step approval.</td>
</tr>
<tr>
<td>Managing scheduling agreements</td>
<td>Scheduling agreements are a form of outline purchase agreement under which materials are procured on predetermined dates within a certain time period.  Scheduling agreements contain prices and conditions for a material item. Releases from a scheduling agreement can occur using the MRP run, or you can release them manually, or you can plan scheduling agreement releases as a background job. You can create and change scheduling agreements as required, and maintain the delivery schedule.</td>
</tr>
<tr>
<td></td>
<td>You can use the flexible workflow for scheduling agreements with either the automatic, one-step, or multi-step approval.</td>
</tr>
<tr>
<td></td>
<td>You can copy scheduling agreement items. The newly copied scheduling agreement item opens in the edit mode, where you can update and save the information based on your requirements.</td>
</tr>
<tr>
<td></td>
<td>You can create and save 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.</td>
</tr>
</tbody>
</table>
If an external SAP supplier system is integrated with SAP S/4HANA Cloud and supports the features listed below, SAP S/4HANA Cloud enables you to use the following key features:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Making mass changes to scheduling agreements and monitoring them</td>
<td>You can select headers and items of scheduling agreements and trigger a mass change for specific fields. You can then monitor these mass changes.</td>
</tr>
<tr>
<td>Sending scheduling agreement releases to external suppliers</td>
<td>You can send purchase scheduling agreement releases (forecast delivery schedules and JIT delivery schedules) to suppliers who use an external SAP system.</td>
</tr>
<tr>
<td>Receiving advanced shipping notifications</td>
<td>You can receive advanced shipping notifications from your suppliers in the SAP S/4HANA Cloud buyer system.</td>
</tr>
<tr>
<td>Receiving supplier invoices</td>
<td>You can receive invoices from your suppliers in the SAP S/4HANA Cloud buyer system.</td>
</tr>
</tbody>
</table>

4.11.4 Operational Procurement

4.11.4.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
</table>
| 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. When defining default settings for a user, you can:  
  - Assign requisitioning groups  
  - Assign shop on behalf types to restrict the user from or allow the user to shop on behalf of another user  
  - Specify basic parameters such as plant and company code  
  - Specify account assignment data                                                                                           |
| 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. Based on the settings made in the system, the appropriate purchasing groups are automatically proposed. |
| Copying purchase requisitions        | You can copy an existing purchase requisition. All the items will be copied, irrespective of the status of the items.                                                                                     |
| Using the approval process and monitor 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. If a purchase requisition is rejected, you may receive a notification. You can monitor the status of all your requisitions to see who is responsible for an approval step. |
| Adding new items to existing purchase requisitions | You can add further items to an existing purchase requisition, provided that no follow-on document has been created.                                                                                     |
| 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. |
### 4.11.4.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing purchase requisitions</td>
<td>Purchasers or other specialists can create purchase requisitions manually. Purchasers can also create purchase requisitions using catalog items for which 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. 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 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.</td>
</tr>
<tr>
<td>Using the approval workflow</td>
<td>Approvers can get an overview of all purchase requisitions they are responsible for. You can use the flexible workflow for purchase requisitions with either the automatic, one-step, or multi-step approval. An expert can also configure additional preconditions. You can approve or reject purchase requisitions and add comments. You can also partially edit specific purchase requisitions before approving them. 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 will be notified in case your purchase requisition is rejected. While using the flexible workflow, critical changes applied to a purchase requisition will retrigger the workflow based on the settings you make in the system. Purchasers or specialists can view the approval history of a requisition.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Making mass changes to purchase requisitions</th>
<th>You can select purchase requisitions and trigger a mass change for specific values.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situation handling</td>
<td>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 Manage Teams and Responsibilities [page 13].</td>
</tr>
</tbody>
</table>

---

### 4.11.4.3 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing purchase orders</td>
<td>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 change purchase order data depending on the existence of follow-on documents, such as a goods receipt, or an invoice. When you purchase materials or services, you can base the account assignment on internal orders and cost centers, for example, and assign a purchase order item to several accounts. 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 service entry sheet processing. You can use the features provided by <a href="#">Budget Availability Control</a> [page 27]. You can request a specific service performer, and you can create limit items when procuring services. Once the services have been performed, their exact price and quantity must be recorded in the service entry sheet. You can also create a free-text item that defines a limit for unplanned materials. You can see whether or not a purchase order is relevant for Intrastat reporting. You can use the checks related to <a href="#">International Trade Compliance</a> [page 43]. 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.</td>
</tr>
<tr>
<td>Using the approval process</td>
<td>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.</td>
</tr>
<tr>
<td>Making mass changes to purchase orders and monitoring them</td>
<td>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.</td>
</tr>
</tbody>
</table>
Monitoring follow-on processes

Use

You can check the status of supplier confirmations as well as the status of created goods receipts and supplier invoices.

Situation handling

Use

If a purchase order is created for which a confirmation is expected, the system sends a notification to the purchaser who created the purchase order. The notification is sent 5 days before the confirmation date.

### Related Features

- Invoice Processing [page 112]

### 4.11.4.4 Purchase Order Collaboration

#### Business Background

SAP S/4HANA Cloud supports the integration with business networks or external systems (currently the Ariba 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 and the business network or external system.

#### Key Features

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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
</table>
| 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 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. |
### Key Feature

**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.

**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 with an external SAP supplier system. If an external SAP supplier system is integrated with SAP S/4HANA Cloud and supports the features listed below, SAP S/4HANA Cloud enables you to use the following key features:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sending purchase orders</td>
<td>You can send purchase orders to an external SAP supplier system to order materials or lean services (services that are based on standard purchase order items). The following item categories are supported:</td>
</tr>
<tr>
<td></td>
<td>● Standard items</td>
</tr>
<tr>
<td></td>
<td>● Third-party items</td>
</tr>
<tr>
<td>Receiving confirmations</td>
<td>You can receive order confirmations from your suppliers in the SAP S/4HANA Cloud buyer system.</td>
</tr>
<tr>
<td>Receiving advanced shipping notifications</td>
<td>You can receive advanced shipping notifications from your suppliers in the SAP S/4HANA Cloud buyer system.</td>
</tr>
<tr>
<td>Receiving supplier invoices</td>
<td>You can receive supplier invoices from your suppliers in the SAP S/4HANA Cloud buyer system.</td>
</tr>
<tr>
<td>Sending returns purchase orders</td>
<td>You can send returns purchase orders to your suppliers to return materials. The following item categories are supported:</td>
</tr>
<tr>
<td></td>
<td>● Standard items</td>
</tr>
<tr>
<td></td>
<td>● Third-party items</td>
</tr>
<tr>
<td>Receiving confirmations</td>
<td>You can receive confirmations for the returns orders in your SAP S/4HANA Cloud buyer system.</td>
</tr>
<tr>
<td>Receiving credit memos</td>
<td>You can receive credit memos from your suppliers.</td>
</tr>
</tbody>
</table>
4.11.4.5 Service Purchasing and Recording

Key Features

The following features are available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchasing lean services</td>
<td>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. It is possible to do the cost assignment at a later point in time.</td>
</tr>
<tr>
<td>Managing service entry sheets for lean services</td>
<td>Based on purchase orders, you can create service entry sheets to record that the ordered services have been performed within a specified period. 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 and their exact price and quantity in the service entry sheet. You can also attach documents and add links to the service entry sheet.</td>
</tr>
<tr>
<td>Generation from timesheets</td>
<td>Service entry sheets can also be automatically created based on timesheets of external employees.</td>
</tr>
<tr>
<td>Approving service entry sheets for lean services</td>
<td>You can approve or reject service entry sheets. All service entry sheets that you need to approve or reject are automatically visible for you. The flexible workflow allows you to define one or more approvers and to use either the automatic, one-step, or multi-step approval. Once a service entry sheet has been approved, the invoice can be verified.</td>
</tr>
</tbody>
</table>

4.11.5 Invoice Management

4.11.5.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing supplier invoices</td>
<td>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 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. In supplier invoices, you can also process down payments that originate from a Central Finance system.</td>
</tr>
<tr>
<td>Managing supplier invoices with reference to purchase order limit items</td>
<td>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.</td>
</tr>
<tr>
<td>Uploading invoice documents</td>
<td>When you upload invoice documents, an invoice draft is created to which the uploaded file will be attached.</td>
</tr>
<tr>
<td>Working with supplier invoice lists</td>
<td>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.</td>
</tr>
<tr>
<td>Releasing supplier invoices</td>
<td>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.</td>
</tr>
<tr>
<td>Approving supplier invoices</td>
<td>You can display supplier invoices that are assigned to you by workflow. 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.</td>
</tr>
<tr>
<td>Working with goods receipt and invoice receipt clearing accounts</td>
<td>You can create and edit goods receipt and invoice receipt clearing documents, and cancel the created documents if required.</td>
</tr>
<tr>
<td>Consignment and pipeline settlement</td>
<td>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.</td>
</tr>
<tr>
<td>Supplier invoice jobs</td>
<td>You can schedule and monitor recurring, supplier invoice related activities as a background job. For example, you can choose the job template <em>Evaluated Receipt Settlement</em>.</td>
</tr>
</tbody>
</table>
### Key Feature

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 108]
- For information about accounts payable accounting, see Finance > Invoice Management > Accounts Payable Accounting

### 4.11.5.2 Invoice Collaboration

#### Business Background

SAP S/4HANA Cloud supports the integration with business networks or external systems (currently the Ariba 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 and the business network or external system.

#### Key Features

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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiving supplier invoices</td>
<td>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. Invoices with errors can be saved with errors and can later be processed manually.</td>
</tr>
</tbody>
</table>
Key Feature | Use
--- | ---
Sending CC invoices | You can transfer supplier invoices created in SAP S/4HANA Cloud 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, a status update is sent.

You can also transfer status updates for supplier invoices that you have created in SAP S/4HANA Cloud (CC invoices).

Related Information

Dynamic Discounting (Ariba Network Integration) [page 36]
Payment Advice Collaboration (Ariba Network Integration) [page 36]

4.11.6 Supplier Management

4.11.6.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
</table>
| 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. |
| Procurement-Related Activities | To drive and organize procurement-related activities, your buyers can use the procurement activity management process.                                                                                                                                   |

### 4.11.6.2 Supplier Evaluation

#### Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier Evaluation</td>
<td>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.</td>
</tr>
</tbody>
</table>
4.12 Supply Chain

4.12.1 Order Promising

4.12.1.1 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 particularly 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability Check</td>
<td>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.</td>
</tr>
<tr>
<td>Backorder Processing</td>
<td>You can use this feature to reprioritize 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. You can monitor the check results and, if necessary, re-run the check to improve the confirmations for the requirements.</td>
</tr>
</tbody>
</table>

Additional Information

For information about the key features for the solution capability Advanced Available to Promise, see Advanced Available to Promise [page 195].
4.12.2 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

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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posting goods movements</td>
<td>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:</td>
</tr>
</tbody>
</table>
|                        | • 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,
### 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.

### Inventory Analytics and Control

#### 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.

#### 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.
Key Feature | Use
--- | ---
Predictive analysis on transfer posting | You can use this feature to perform predictive analysis and to then propose a delivery date for a stock transport order. This analysis gives you a statistically-based forecast if a goods receipt can be successfully completed in time.

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

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.

### 4.12.3 Warehousing

#### 4.12.3.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Warehouse Structure</strong></td>
<td>Warehouse Management supports you from the very beginning, starting with configuring your warehouse, as follows:</td>
</tr>
<tr>
<td></td>
<td>- You define the warehouse number that identifies the warehouse.</td>
</tr>
<tr>
<td></td>
<td>- You define storage types based on predefined templates</td>
</tr>
<tr>
<td></td>
<td>- You define the units of measure, and number ranges to be used in the warehouse.</td>
</tr>
<tr>
<td></td>
<td>- You define the tolerances for posting differences in physical inventory</td>
</tr>
<tr>
<td></td>
<td>- You assign a stock removal rule</td>
</tr>
<tr>
<td></td>
<td>- You can create storage bins</td>
</tr>
<tr>
<td><strong>Inventory Management</strong></td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td>- At storage bin level</td>
</tr>
<tr>
<td></td>
<td>- On staging areas for receiving, shipping, and production supply</td>
</tr>
<tr>
<td></td>
<td>- In handling units</td>
</tr>
<tr>
<td></td>
<td>You can also store and manage batch-managed products in your warehouse. You can upload your stock from a file during your warehouse set-up.</td>
</tr>
<tr>
<td><strong>Handling Units</strong></td>
<td>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. A handling unit has a unique identification number.</td>
</tr>
<tr>
<td><strong>Inbound Processing</strong></td>
<td>You can receive products from the following sources:</td>
</tr>
<tr>
<td></td>
<td>- Vendors</td>
</tr>
<tr>
<td></td>
<td>- Production</td>
</tr>
<tr>
<td></td>
<td>- Other parts of your company</td>
</tr>
<tr>
<td></td>
<td>- Customer returns that have been returned to another storage location</td>
</tr>
<tr>
<td></td>
<td>You can create and confirm putaway tasks for the putaway of the products.</td>
</tr>
<tr>
<td></td>
<td>You can trigger quality checks for products received from external vendors or from production during goods receipt posting.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outbound Processing</strong></td>
</tr>
<tr>
<td>You can pick products and send them out of your warehouse for the</td>
</tr>
<tr>
<td>following scenarios:</td>
</tr>
<tr>
<td>● Send ordered product to external customers, or internal customers,</td>
</tr>
<tr>
<td>such as other plants</td>
</tr>
<tr>
<td>● Supply products to production</td>
</tr>
<tr>
<td>● Confirm stock transfer for Kanban</td>
</tr>
<tr>
<td>● Return products to vendors</td>
</tr>
<tr>
<td>● Supply products to internal consumers, for example, a cost center</td>
</tr>
<tr>
<td>You can post goods issue for the delivered products.</td>
</tr>
<tr>
<td><strong>Internal Warehouse Movements</strong></td>
</tr>
<tr>
<td>You can plan, create and confirm tasks for moving products to</td>
</tr>
<tr>
<td>different areas inside the warehouse.</td>
</tr>
<tr>
<td>You can perform ad-hoc internal warehouse movements from the</td>
</tr>
<tr>
<td>warehouse monitor.</td>
</tr>
<tr>
<td>You can also repack stock in the warehouse, for example, splitting a</td>
</tr>
<tr>
<td>pallet into two pallets or adding a product to another pallet.</td>
</tr>
<tr>
<td>You can change stock attributes, for example, by posting free stock</td>
</tr>
<tr>
<td>into quality stock or blocked stock.</td>
</tr>
<tr>
<td><strong>Physical Inventory</strong></td>
</tr>
<tr>
<td>You can plan, conduct and confirm regular counts of actual product</td>
</tr>
<tr>
<td>quantities in the warehouse and compare the physical stock to the</td>
</tr>
<tr>
<td>data in the system. For example, cycle counting or a scheduled</td>
</tr>
<tr>
<td>yearly count. Following the count, you can update the data for the</td>
</tr>
<tr>
<td>stock in the case of differences between the quantity of physical</td>
</tr>
<tr>
<td>stock and the quantity in the system.</td>
</tr>
<tr>
<td><strong>Warehouse Monitor</strong></td>
</tr>
<tr>
<td>You can use the warehouse monitor to keep constantly up-to-date as</td>
</tr>
<tr>
<td>to the current situation in the warehouse, and to initiate</td>
</tr>
<tr>
<td>appropriate responses to situations that arise.</td>
</tr>
<tr>
<td>The warehouse management monitor gives you full transparency about</td>
</tr>
<tr>
<td>the following attributes of your warehouse:</td>
</tr>
<tr>
<td>● Warehouse activities</td>
</tr>
<tr>
<td>● Stock and bins</td>
</tr>
<tr>
<td>● Executed movements</td>
</tr>
<tr>
<td>● Planned movements</td>
</tr>
<tr>
<td>● Inbound deliveries</td>
</tr>
<tr>
<td>● Outbound deliveries</td>
</tr>
<tr>
<td>● Products in the warehouse</td>
</tr>
<tr>
<td>The warehouse monitor also contains alert monitoring capabilities,</td>
</tr>
<tr>
<td>which highlight actual and potential problematic situations in the</td>
</tr>
<tr>
<td>warehouse.</td>
</tr>
</tbody>
</table>
4.12.3.2 Basic Integration with an External Warehouse Management System

Business Background

SAP S/4HANA Cloud 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer of master data</td>
<td>You can use this feature to transfer warehouse-relevant master data (for example, material, customer, supplier) from the SAP S/4HANA Cloud system to your external warehouse management system.</td>
</tr>
</tbody>
</table>
| 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 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 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. 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 system for further processing. |
4.12.4 Delivery and Transportation

4.12.4.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inbound Delivery Processing</td>
<td>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.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>

### 4.12.4.2 Transportation Management

#### Business Background

Transportation Management (TM) supports transportation planning and execution in SAP S/4HANA Cloud in an order-based transportation consolidation scenario. Sales-order-based transportation demand (freight units) is built considering transportation constraints. Afterwards it is sent to a decentral transportation management system (TM system).

The planning result is received in SAP S/4HANA Cloud from the decentral TM system as freight orders. You can then trigger the creation of deliveries based on the consolidation information.

#### Key Features

The following table explains the key features available:
<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freight agreement management</td>
<td>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, and scales, to efficiently manage long-term contracts with your carriers.</td>
</tr>
<tr>
<td>Creation of freight units</td>
<td>You can use this feature to create freight units during sales order creation. When a sales order is saved, the freight unit is created automatically. You can predefine the relevance of sales orders for transportation planning as well as settings for freight unit building.</td>
</tr>
<tr>
<td>Monitoring of freight units</td>
<td>You can display and check the freight units that have been created during sales order creation.</td>
</tr>
<tr>
<td>Transfer of freight units to a</td>
<td>You can use this feature to transfer the freight units that have been created from sales orders to a decentral TM system.</td>
</tr>
<tr>
<td>decentral TM system</td>
<td></td>
</tr>
<tr>
<td>Receipt of freight orders from a</td>
<td>You can use this feature to receive the freight orders that have been created based on the transferred freight units from the decentral TM system.</td>
</tr>
<tr>
<td>decentral TM system</td>
<td></td>
</tr>
<tr>
<td>Monitoring of freight orders</td>
<td>You can display and check the freight orders that have been received from the decentral TM system.</td>
</tr>
<tr>
<td>Charge calculation</td>
<td>When receiving the freight orders, charge calculation is triggered automatically. In addition, you can calculate the transportation charges for a freight order manually. They are the basis for cost distribution.</td>
</tr>
<tr>
<td>Creation of deliveries based on</td>
<td>You can trigger delivery creation by the system based on the received freight orders.</td>
</tr>
<tr>
<td>freight orders</td>
<td></td>
</tr>
<tr>
<td>Cost distribution</td>
<td>You can bill the freight cost to your customer at the level of each delivery item. You can break down the aggregated freight cost of the freight order to the level of a delivery item.</td>
</tr>
</tbody>
</table>

### 4.13 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.

- Australia
- Austria
- Belgium
- Brazil
- Canada
- China
- Denmark
- Finland
4.14 General Functions for the Key User

Business Background

With the features described below, you:

- 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.
- Define communication settings for systems, users, and solutions to facilitate communication processes.
• Download and install additional software to better integrate your apps with other programs you need for your daily business.
• 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.
• Reduce your workload by running regular activities as jobs in the background. View application-specific logs to check if there are any issues.
• 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 extensibility items, and the dependencies between them, in the Extensibility Inventory.
• Automate your archiving processes by scheduling archiving for archiving objects. You can see the logs of the finished jobs.
• Get an overview of the scenario for including a data aging object in data aging run and enabling a data aging run for a data aging group. You can also analyze the results of the data aging run.
• Define global security settings, such as certificate trust lists.
• 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 features support you with this process:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import employee data</td>
<td>Manually upload employee related data for the following objects: employee data, employment data, and service cost level.</td>
</tr>
<tr>
<td>Maintain business users</td>
<td>Maintain user-relevant data, such as locking and unlocking of users, validity, and regional settings. You can assign 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.</td>
</tr>
<tr>
<td>Maintain roles</td>
<td>Create your own roles and define authorization restrictions to certain instances. You can assign business users to 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.</td>
</tr>
<tr>
<td>Display business role templates</td>
<td>Display detailed information about the business role templates and the changes provided by SAP.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Display usages of business roles</td>
<td>Display detailed information about the usage of business roles, business users, and restrictions in your system.</td>
</tr>
<tr>
<td>Display business catalogs</td>
<td>Display detailed information about the business catalogs, their statuses, and the changes provided by SAP.</td>
</tr>
<tr>
<td>Display restriction types</td>
<td>Display available restriction types and how they can be used in certain business catalogs.</td>
</tr>
<tr>
<td>Maintain communication systems</td>
<td>Define the specification of a system that represents a communication partner. You can define technical information that is required for communication between two systems.</td>
</tr>
<tr>
<td>Maintain communication arrangements</td>
<td>Set up and maintain communication arrangements to enable communication between your solution and other systems.</td>
</tr>
<tr>
<td>Create custom communication scenarios</td>
<td>Create custom communication scenarios and use them as a basis for new communication arrangements.</td>
</tr>
<tr>
<td>Display communication scenarios</td>
<td>Display details of communication scenarios, download certificates, and create new communication arrangements based on a certain communication scenario.</td>
</tr>
<tr>
<td>Create custom catalog extensions</td>
<td>Create your own extensions for the predelivered business catalogs to enable customization of business roles.</td>
</tr>
<tr>
<td>Display users</td>
<td>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.</td>
</tr>
<tr>
<td>Display a list of the available additional software</td>
<td>Download and install additional software if required.</td>
</tr>
<tr>
<td>Maintain print queues</td>
<td>Manage the printing of documents and monitor the print requests in each queue.</td>
</tr>
<tr>
<td>Maintain email templates</td>
<td>Streamline your email correspondence by creating custom templates based on predelivered templates. You can create language-specific variants if required.</td>
</tr>
<tr>
<td>Display email transmissions</td>
<td>Get a quick overview of email transmissions and check whether they were successful or issues occurred.</td>
</tr>
<tr>
<td>Maintain form templates</td>
<td>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.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Maintain application job templates</td>
<td>Create your own application job templates. You can display and create job templates to use them for scheduling jobs. You can share, edit, and delete your own job templates. You can define job chain steps as a part of a template. You can define default recurrence patterns.</td>
</tr>
<tr>
<td>Schedule application jobs</td>
<td>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.</td>
</tr>
<tr>
<td>Display application logs</td>
<td>View logs created by a business application to verify if a business process step has been carried out successfully.</td>
</tr>
<tr>
<td>Monitor messages</td>
<td>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.</td>
</tr>
<tr>
<td>Manage Data Replication</td>
<td>Manage data replication from a source system to one or more target systems based on application interfaces.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>-------------</td>
<td>-----</td>
</tr>
<tr>
<td>Create custom fields, data source extensions, and custom logic</td>
<td>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.</td>
</tr>
<tr>
<td>Custom Fields</td>
<td></td>
</tr>
<tr>
<td>● 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.</td>
<td></td>
</tr>
<tr>
<td>● You can make field content relevant for free-text search.</td>
<td></td>
</tr>
<tr>
<td>● You can choose the aggregation behavior of fields.</td>
<td></td>
</tr>
<tr>
<td>● You can delete already transported fields. When you delete an already transported field, the contained data is saved for 18 months.</td>
<td></td>
</tr>
<tr>
<td>Data Source Extensions</td>
<td></td>
</tr>
<tr>
<td>● You can create, edit, and delete data source extensions in order to enable the usage of existing fields in predelivered data sources.</td>
<td></td>
</tr>
<tr>
<td>Custom Logic</td>
<td></td>
</tr>
<tr>
<td>● You can implement custom logic with ABAP for key users in your enhancement implementation.</td>
<td></td>
</tr>
<tr>
<td>● You can create and save variants for testing custom logic with predefined parameters.</td>
<td></td>
</tr>
<tr>
<td>● You can create and save filters to define under which conditions the logic of an enhancement implementation is used.</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Create custom reusable elements</td>
<td>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.</td>
</tr>
<tr>
<td>Display list of extensibility items</td>
<td>You can view a list of your extensibility items, and the dependencies between them, in the Extensibility Inventory app.</td>
</tr>
<tr>
<td>Create traces</td>
<td>You can create traces to track the processing of custom logic in custom objects, custom reusable elements and enhancement implementations.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Create custom CDS views</td>
<td>Create and edit custom CDS views based on the virtual data model delivered by SAP. You can edit custom CDS views.</td>
</tr>
<tr>
<td>Create custom business objects</td>
<td>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.</td>
</tr>
</tbody>
</table>
| Create custom analytical queries    | Custom Analytical Queries is a tool used for reporting and analysis. It transforms and organizes raw data delivered from business documents into a meaningful grid. It abstracts the process of writing structured queries in such a way that you don’t have to understand the query language or it’s technical details. It provides the fields required to design a query. 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 query designer that you can use to perform this task:  
  * Create a new custom query or copy from an existing query  
  * Display 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, converted measures and user input filters  
  * Define hierarchies  
  * Preview result sets after modifying the query  
  * Configure the query default display via Axis view |
<p>| Create custom tiles                 | Create your own tiles to access external applications.                                                                                                                                              |
| Export software collection          | Assign transportable extensibility items to your software collection, check them for inconsistencies and dependencies, and export the software collection version. You can assign extensibility items to a hotfix collection, and export the hotfix collection independently from the regular software export process. |</p>
<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import collection</td>
<td>Import a software collection or a business configuration to your production system.</td>
</tr>
<tr>
<td>Process ILM audit areas</td>
<td>View existing audit areas. You can create new audit areas and edit existing audit areas. You can copy and merge audit areas.</td>
</tr>
<tr>
<td>Manage ILM object groups</td>
<td>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.</td>
</tr>
<tr>
<td>Process ILM rules</td>
<td>Create and edit a policy, and maintain rules for the policy.</td>
</tr>
<tr>
<td>Analyze archiving variant distribution</td>
<td>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.</td>
</tr>
<tr>
<td>Monitor archiving jobs</td>
<td>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.</td>
</tr>
<tr>
<td>Enable data aging and view the aging runs</td>
<td>Enable data aging for the selected data aging object and monitor the status of data aging runs that have been executed for data aging groups pre-delivered by SAP.</td>
</tr>
<tr>
<td>Manage ILM Business Rules</td>
<td>Create and edit ILM business rules.</td>
</tr>
<tr>
<td>Fine-Tune Ranking</td>
<td>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.</td>
</tr>
<tr>
<td>Analyze Query Log</td>
<td>Evaluate the log data containing the user activities collected during searches, graphically in bar charts or in tables.</td>
</tr>
<tr>
<td>Define Synonyms</td>
<td>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.</td>
</tr>
<tr>
<td>Monitor delta queues</td>
<td>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.</td>
</tr>
</tbody>
</table>
5  SAP S/4HANA Cloud - Additional Licenses

Additional licenses enhance core functions of SAP S/4HANA Cloud to provide advanced business benefit for your line of business. Please note that you might need a separate license. For further information, please contact your SAP Account Executive.

5.1  Generic Information

5.1.1  Master Data Management

5.1.1.1  Master Data Governance

Business Background

Master Data Governance enables you to adjust your master data quickly to reflect legal changes and respond flexibly to new requirements and to business transactions such as takeovers of other companies.

Master data consolidation provides an understanding of enterprise master data that is owned and maintained de-centrally. Master data consolidation delivers capabilities to load master data and to detect duplicates. For each of the resulting match groups, Master data consolidation calculates a best record out of the duplicates in that group, using survivorship rules on the master data attributes. The best records can be used in dedicated analytical or business scenarios.

Mass processing enables you to update multiple master data records at a time. To update records, you select the fields and records you want to change. Once you have made your changes, the system provides statistics on the changed fields and validates the data for use in business transactions before activating the changes.
Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Data Consolidation</td>
<td>• Master Data Consolidation for Product</td>
</tr>
<tr>
<td></td>
<td>• Master Data Consolidation for Business Partner</td>
</tr>
<tr>
<td>Mass Processing</td>
<td>• Mass Processing for Product</td>
</tr>
<tr>
<td></td>
<td>• Mass Processing for Business Partner</td>
</tr>
</tbody>
</table>

5.1.2 Legal Content Management

5.1.2.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copying tasks to a new context version</td>
<td>You can copy tasks to a new version of the context, even if the source context is in draft status.</td>
</tr>
<tr>
<td>Renewing and terminating transactions</td>
<td>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.</td>
</tr>
<tr>
<td>Predefining task group step attributes</td>
<td>You can predefine the recipients, preconditions, and exception handler attributes for task group steps.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predefining relationships</td>
<td>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.</td>
</tr>
<tr>
<td>Restricting access</td>
<td>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.</td>
</tr>
<tr>
<td>Creating task group for context</td>
<td>You can create default task group templates that are mandatory for each legal transaction using this context.</td>
</tr>
<tr>
<td>Predefining language</td>
<td>You can predefine the language of a legal context.</td>
</tr>
<tr>
<td>Predefining governing law</td>
<td>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.</td>
</tr>
<tr>
<td>Extensibility</td>
<td>You can add custom fields to the legal document header.</td>
</tr>
<tr>
<td>Defining documents</td>
<td>You can define legal documents that have to be included in the legal transactions and mark the required documents.</td>
</tr>
<tr>
<td>Adding descriptions about contexts</td>
<td>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.</td>
</tr>
<tr>
<td>Archiving objects</td>
<td>You can archive objects that have reached the end of retention period.</td>
</tr>
</tbody>
</table>

### 5.1.2.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situation handling</td>
<td>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.</td>
</tr>
<tr>
<td>Viewing open issues</td>
<td>You can view open issues that affect the health of a transaction.</td>
</tr>
<tr>
<td>Creating with reference</td>
<td>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. 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.</td>
</tr>
<tr>
<td>Copying tasks from legal transactions</td>
<td>You can copy task group templates defined in the source legal transaction to the target transaction.</td>
</tr>
<tr>
<td>Viewing comments</td>
<td>You can view comments that are added by the task processor.</td>
</tr>
<tr>
<td>Renewing and terminating transactions</td>
<td>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.</td>
</tr>
<tr>
<td>Defining task group step attributes</td>
<td>You can define the recipients, preconditions, and exception handler attributes for task group steps.</td>
</tr>
<tr>
<td>Defining relationships</td>
<td>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.</td>
</tr>
<tr>
<td>Copying legal transactions</td>
<td>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.</td>
</tr>
<tr>
<td>Restricting access</td>
<td>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.</td>
</tr>
<tr>
<td>Creating and triggering task groups</td>
<td>You can create workflow task templates and directly trigger work items from the legal transaction.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define language</td>
<td>You can define the language of a legal transaction.</td>
</tr>
<tr>
<td>Defining governing law</td>
<td>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.</td>
</tr>
<tr>
<td>Extensibility</td>
<td>You can add custom fields to the legal transaction header.</td>
</tr>
<tr>
<td>Filtering based on entities, contacts, and categories</td>
<td>You can use additional filtering options to search for specific legal transactions.</td>
</tr>
<tr>
<td>Defining reminders</td>
<td>You can set reminders to receive notifications about status changes in legal transactions.</td>
</tr>
<tr>
<td>Creating and reviewing notes</td>
<td>You can create and reply to notes added by other users. You can also view replies to a specific note.</td>
</tr>
<tr>
<td>Adding descriptions about legal transactions</td>
<td>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.</td>
</tr>
<tr>
<td>Archiving objects</td>
<td>You can archive objects that have reached the end of the retention period.</td>
</tr>
<tr>
<td>Setting start of retention period</td>
<td>You can set the start of retention period for legal transactions with a specific status, such as ‘terminated’ or ‘expired’.</td>
</tr>
<tr>
<td>Uploading documents</td>
<td>Using the quick upload functionality, you can add attachments to the document object.</td>
</tr>
<tr>
<td>Receiving Notification</td>
<td>You can receive a notification when a workflow task for approval is rejected.</td>
</tr>
</tbody>
</table>

### 5.1.2.3 Requesting Legal Content

#### Business Background

You can submit a request for legal content. 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predefining language of legal document</td>
<td>You can specify the language of a legal document.</td>
</tr>
<tr>
<td>Predefining governing law</td>
<td>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.</td>
</tr>
<tr>
<td>Predefining documents</td>
<td>You can predefine legal documents that have to be included in the legal transactions and mark the required documents.</td>
</tr>
<tr>
<td>Uploading attachments</td>
<td>You can upload file attachment to the legal document object.</td>
</tr>
<tr>
<td>Adding descriptions</td>
<td>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.</td>
</tr>
</tbody>
</table>

5.1.2.4 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adding descriptions about categories</td>
<td>You can add a detailed description about a category, if required. For example, you can provide some background or additional information about the category.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Use</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Exporting and importing category names</td>
<td>You can export and import category names to perform a mass translation.</td>
</tr>
</tbody>
</table>

### 5.1.2.5 Legal Content Overview

#### Business Background

Legal Content 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring tasks</td>
<td>Monitoring tasks help you to immediately process critical tasks in your transactions. You can, for example, monitor the following aspects:</td>
</tr>
<tr>
<td></td>
<td>• Total number of tasks to be processed by you</td>
</tr>
<tr>
<td></td>
<td>• Pending and important tasks to be processed by you</td>
</tr>
<tr>
<td></td>
<td>• Average processing time taken for task completion</td>
</tr>
<tr>
<td></td>
<td>• Total number of completed tasks</td>
</tr>
<tr>
<td>Monitoring transactions</td>
<td>Monitoring transactions help you to immediately assess and resolve critical situations for your company.</td>
</tr>
<tr>
<td></td>
<td>You can, for example, monitor the following aspects:</td>
</tr>
<tr>
<td></td>
<td>• Total number of transactions</td>
</tr>
<tr>
<td></td>
<td>• Health status of transactions</td>
</tr>
<tr>
<td></td>
<td>• Transactions at risk</td>
</tr>
</tbody>
</table>
### 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

### 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

### 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.

---

### 5.1.2.6 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discarding content</td>
<td>You can discard the uploaded content without actually deleting the document itself.</td>
</tr>
<tr>
<td>Restricting access to legal documents</td>
<td>You can restrict accessibility to legal objects.</td>
</tr>
<tr>
<td>Specifying language of legal document</td>
<td>You can specify the language of a legal document.</td>
</tr>
<tr>
<td>Governing law</td>
<td>The governing law assigned to the legal transaction is applicable to the legal document.</td>
</tr>
<tr>
<td>Extensibility</td>
<td>You can use the extensibility option to add custom fields to the legal documents.</td>
</tr>
<tr>
<td>Creating and reviewing notes</td>
<td>You can use this feature to reply to notes added by other users and view other replies to a specific note.</td>
</tr>
<tr>
<td>Adding descriptions about legal documents</td>
<td>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.</td>
</tr>
<tr>
<td>Archiving objects</td>
<td>You can archive objects that have reached the end of the retention period.</td>
</tr>
<tr>
<td>Displaying and filtering legal documents</td>
<td>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.</td>
</tr>
<tr>
<td>Viewing history of legal documents</td>
<td>You can view the changes made to the legal documents and search for a specific change in the document.</td>
</tr>
<tr>
<td>Downloading files</td>
<td>You can download a file that was uploaded to the legal document object and make the necessary changes to the file.</td>
</tr>
<tr>
<td>Deleting documents</td>
<td>You can delete a legal document, if it is not set as a mandatory document in a context.</td>
</tr>
<tr>
<td>Editing documents</td>
<td>You can use the check out and check in option to edit documents.</td>
</tr>
<tr>
<td>Versioning documents</td>
<td>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.</td>
</tr>
</tbody>
</table>
5.1.2.7 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing legal tasks</td>
<td>You can centrally manage your legal workflow tasks. You can, for example:</td>
</tr>
<tr>
<td></td>
<td>● Centrally manage tasks linked to different legal transactions</td>
</tr>
<tr>
<td></td>
<td>● Forward tasks to other recipients</td>
</tr>
<tr>
<td></td>
<td>● Notify agents about pending tasks</td>
</tr>
</tbody>
</table>

5.1.3 In-App User Assistance

Business Background

SAP S/4HANA Cloud supports the integration with an in-app user assistant (currently SAP Enable Now) to manage aspects of modern corporate learning.

Key Features

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

Business Background

SAP S/4HANA Cloud supports the integration with a digital assistant (currently SAP CoPilot) to allow users to get their work done more efficiently.

Key Features

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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-Context Chat</td>
<td>The integration with the digital assistant enables you to exchange real-time information with your co-workers including notes, screenshots, and business or application data with the relevant business object context of the user.</td>
</tr>
<tr>
<td>Quick Create</td>
<td>For selected use cases users can create business objects directly using the digital assistant.</td>
</tr>
<tr>
<td>Natural Language Interaction</td>
<td>For selected use cases the digital assistant can support a natural language interaction to, for example, allow users to create or update business objects, or to get information about relevant business objects (for example, by typing a request using natural syntax).</td>
</tr>
</tbody>
</table>

5.2 Asset Management

5.2.1 Environment, Health and Safety

5.2.1.1 Incident Management

Business Background

You can use the incident management solution for the recording of incidents, near misses, or safety observations available for all users. After the users make the recordings, the responsible manager can collect additional information from the people involved and report data internally or externally to fulfill legal, regulatory, and company reporting responsibilities, and define tasks for preventing further incidents.
Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Incident Recording</td>
<td>You can record basic information about an incident. This includes a description of the actual events as well as information about the people that were involved in the incident. When the initial incident recording process is completed, the system automatically notifies the processor who is responsible, to trigger follow-up 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.</td>
</tr>
<tr>
<td>Review and Completion of Incident Records</td>
<td>You can directly access incident records to review and complete the information that was entered during initial incident recording. You can add more information about the people involved, report data internally or externally, and define preventive and/or corrective tasks.</td>
</tr>
</tbody>
</table>

5.3  Finance

5.3.1  Advanced Accounting and Financial Close

5.3.1.1  Advanced Financial Closing (Entity Close)

Business Background

Entity Close allows you to define, automate, process, and monitor the entity close for your organization. It provides predefined task template sets covering financial closing activities for both month-end and year-end closing.

Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Templates</td>
<td>You use templates to define and structure closing tasks.</td>
</tr>
</tbody>
</table>
### 5.3.1.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master data</td>
<td>Consolidation objects come with master data maintenance apps or self-service configuration apps.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data collection</strong> 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.</td>
</tr>
<tr>
<td><strong>Data preparation</strong> You can check the consistency of reported financial data by using validation rules. The reported financial data can be translated into the group currency.</td>
</tr>
<tr>
<td><strong>Consolidation</strong> 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.</td>
</tr>
<tr>
<td><strong>Reporting</strong> SAP S/4HANA embedded analytics can be used for reporting and data analysis on company and consolidated data.</td>
</tr>
</tbody>
</table>

### 5.3.1.3 Advanced Compliance Reporting

#### Business Background

You use the advanced compliance reporting to get an optimized overview of your compliance reporting tasks, and to generate and send the compliance reports to the government on time. Advanced compliance reporting provides you with functional and configuration features. You can use the following features of advanced compliance reporting to process compliance reports in accordance with your compliance reporting requirements.
Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run compliance reports</td>
<td>• Monitor the compliance status and due dates for the supported compliance reports.</td>
</tr>
<tr>
<td></td>
<td>• Generate and submit advanced compliance reports. The generated compliance reports are persisted by the system. Additionally, you can generate business partner correspondence for few supported reports.</td>
</tr>
<tr>
<td></td>
<td>• Define the reporting entities for different reporting levels via organizational units. The supported organizational units are company code, business place, business area, jurisdiction code, and section code.</td>
</tr>
<tr>
<td></td>
<td>• Upload complementary compliance attachments to support your reporting requirements</td>
</tr>
<tr>
<td></td>
<td>• Based on the available report features, you can:</td>
</tr>
<tr>
<td></td>
<td>○ Download the generated reports for manual submission to the government authorities</td>
</tr>
<tr>
<td></td>
<td>○ Verify the content of the legal reports and submit the reports electronically to the government using SAP Localization Hub, advanced compliance reporting service.</td>
</tr>
<tr>
<td></td>
<td>• Generate correction, additional correction, or clarification runs</td>
</tr>
<tr>
<td></td>
<td>• You can perform embedded analytics for compliance reports using data analysis.</td>
</tr>
<tr>
<td></td>
<td>• You can track the items considered for reporting under a specific report run for supported reports. This tracking helps to analyze and audit these documents.</td>
</tr>
<tr>
<td></td>
<td>• You can visualize and interpret output formats in a user-friendly and consistent manner using the data preview feature.</td>
</tr>
<tr>
<td></td>
<td>• You can make manual changes to the document data after the document has been generated, and before you submit it to the tax authorities. When you regenerate a document after performing manual adjustment, the selected document and its associated documents get regenerated at the same time.</td>
</tr>
<tr>
<td></td>
<td>• You can schedule the report generation based on your requirements. You can choose to generate the report immediately, or schedule the report generation for a later point in time. You can also cancel the reports runs that are in-process.</td>
</tr>
<tr>
<td></td>
<td>• You can view and process the activities that are relevant for your compliance reporting scenario.</td>
</tr>
<tr>
<td></td>
<td>• You can create reporting tasks for ad hoc reports. As ad hoc reports do not have fixed periodicity, reporting tasks are not generated automatically for adhoc reports in the Run Advanced Compliance Reports app.</td>
</tr>
</tbody>
</table>
5.3.2 Advanced Financial Operations

5.3.2.1 Advanced Credit 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit limit requests</td>
<td>You can set up a documented approval process for credit limit requests.</td>
</tr>
</tbody>
</table>
Key Feature | Use
--- | ---
Credit events and follow-on processes | You can define events which trigger follow-on processes for credit-specific data.

5.3.2.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection of Receivables</td>
<td>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.</td>
</tr>
</tbody>
</table>

5.3.2.3 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution of Dispute Cases</td>
<td>You can create a dispute case for an open invoice. The dispute case can then be processed in your company by the colleagues responsible.</td>
</tr>
</tbody>
</table>

**5.3.2.4 Contract Accounting**

**Business Background**

Contract Accounting provides the same functional scope as the Receivables Management and Payment Handling capability as part of Subscription Billing and Revenue Management.

**Related Information**

Receivables Management and Payment Handling [page 167]

**5.3.2.5 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 pays lease payments for the use of the asset, as agreed upon in the lease contract.

SAP S/4HANA Cloud Contract and Lease Management provides a single point of entry for collection, validation of lease contract data, performs valuation calculations and generates the financial postings derived from these calculations. SAP S/4HANA Cloud Contract and Lease Management supports the requirements for the new IFRS 16 and US GAAP ASC 842 standard.
## Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contract Management - Lease in</strong></td>
<td>You can create new contracts, execute periodic postings for existing contracts, and execute valuation postings for existing contracts.</td>
</tr>
<tr>
<td></td>
<td>You can change the supplier of an existing contract and run reports of your existing contracts as part of your daily business.</td>
</tr>
<tr>
<td></td>
<td>You can create reminder rules for every contract, for example to check the contract conditions, the contract term, or the renewal options, helping you to save time and effort and free up capacity for more strategic tasks.</td>
</tr>
<tr>
<td></td>
<td>Leveraging the reporting functions enables you to make better and more informed lease management decisions.</td>
</tr>
<tr>
<td><strong>Contract Management - Lease out</strong></td>
<td>This feature helps you to standardize and automate your lease-out debit contract management activities for Real Estate, as well as for machinery, equipment, vehicles, and computer hardware.</td>
</tr>
<tr>
<td></td>
<td>You can create new contracts and execute periodic postings for existing contracts.</td>
</tr>
<tr>
<td></td>
<td>You can change the customer of an existing contract, as well as run a report of existing contracts as part of your daily business.</td>
</tr>
<tr>
<td><strong>Contract Management – Sublease/Inter-company</strong></td>
<td>This feature allows you to assign or give certain rights to the subsessee – an affiliate company – that are held under the terms of the own original lease with the landlord.</td>
</tr>
<tr>
<td></td>
<td>The company handles the sublease contract and related valuation under local GAAP, IFRS, or US GAAP.</td>
</tr>
<tr>
<td></td>
<td>You can create new contracts and execute periodic postings for existing contracts.</td>
</tr>
<tr>
<td></td>
<td>You can change the customer of an existing contract, as well as run a report of existing contracts as part of your daily business.</td>
</tr>
</tbody>
</table>
### Service Contract

This feature helps you to standardize and automate your lease service credit contract management activities for real estate, as well as for machinery, equipment, vehicles, and computer hardware.

You can create new contracts and execute periodic postings for existing contracts.

You can change the supplier for existing contracts, as well as run reports of existing contracts as part of your daily business.

You can create reminder rules for every contract, for example to check the contract conditions, the contract term, or the renewal options, helping you to save time and effort and free up capacity for more strategic tasks.

Leveraging the reporting functions enables you to make better and more informed lease management decisions.

### 5.3.3 Advanced Treasury Management

#### 5.3.3.1 Cash and Liquidity Management

##### 5.3.3.1.1 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**

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank statements</td>
<td>You can use this feature to import and manually create bank statements.</td>
</tr>
<tr>
<td>Bank statement import status</td>
<td>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.</td>
</tr>
<tr>
<td>Key Feature</td>
<td>Use</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Cash positions</td>
<td>You can use this feature to check the actual and forecasted cash positions to assist cash allocation decision-making.</td>
</tr>
<tr>
<td>Cash flow items</td>
<td>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.</td>
</tr>
<tr>
<td>Bank transfers</td>
<td>You can use this feature to initiate bank-to-bank transfers and track the status of the bank transfers that you made recently.</td>
</tr>
<tr>
<td></td>
<td>You can also define and use templates to speed up your routine work for regular bank transfers.</td>
</tr>
<tr>
<td>Cash pooling</td>
<td>You can use this feature to create or remove cash pools, which can later be used in cash concentration between the assigned bank accounts.</td>
</tr>
<tr>
<td>Payment approvals</td>
<td>You can use this feature to approve or reject outgoing payments before the payment files are sent to banks.</td>
</tr>
<tr>
<td>Memo records</td>
<td>You can use this feature to create memo records manually and edit memo records in a list.</td>
</tr>
<tr>
<td>Cash flow reconciliation</td>
<td>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.</td>
</tr>
</tbody>
</table>

### 5.3.3.1.2 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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks and house banks</td>
<td>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.</td>
</tr>
<tr>
<td>Bank account master data</td>
<td>You can use this feature to define master data for your company’s corporate or business bank accounts, such as:</td>
</tr>
<tr>
<td></td>
<td>- Common properties of bank accounts</td>
</tr>
<tr>
<td></td>
<td>- Payment signatories</td>
</tr>
<tr>
<td></td>
<td>- Overdraft limits</td>
</tr>
<tr>
<td></td>
<td>- Bank account groups</td>
</tr>
<tr>
<td>Dual control</td>
<td>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.</td>
</tr>
<tr>
<td>Workflow processes</td>
<td>You can use this feature to control the process of opening, modifying, closing, reviewing, and mass changing signatories of bank accounts</td>
</tr>
<tr>
<td>Sent and received requests</td>
<td>You can use this feature to track and process workflow requests that you have sent or received for bank account creation or changes.</td>
</tr>
<tr>
<td>Bank account reviews</td>
<td>You can use this feature to perform the following tasks:</td>
</tr>
<tr>
<td></td>
<td>- Initiate a review process for selected bank accounts to ensure that the bank account master data is up to date</td>
</tr>
<tr>
<td></td>
<td>- Review bank accounts that are assigned to you</td>
</tr>
<tr>
<td></td>
<td>- Check all the review requests that are in process or completed</td>
</tr>
<tr>
<td>Bank fees</td>
<td>You can use this feature to perform the following tasks:</td>
</tr>
<tr>
<td></td>
<td>- Import bank services billing files to your system manually, or use the automatic import function of SAP Multi-Bank Connectivity</td>
</tr>
<tr>
<td></td>
<td>- Monitor imported bank fee data</td>
</tr>
<tr>
<td></td>
<td>- Define bank fee conditions and use the conditions to validate imported bank fee data</td>
</tr>
<tr>
<td>Bank correspondence</td>
<td>You can use this feature to generate correspondence letters to banks for bank accounts that are set to closed or have payment signatory changes in the system.</td>
</tr>
</tbody>
</table>
### 5.3.3.1.3 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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Relationship Overview</td>
<td>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.</td>
</tr>
<tr>
<td>Cash flow analysis and forecast</td>
<td>You can use this feature to do the following:</td>
</tr>
<tr>
<td></td>
<td>• Check the daily cash inflows and outflows</td>
</tr>
<tr>
<td></td>
<td>• Analyze the past actual cash flows with various dimensions</td>
</tr>
<tr>
<td></td>
<td>• Forecast the future liquidity trend with flexible selections of analytical dimensions, such as bank, country, company code, and so on.</td>
</tr>
<tr>
<td></td>
<td>• Adjust liquidity items by leveraging machine learning capabilities.</td>
</tr>
<tr>
<td>Snapshot</td>
<td>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.</td>
</tr>
</tbody>
</table>
### 5.3.3.2 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

<table>
<thead>
<tr>
<th>Function</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyze Financial Status</td>
<td>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.</td>
</tr>
<tr>
<td>Manage Financial Transactions</td>
<td>You use this feature to manage financial transactions for the following areas:</td>
</tr>
<tr>
<td></td>
<td>• Money market:</td>
</tr>
<tr>
<td></td>
<td>◦ Deposits at notice</td>
</tr>
<tr>
<td></td>
<td>◦ Commercial papers</td>
</tr>
<tr>
<td></td>
<td>◦ Cash flow transactions</td>
</tr>
<tr>
<td></td>
<td>◦ Interest rate instruments (for example, fixed-term deposits)</td>
</tr>
<tr>
<td></td>
<td>◦ Current Account-Style Instrument</td>
</tr>
<tr>
<td></td>
<td>• Bilateral facilities</td>
</tr>
<tr>
<td></td>
<td>• Derivatives</td>
</tr>
<tr>
<td></td>
<td>◦ Interest rate swap</td>
</tr>
<tr>
<td></td>
<td>◦ Cross-currency interest rate swap</td>
</tr>
<tr>
<td></td>
<td>• Securities</td>
</tr>
<tr>
<td></td>
<td>◦ Invest in investment certificates, such as money market funds</td>
</tr>
<tr>
<td></td>
<td>◦ Issue or invest in bonds with fixed or variable interest as well as zero-coupon bonds</td>
</tr>
<tr>
<td></td>
<td>• Trade finance</td>
</tr>
<tr>
<td></td>
<td>◦ Bank guarantee</td>
</tr>
</tbody>
</table>

The type of financial transaction dictates which functions are available for processing the financial transaction across its lifecycle.
<table>
<thead>
<tr>
<th>Function</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Payment Proposals</td>
<td>You use this feature to revise and release payment proposals. Journal entries are then generated in the finance system.</td>
</tr>
<tr>
<td></td>
<td><strong>i Note</strong></td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Post Business Transactions in Financial Accounting</td>
<td>Using the integration with Financial Accounting, your posting-relevant flows can be posted in Financial Accounting.</td>
</tr>
<tr>
<td>Manage Financial Positions in Parallel in Accordance with Different Accounting Principles</td>
<td>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.</td>
</tr>
<tr>
<td>Securities Account Management</td>
<td>You can</td>
</tr>
<tr>
<td></td>
<td>• manage master data for securities and securities accounts.</td>
</tr>
<tr>
<td></td>
<td>• manage your securities positions held on securities accounts across their lifecycle, for example, by fixing and posting condition-based dividend flows.</td>
</tr>
<tr>
<td>Execute Period End Closing</td>
<td>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.</td>
</tr>
<tr>
<td>Execute Valuation Class Transfer</td>
<td>You can use the valuation class transfer function for individual or multiple positions.</td>
</tr>
<tr>
<td></td>
<td>You can reverse the valuation class transfer.</td>
</tr>
<tr>
<td>Execute Account Assignment Reference Transfer</td>
<td>You use the account assignment reference to control which G/L account in Financial Accounting is used to manage the respective position.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Analyze Financial Transactions and Treasury Positions</td>
<td>You can use a range of reports to analyze your financial transactions and treasury positions specific to a key date or period.</td>
</tr>
<tr>
<td>Function</td>
<td>Use</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Perform Clearing Threshold Reporting</td>
<td>Clearing Threshold Reporting (CTR) supports NFCs in monitoring their derivative financial transactions that were not concluded for risk mitigation.</td>
</tr>
<tr>
<td>Determine Market Risks of Financial Transactions</td>
<td>You can measure the market risk of your financial transactions. You do this using mark-to-market methods, such as NPV analysis.</td>
</tr>
<tr>
<td>Limit Management</td>
<td>You use this feature to measure, analyze, and control the limits for your business partners.</td>
</tr>
<tr>
<td>Manage Market Data</td>
<td>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.</td>
</tr>
<tr>
<td>Transfer Legacy Data</td>
<td>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.</td>
</tr>
</tbody>
</table>

## 5.3.3.3 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

<table>
<thead>
<tr>
<th>Function</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Determine FX Risk Positions</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Hedge Management</strong></td>
<td>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.</td>
</tr>
<tr>
<td>• <strong>Review Balance Sheet FX Risks</strong></td>
<td>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.</td>
</tr>
<tr>
<td>• <strong>Determine Net Open Exposures</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Manage Financial Transactions Used for Hedging</strong></td>
<td>You use this feature to manage the following kinds of financial instruments used for hedging purposes:</td>
</tr>
<tr>
<td>• Foreign Exchange</td>
<td></td>
</tr>
<tr>
<td>○ Spot/Forward transactions</td>
<td></td>
</tr>
<tr>
<td>○ Non-deliverable forward transactions</td>
<td></td>
</tr>
<tr>
<td>○ FX swap</td>
<td></td>
</tr>
<tr>
<td>• FX options</td>
<td>The type of financial transaction dictates which functions are available for processing the financial transaction across its lifecycle.</td>
</tr>
<tr>
<td><strong>Manage Correspondence for Financial Transactions</strong></td>
<td>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.</td>
</tr>
<tr>
<td>Function</td>
<td>Use</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Manage Payment Proposals</td>
<td>You use this feature to revise and release payment proposals. Journal entries are then generated in the finance system.</td>
</tr>
<tr>
<td></td>
<td><strong>i Note</strong></td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Manage Treasury Positions in Parallel in Accordance with Different Accounting Principles</td>
<td>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.</td>
</tr>
<tr>
<td>Hedge Accounting</td>
<td>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.</td>
</tr>
<tr>
<td>Execute Period End Closing</td>
<td>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.</td>
</tr>
<tr>
<td>Execute Valuation Class Transfer</td>
<td>You can use the valuation class transfer function for individual or multiple positions.</td>
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</tr>
<tr>
<td>Execute Account Assignment Reference Transfer</td>
<td>You use the account assignment reference to control which G/L account in Financial Accounting is used to manage the respective position.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Function</td>
<td>Use</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Analyze Financial Transactions and Treasury Positions</td>
<td>You can use a range of reports to analyze your financial transactions and treasury positions specific to a key date or period.</td>
</tr>
<tr>
<td>Perform Clearing Threshold Reporting</td>
<td>Clearing Threshold Reporting (CTR) supports NFCs in monitoring their derivative financial transactions that were not concluded for risk mitigation.</td>
</tr>
<tr>
<td>Determine Market Risks of Financial Transactions</td>
<td>You can measure the market risk of your financial transactions. You do this using mark-to-market methods, such as NPV analysis.</td>
</tr>
<tr>
<td>Limit Management</td>
<td>You use this feature to measure, analyze, and control the limits for your business partners.</td>
</tr>
<tr>
<td>Manage Market Data</td>
<td>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.</td>
</tr>
<tr>
<td>Transfer Legacy Data</td>
<td>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.</td>
</tr>
</tbody>
</table>

### 5.3.3.4 Integration Scenarios

#### 5.3.3.4.1 Integration with External Trading Platforms

**Business Background**

SAP S/4HANA Cloud supports the integration with external trading platforms (currently the trading platform integration application). SAP S/4HANA Cloud provides an interface that allows foreign exchange transactions traded on an external trading platform to be transferred to SAP S/4HANA Cloud. This enables seamless FX risk management processes as the key figures in SAP S/4HANA Cloud are automatically updated to reflect the traded amount.
5.3.3.4.2 Treasury Workstation Integration to Accounting

Business Background

SAP S/4HANA Cloud 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. 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Replication</td>
<td>You can transfer accounting documents from SAP S/4HANA Cloud to an enterprise resource planning system.</td>
</tr>
</tbody>
</table>

5.3.3.4.3 Treasury Payment Request Integration

SAP S/4HANA Cloud 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.
5.3.3.4.4  Treasury Workstation Cash Integration

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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replicating house banks, house bank accounts, and bank accounts</td>
<td>You can replicate house banks, house bank accounts, and bank accounts from your SAP S/4HANA Cloud 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 systems.</td>
</tr>
<tr>
<td>Receiving and releasing cash flows from other business systems</td>
<td>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.</td>
</tr>
</tbody>
</table>

5.3.4  Subscription Billing and Revenue Management

5.3.4.1  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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receiving, management, and rating of unrated consumption information</td>
<td>Unrated information is imported from external sources and stored as consumption items.</td>
</tr>
<tr>
<td></td>
<td>Consumption items are event detail records without price information, allowing you to collect consumption data from different sources over a given period before rating.</td>
</tr>
<tr>
<td>Receiving and management of rated consumption information</td>
<td>Rated information is imported from external sources and stored as billable items.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>The data received from different sources can be combined to create one convergent invoice for the customer.</td>
</tr>
<tr>
<td>Billing for usage of services, preparation of data for invoice creation, and triggering of posting to accounting</td>
<td>Convergent Invoicing comprises a billing component and an invoicing component:</td>
</tr>
<tr>
<td></td>
<td>● During billing, Convergent Invoicing uses business rules to create structured bill content, grouping and aggregating billable items into billing documents.</td>
</tr>
<tr>
<td></td>
<td>● 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.</td>
</tr>
<tr>
<td></td>
<td>You can also use a billing plan to define:</td>
</tr>
<tr>
<td></td>
<td>● Dates and amounts for generating individual billable items</td>
</tr>
<tr>
<td></td>
<td>● Periods and amounts for generating recurring charges</td>
</tr>
<tr>
<td></td>
<td>From the invoicing data, Convergent Invoicing can generate print documents, which you can forward to connected printing systems.</td>
</tr>
<tr>
<td>Exception handling</td>
<td>If issues occur during the processing of invoicing documents and during invoice creation, you can use manual postprocessing in dialog.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>
5.3.4.2 Receivables Management and Payment Handling

Business Background

Receivables Management and Payment Handling 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 Receivables Management and Payment Handling 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posting of documents to enter business transactions</td>
<td>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.</td>
</tr>
<tr>
<td>Payment processing</td>
<td>The various business processes for payments provided can be classified as follows:</td>
</tr>
<tr>
<td></td>
<td>- Automatic payment by your company</td>
</tr>
<tr>
<td></td>
<td>This processing can be performed for outgoing and incoming payments if the customer has granted your company the corresponding authorization.</td>
</tr>
<tr>
<td></td>
<td>- Process incoming payments using lots</td>
</tr>
<tr>
<td></td>
<td>The customer makes payments through the bank or post office.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>If customers are unable to honor their financial commitments, you can arrange payment by installments for one or more receivables or defer receivables.</td>
</tr>
</tbody>
</table>
### Key Feature

#### 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.

---

### 5.4 Manufacturing

#### 5.4.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyze and classify products</td>
<td>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.</td>
</tr>
<tr>
<td>Select products relevant to Demand-Driven Replenishment</td>
<td>You can define which products are relevant to Demand-Driven Replenishment using classification information.</td>
</tr>
<tr>
<td>Generate buffer level proposals</td>
<td>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.</td>
</tr>
<tr>
<td>Manage buffer levels</td>
<td>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.</td>
</tr>
<tr>
<td>Manage replenishment planning</td>
<td>You can manage the planning status of buffers using their planning priority.</td>
</tr>
<tr>
<td>Manage replenishment execution</td>
<td>You can manage the execution status of buffers using their on-hand stock status.</td>
</tr>
</tbody>
</table>

5.4.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule the creation of pMRP simulations</td>
<td>You can create simplified planning data and use them as reference data in a simulation.</td>
</tr>
<tr>
<td>Process pMRP simulations</td>
<td>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. You can check the impact of these simulated changes and display a summary.</td>
</tr>
</tbody>
</table>

5.5 Professional Services

5.5.1 Resource Management

Business Background

SAP S/4HANA Cloud for resource management allows you, as a resource manager, to efficiently manage your resources while monitoring incoming resource requests at the same time.

Resource management helps you to quickly find resources with free capacity and staff them for suitable projects. You can also find open resource requests and staff suitable resources for them.

Key Features

The following table shows the key features available:

i Note

The full feature scope is available in the advanced version of resource management.
### Key Feature

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor KPIs for resources and resource requests</td>
<td>You can monitor key figures for resources and resource requests based on defined thresholds.</td>
</tr>
<tr>
<td></td>
<td>For example, you can see:</td>
</tr>
<tr>
<td></td>
<td>- How many resource requests still require staffing, and how many of them are due and overdue</td>
</tr>
<tr>
<td></td>
<td>- How many resources still have free capacity and how many are overbooked</td>
</tr>
<tr>
<td></td>
<td>- The staffing situation for the most requested project roles</td>
</tr>
<tr>
<td></td>
<td><strong>Analyze resource utilization</strong></td>
</tr>
<tr>
<td></td>
<td>You can filter the resources for which you are responsible and analyze their utilization. For example, you can see the projects to which a resource is currently assigned.</td>
</tr>
<tr>
<td></td>
<td><strong>Analyze project staffing</strong></td>
</tr>
<tr>
<td></td>
<td>You can filter and analyze the resource requests that are assigned to one of your service organizations. For example, you can see which resource requests still need to be staffed and how urgent these requests are.</td>
</tr>
<tr>
<td></td>
<td><strong>i Note</strong></td>
</tr>
<tr>
<td></td>
<td>A resource request corresponds to a role that needs to be staffed for a work package in a customer project or an internal project.</td>
</tr>
<tr>
<td></td>
<td><strong>Find resources and resource requests based on suitability matching</strong></td>
</tr>
<tr>
<td></td>
<td>Suitability matching is performed automatically for resources and resource requests. The overall match percentage is calculated based on the results for skills and availability.</td>
</tr>
<tr>
<td></td>
<td>This helps you to easily find suitable requests for resources with free capacity as well as suitable resources for open requests.</td>
</tr>
<tr>
<td></td>
<td><strong>Staff resources for resource requests</strong></td>
</tr>
<tr>
<td></td>
<td>You can staff resources for the requested project roles by creating assignments. You can also change or delete assignments.</td>
</tr>
<tr>
<td></td>
<td>When creating or changing assignments for individual resources, you can specify a distribution rule for the hours to be assigned.</td>
</tr>
<tr>
<td></td>
<td><strong>Simulate key figure changes</strong></td>
</tr>
<tr>
<td></td>
<td>Before creating, changing, or deleting an assignment, you can simulate how this would affect key figures, such as resource utilization and staffed hours.</td>
</tr>
<tr>
<td></td>
<td><strong>View assignments and resource utilization in a graphical view</strong></td>
</tr>
<tr>
<td></td>
<td>You can use a graphical view to see what projects your resources are assigned to and when. The graphical view includes detailed information for both the entire assignment and the individual segments of an assignment.</td>
</tr>
<tr>
<td></td>
<td>You can also show the weekly and monthly resource utilization.</td>
</tr>
<tr>
<td></td>
<td><strong>Transfer staffing assignments from customer and internal project management to resource management</strong></td>
</tr>
<tr>
<td></td>
<td>You can transfer existing staffing assignments from customer and internal project management to resource management.</td>
</tr>
</tbody>
</table>
Advanced integration with customer project management

Provided that a resource request has not yet been staffed by a resource manager, project managers can create assignments directly in the work package, based on the suitability matching results provided by resource management.

Related Information

Customer Project Management [page 76]

5.6 R&D / Engineering

5.6.1 Enterprise Portfolio and Project Management

5.6.1.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displaying overview of projects</td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td>● Upcoming milestones</td>
</tr>
<tr>
<td></td>
<td>● Cost information</td>
</tr>
<tr>
<td></td>
<td>● Status information</td>
</tr>
</tbody>
</table>
Displaying and updating project briefs  
You can display or update a project brief for each of your projects. The project brief summarizes information essential for project review in steering committee meetings, such as the following:
- Milestones
- Cost information
- Status information
- Team members
- Related documents

Creating and accessing project-related collaborations  
From a project brief, you can create and access a collaboration. Currently, this feature relies on the integration of project briefs in SAP S/4HANA Cloud with the collaboration capability of SAP S/4HANA Cloud for intelligent product design. Please note that SAP S/4HANA Cloud for intelligent product design is a separate product with its own product lifecycle and licensing requirements.

5.6.2 Product Compliance

5.6.2.1 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management of compliance requirements</td>
<td>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. You can group them by purpose. You can create and use further requirements and purposes</td>
</tr>
</tbody>
</table>
### Key Feature

**Management of compliance assessment processes**

This feature supports you in the compliance assessment process for your product portfolio:

- 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 use your compliance assessment results to perform a market assessment for your products.

**Compliance controls embedded in business processes**

This feature allows you to embed compliance controls into key business processes:

- Requests for compliance assessment are automatically created based on changes in the product master.
- Compliance checks are integrated into sales quotation and sales order processing as follows: Based on the market assessment, the quotation or the order is blocked.
- Compliance checks are integrated into outbound delivery processing. Based on the market assessment, the delivery item cannot be processed and post goods issue is blocked.

### 5.6.2.2 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 sales and delivery processes, where the information can be used to checks whether the transport of a product is allowed.
Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification of dangerous goods</td>
<td>You can classify packaged and unpackaged products according to dangerous goods regulations. The classified dangerous goods form the basis for dangerous goods processing in sales and delivery.</td>
</tr>
<tr>
<td>Dangerous goods assessments embedded in business processes</td>
<td>Dangerous goods data is integrated into the processing of sales and delivery documents. The data can be used to check whether the transport in a specific country by a specific mode of transport is allowed. If not, the sales and delivery documents are blocked.</td>
</tr>
</tbody>
</table>

5.6.2.3 Safety Data Sheet Management

Business Background

With this business solution, you manage safety data sheets (SDS) according to chemical regulations and requirements. A safety data sheet is an important component of product stewardship. It is legally required in most countries 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, 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.

Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
</table>
| Management of compliance requirements for safety data sheets | • You can manage safety data sheet-related compliance requirements based on legislation and countries.  
  • You can group them by purpose.  
  • You can create and use further requirements and purposes.  
  • You can upload safety data sheet documents in different languages. |
### 5.6.3 Product Lifecycle Management

#### 5.6.3.1 Integrated Product Development for Process Industries

#### 5.6.3.1.1 Recipe and Formula Development

**Business Background**

You can use Recipe Development to maintain your ingredients, develop recipes and describe recipe processes. Recipes comprise information about the products and components of a process, the process steps to be executed, and the resources required for the production.

**Key Features**

The following features are available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating and managing recipes</td>
<td>Recipes comprise the information about the production process for a product, as well as the input and output substances and packaging used in that process. The different recipe types enable you to create a general description of the requirements or concrete procedural instructions depending on your needs. Based on the ingredients used, you can also carry out different calculations, for example to determine a product’s nutritional value. You can search and filter recipes by various header attributes, as well as based on ingredients, input materials, and standard composition. This enables you to see in which recipes and in what percentage a certain input substance or material is used.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Creating and managing ingredients and packages</strong> You can create and maintain different substances, like pure, raw and output substances of a recipe. You can create and manage different objects that describe substances, for example nutrients, allergens or diets. You can also create and maintain packages.</td>
</tr>
<tr>
<td><strong>Developing formulas</strong> Material and substance data of recipes is managed in formulas. Here, you store all the relevant information about the products and components of the process.</td>
</tr>
<tr>
<td><strong>Defining the recipe production process</strong> You can define a sequence of chemical, physical, or biological activities for converting, storing, or transporting material or energy. The process contains all the activities that are required to produce a product or different intermediate products.</td>
</tr>
</tbody>
</table>

### 5.6.3.1.2 Handover to Manufacturing

#### Business Background

You can use this business process to create and update a manufacturing bill of material (BOM) using a recipe as data source.

The creation or update of BOMs typically occurs when the development department has completed product and process definition, and this information has been finalized and approved for use in production.

Guided Structure Synchronization automates this process, thereby enabling the user to keep development and manufacturing data aligned, reducing effort and improving data accuracy and consistency.

#### Key Features

The following features are available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Creating and updating BOMs</strong> You can create a new BOM or, if you have already executed synchronization, update the existing BOM with the changed recipe data. As a first step, you define attributes for your target manufacturing BOM to be created. Then, the system displays the target structure that is to be created or updated through synchronization. If the system determines conflicts, it displays these and you can solve them directly by using predefined actions.</td>
<td></td>
</tr>
<tr>
<td><strong>Synchronizing a recipe with an existing BOM</strong> You can start a synchronization using an already existing and not yet synchronized BOM. You can select from a list of the available BOMs to assign as an alternative BOM. During synchronization you can decide for each formula item whether you want to create a new target item, map to an existing BOM item, or not map the formula item at all.</td>
<td></td>
</tr>
</tbody>
</table>
You can synchronize the formula of a recipe into multiple BOMs in one step without de­
fining intermediate products on the recipe side. You can define split points as a new op­
tion and assign subordinate BOMs to the streams of a recipe. The BOM header and the 
subordinate BOMs are then synchronized together with a single synchronization unit.

5.6.3.2 Integrated Product Development for Discrete 
Industries

5.6.3.2.1 Handover to Manufacturing

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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing planning scope alternative</td>
<td>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 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.</td>
</tr>
</tbody>
</table>
| 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 |
5.6.3.2.2 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage bills of material</td>
<td>You can create a complete, formally structured list of components that make up a product or an assembly. You can create versions of a BOM 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 manage embedded software component. You can integrate with SAP S/4HANA Cloud for intelligent product design through requirement assignments to a BOM.</td>
</tr>
<tr>
<td>Find where materials are used in BOMs</td>
<td>You can search for BOM header using a component that can be filtered for plant, BOM usage, alternative BOM, etc. and view the where used details of a material and replace a material with another material.</td>
</tr>
</tbody>
</table>
5.6.3.2.3 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification handling</td>
<td>You can define classes and their characteristics including characteristic values and organize classes into class hierarchies if the class type allows it.</td>
</tr>
<tr>
<td>Finding objects</td>
<td>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.</td>
</tr>
</tbody>
</table>

5.6.3.2.4 Document Management

Business Background

Document Management (DMS) allows you to store, manage, and use documents during creating and maintaining digital product information company-wide and throughout the life cycle of a product.

The following examples show some of the uses of document management in different areas of a company.
- In the design office, document management can be used to manage drawings. All design drawings can be linked to material masters.
- Companies that process complex documents can use document structures to organize these documents. All documents and texts that are logically connected can be grouped together in one document structure.
- A routing contains the sequence of operations for manufacturing a product. Documents can be allocated to the operations in a routing. These documents may be used, for example, to describe the specifications of a product, or to store inspection requirements.
• Documents can be linked to projects. You can use the document hierarchy to represent individual product folders that are given to the product administrators responsible.

Key Features

The following features are available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document handling</td>
<td>To store and manage a document, you create a document info record that contains all of the data required to process and manage a document including the original document itself.</td>
</tr>
<tr>
<td>CMIS Enablement from DMS</td>
<td>• The adoption of Document Management to CMIS standards enables seamless information flow between content repositories and easy adoption of the solution.</td>
</tr>
<tr>
<td></td>
<td>• As a part of the new solution, files, document info records (DIRs), and business object links are stored as CMIS documents, CMIS folders, and CMIS items respectively in the content repositories. Since repositories store more business semantics now, they can be queried to accommodate the daily business and forecasts.</td>
</tr>
</tbody>
</table>

5.6.3.2.5  Engineering Change Management

Business Background

Engineering change management is a central logistics function that can be used to change various aspects of production basic data (for example, bills of material, materials, and documents) with history (with date effectivity). All changes are made with reference to a change master record.

Key Features

The following features are available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change master record handling</td>
<td>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.</td>
</tr>
</tbody>
</table>
### Key Feature | Use
--- | ---
Product structure handling | The product structure browser allows you to display information about your product data. This information is especially important for engineering and design as well as production. This browser gives you a quick overview of product-defined data that is displayed structurally. You can navigate within a product structure and access all data that is relevant for your product. As an initial object you can use, for example, a material, a document, a change master record, or a class.

Revision level assignment | You can identify material changes that are made with reference to a change number by the use of revision levels. A revision level can be assigned on a valid-from date when an object is changed with reference to a change number.

Change record | You use this feature to manage engineering changes. It provides certain business values, including:
- workflow driven change management process along with ad-hoc stakeholder communication with SAP CoPilot.
- single source of change data (for example, scopes, processes, and responsible persons).
- loading pre-defined workflow templates to accelerate the process setup in daily business.
- determining right responsible persons for the process from pre-defined teams to save the efforts of team setup.
- extensibility on customer attributes

Engineering cockpit | You can get an overview of engineering changes and engineering progress for different business objects.

### 5.6.3.2.6 Embedded Systems Development

#### Business Background

Embedded systems development combines the development of embedded software and systems engineering. Embedded software is built-in computer software that runs on devices or machines. It provides functions along with various hardware and systems. You can define material types and document types for embedded software management.

Embedded software requires a specific hardware and software environment to run accurately. You can manage and check compatibility information between embedded software and other parts of a product.

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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embedded Software Management</td>
<td>You can use a specific material type to define software.</td>
</tr>
<tr>
<td></td>
<td>You can also use a specific document type to define software versions.</td>
</tr>
<tr>
<td>Managing Constraints</td>
<td>You can view and maintain the compatibility information of embedded software, including:</td>
</tr>
<tr>
<td></td>
<td>● Hardware constraints: the compatibility between embedded software and hardware</td>
</tr>
<tr>
<td></td>
<td>● Software constraints: the compatibility between embedded software and other software.</td>
</tr>
<tr>
<td>Checking Software Compatibility</td>
<td>You can check software compatibility in a bill of material (BOM).</td>
</tr>
<tr>
<td>Managing Model Object Assignments</td>
<td>You can assign objects from external system models to the business objects in your system to support full traceability.</td>
</tr>
</tbody>
</table>

5.6.3.2.7 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:

<table>
<thead>
<tr>
<th>Key features</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage configuration model</td>
<td>You can use a configurable product to cover all variants of a product in your company.</td>
</tr>
<tr>
<td></td>
<td>• 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.</td>
</tr>
<tr>
<td></td>
<td>• You can create a super BOM for a configurable product, containing all the components for producing all variants of the product.</td>
</tr>
<tr>
<td></td>
<td>• 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.</td>
</tr>
<tr>
<td></td>
<td>• In configuration profiles for configurable objects, you define central settings for configuring the object.</td>
</tr>
<tr>
<td></td>
<td>• You can use variant conditions to influence the price of a configurable product depending on the characteristic values assigned.</td>
</tr>
<tr>
<td></td>
<td>• You can use single-level and multi-level variant configuration models.</td>
</tr>
<tr>
<td></td>
<td>• You can use configurable routings.</td>
</tr>
<tr>
<td>Manage product variants</td>
<td>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.</td>
</tr>
<tr>
<td>Interactive configuration</td>
<td>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.</td>
</tr>
<tr>
<td>Configuration simulation</td>
<td>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.</td>
</tr>
<tr>
<td>Low-level configuration</td>
<td>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.</td>
</tr>
</tbody>
</table>
**Key features**

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variant configuration data in embedded analytics</td>
<td>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.</td>
</tr>
</tbody>
</table>

**Related features**

Classification [page 180]

## 5.6.3.2.8  Product Structure Management

### 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage variants in product structure</td>
<td>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.</td>
</tr>
<tr>
<td>Manage software in product structure</td>
<td>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.</td>
</tr>
<tr>
<td>Change BOM in product structure with product view</td>
<td>You can change bill of material items in product structures with product view.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th><strong>Key Feature</strong></th>
<th><strong>Use</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Simulate product structure</td>
<td>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.</td>
</tr>
<tr>
<td>Manage object dependencies in product structure</td>
<td>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.</td>
</tr>
<tr>
<td>Trigger product structure handover to manufacturing BOM</td>
<td>You can trigger product structure handover to manufacturing bills of materials (BOMs). You can create and update a manufacturing BOM.</td>
</tr>
<tr>
<td>Manage product structures</td>
<td>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.</td>
</tr>
<tr>
<td>Enable product structure variants in change record</td>
<td>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.</td>
</tr>
<tr>
<td>Enable the where-used function in product structures</td>
<td>You can maintain product structure nodes where the selected product structure node is used to assemble product bottom-up.</td>
</tr>
</tbody>
</table>

### 5.7 Sourcing and Procurement

#### 5.7.1 Integration with Machine Learning Intelligence

#### Business Background

SAP S/4HANA Cloud supports the integration with a machine learning system (currently SAP S/4HANA Cloud, intelligent insights for procurement) to allow users to optimize their procurement processes.
Key Features

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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal for creation of catalog items</td>
<td>You can identify free-text purchase requisition items with similar descriptions. The system uses this information to propose the creation of new catalog items. Purchasers can negotiate lower prices for highly requested items identified by the system.</td>
</tr>
<tr>
<td>Proposal of material groups</td>
<td>When users create a free-text purchase requisition, the system classifies the description and suggests the most probable material groups.</td>
</tr>
<tr>
<td>Proposals for materials without contracts</td>
<td>The system compares materials without a contract to materials with a contract and then proposes the creation of a request for quotation for specific materials. Based on the request for quotation, a new contract can be created.</td>
</tr>
<tr>
<td>Prediction of delivery date for purchase order items</td>
<td>Based on a machine learning algorithm, the system can predict the delivery date for purchase order items.</td>
</tr>
<tr>
<td>Proposal of catalog items based on images</td>
<td>When employees want to request materials, they can upload images when using the cross-catalog search (OCI 5.0) to find the items they require.</td>
</tr>
</tbody>
</table>

5.7.2 Central Procurement

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

5.7.2.1 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 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating purchase requisitions</td>
<td>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.</td>
</tr>
<tr>
<td>Shopping on behalf of other users</td>
<td>Employees can also shop on behalf of other users, for example a team assistant can procure an item on behalf of the manager.</td>
</tr>
<tr>
<td>Editing purchase requisitions</td>
<td>A purchaser can edit a purchase requisition that was replicated from the hub system in the connected system.</td>
</tr>
<tr>
<td>Approving purchase requisitions</td>
<td>Approvers can use the flexible workflow to approve purchase requisitions. The approval process can be either an automatic, a one-step or a multi-step approval. 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. For more information, refer to the section Manage Teams and Responsibilities [page 13].</td>
</tr>
<tr>
<td>Replicating purchase requisitions to the connected systems</td>
<td>The approved purchase requisitions are replicated to the connected systems.</td>
</tr>
<tr>
<td>Monitoring the replication of purchase requisitions to the connected systems</td>
<td>Configuration experts can monitor purchase requisitions for which the replication has failed in either the hub system or connected systems.</td>
</tr>
<tr>
<td>Monitor extraction jobs for sources of supply</td>
<td>Configuration experts can monitor extraction jobs for sources of supply that have failed.</td>
</tr>
<tr>
<td>Creating purchase orders automatically</td>
<td>The purchase orders are created automatically in the connected systems from the replicated purchase requisitions.</td>
</tr>
<tr>
<td>Confirming the receipt of goods</td>
<td>Employees can confirm the received goods in the hub system. As a result, confirmations are posted to the connected systems.</td>
</tr>
<tr>
<td>Creating a return delivery</td>
<td>If goods are of poor quality or damaged, for example, employees can create a return delivery in the hub system for the confirmed goods.</td>
</tr>
</tbody>
</table>

### 5.7.2.2 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) 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing central purchase contracts</td>
<td>Purchasers can create, change, copy and display central purchase contracts. They can create central purchase contracts of type value contract or quantity contract. When creating a central purchase contract, 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, for example, define distributions, create conditions, and enter delivery and payment terms.</td>
</tr>
<tr>
<td>Making mass changes to central purchase contracts</td>
<td>Purchasers can select headers and items of central purchase contracts to trigger a mass change for specific values. They can then monitor these mass changes.</td>
</tr>
<tr>
<td>Using workflow-based approval</td>
<td>Approvers can use the flexible workflow to approve central purchase contracts. The approval process can be automatic, one-step, or multi-step approval.</td>
</tr>
<tr>
<td>Distributing central purchase contracts to the connected systems</td>
<td>After a central purchase contract is approved, it is distributed to the connected systems based on the distribution details maintained by the 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.</td>
</tr>
<tr>
<td>Checking errors in contracts and reinitiating distribution</td>
<td>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, purchasers can re-initiate the distribution of such contracts.</td>
</tr>
<tr>
<td>Importing release orders into the hub system</td>
<td>Configuration experts can import release orders into the hub system from the connected systems. As a result, 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.</td>
</tr>
</tbody>
</table>
5.7.2.3 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 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, 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situation handling</td>
<td>Purchasers can receive notifications when the consumption level of a specific central purchase contract item exceeds a predefined threshold. Purchasers can also receive notifications when a central purchase contract is due to expire.</td>
</tr>
<tr>
<td>Importing purchasing documents into the hub system</td>
<td>Configuration experts can import purchasing documents into the hub system from the connected systems.</td>
</tr>
<tr>
<td>Working with purchasing documents</td>
<td>Purchasers can display and manage purchasing documents centrally.</td>
</tr>
<tr>
<td>Assigning sources of supply to purchase requisitions centrally</td>
<td>Purchasers can assign sources of supply to the purchase requisition items centrally, for example, by navigating into the specific purchase requisition.</td>
</tr>
<tr>
<td>Processing purchase requisitions centrally</td>
<td>Purchasers can process purchase requisitions centrally. This option enables the purchasers to block or unblock the automatic creation of purchase orders in the connected systems.</td>
</tr>
<tr>
<td>Displaying purchasing documents</td>
<td>Purchasers can display purchasing documents based on the attributes maintained for users.</td>
</tr>
<tr>
<td>Editing purchasing documents</td>
<td>Purchasers can navigate directly to the connected systems to edit the purchasing documents.</td>
</tr>
<tr>
<td>Creating purchase orders from purchase requisitions</td>
<td>Purchasers can create purchase orders from purchase requisitions in the connected systems.</td>
</tr>
</tbody>
</table>
### Key Feature

<table>
<thead>
<tr>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating purchase orders centrally</td>
</tr>
<tr>
<td>Use</td>
</tr>
<tr>
<td>Creating purchase requisitions centrally</td>
</tr>
<tr>
<td>Use</td>
</tr>
<tr>
<td>Displaying process flow for purchasing documents</td>
</tr>
<tr>
<td>Use</td>
</tr>
<tr>
<td>Analyzing and resolving replication errors of central purchase requisitions</td>
</tr>
<tr>
<td>Use</td>
</tr>
<tr>
<td>Situation handling for purchase order items</td>
</tr>
<tr>
<td>Use</td>
</tr>
<tr>
<td>Creating central purchase contracts from purchase requisitions</td>
</tr>
<tr>
<td>Use</td>
</tr>
<tr>
<td>Adding purchase requisition items to purchase orders</td>
</tr>
</tbody>
</table>

#### 5.7.2.4 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:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyzing central purchase contracts</td>
<td>Strategic buyers can display central purchase contracts and analyze their consumption. The consumption can be analyzed by supplier or connected purchasing organization, for example.</td>
</tr>
<tr>
<td>Analyzing global purchasing spend</td>
<td>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.</td>
</tr>
<tr>
<td>Monitoring central purchase contract items</td>
<td>Purchasers can monitor the release history of central purchase contract items, for example, and display the items and distribution lines with the highest consumption.</td>
</tr>
<tr>
<td>Monitoring purchase order items centrally</td>
<td>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, purchasers can use the visual filter to monitor the top spend by supplier, for example, and overdue items across the entire organization.</td>
</tr>
<tr>
<td>Analyzing central purchase requisition item types</td>
<td>Purchasers can view and analyze central purchase requisition item types, such as services, materials, or text items.</td>
</tr>
<tr>
<td>Monitoring purchase requisition items centrally</td>
<td>Purchasers can monitor purchase requisition items centrally, based on filter criteria such as display currency, material group, or purchasing organization. In addition to this, purchasers can use the visual filters to display data, for example, the total value by purchasing groups.</td>
</tr>
</tbody>
</table>

5.7.3 Integration with External Procurement Systems

SAP S/4HANA Cloud supports the integration with external procurement systems (currently 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.
Key Features

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

Operational Procurement

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation of requisitions initiated from the external procurement system</td>
<td>Requisitions that employees create in the external procurement system can initiate the creation of corresponding purchase requisitions and follow-on documents, such as purchase orders, goods receipts, and invoices in SAP S/4HANA Cloud. 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.</td>
</tr>
<tr>
<td>Creation of purchase orders, goods receipts, and service entry sheets initiated from the external procurement system</td>
<td>The creation or processing of documents in the external procurement system can initiate the creation or update of purchase orders, goods receipts, and service entry sheets in SAP S/4HANA Cloud.</td>
</tr>
<tr>
<td>Transparency of documents in SAP S/4HANA Cloud</td>
<td>The numbers of SAP S/4HANA Cloud purchase requisitions, purchase orders, and follow-on documents are transferred to the external procurement system to be displayed to the employees who created the requisitions.</td>
</tr>
</tbody>
</table>

Invoice Management

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation of supplier invoices initiated from the external procurement system</td>
<td>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. Here, the supplier invoices are made available to accounts payable to be used in follow-on processes.</td>
</tr>
<tr>
<td>Transparency of documents in SAP S/4HANA Cloud</td>
<td>The numbers of the invoices created in SAP S/4HANA Cloud can be transferred to the external procurement system to provide transparency to the users who created the original documents.</td>
</tr>
</tbody>
</table>

5.7.4 Integration of Central Procurement with External Procurement System

Business Background

SAP S/4HANA Cloud supports the integration of Central Procurement with an external procurement system (currently 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 (acting as a hub system) or decentrally in the connected systems.
**Key Features**

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

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validation of requisitions created in the external procurement system and creation of purchase requisitions</td>
<td>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 (acting as a hub system) and then forwarded to the connected system.</td>
</tr>
<tr>
<td>Approval process</td>
<td>The approval step for requisitions created in the external procurement system can be performed in SAP S/4HANA Cloud (acting as a hub system).</td>
</tr>
<tr>
<td>Transparency of documents in SAP S/4HANA Cloud</td>
<td>The numbers of the purchase requisitions created in SAP S/4HANA Cloud (acting as the hub system) and of the follow-on documents (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.</td>
</tr>
</tbody>
</table>

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

**Business Background**

SAP S/4HANA Cloud 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 enables you to use the following key feature:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uploading invoice documents</td>
<td>Supplier invoices can be created from data files that were uploaded by an optical character recognition program (currently OpenText).</td>
</tr>
</tbody>
</table>
5.8 Supply Chain

5.8.1 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 particularly 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.

Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Allocation</td>
<td>You can use this feature to allocate material quantities for a specific time period and to a combination of characteristic values for sales orders and stock transport orders, 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.</td>
</tr>
<tr>
<td>Release for Delivery</td>
<td>You can use this feature to manually re-prioritize 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 re-prioritization, you can trigger subsequent logistics processes.</td>
</tr>
<tr>
<td>Alternative-Based Confirmation</td>
<td>During sales order creation, you can replace the originally requested location for a requirement with a substitute location. When selecting the substitute location, the system takes the current availability situation of all possible substitute locations into consideration.</td>
</tr>
</tbody>
</table>

Additional Information

For information about the key features for the solution capability Available to Promise, see Available to Promise [page 117].
6 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 was designed to fulfill the highest security standards which guarantee the safety of your data both from web attacks and from attacks in the cloud.

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
- Protection of personal data
- Security-relevant logging and tracing
- Internet communication framework security
- Security aspects of data, data flow and processes

**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

6.1 Technical System Landscape

SAP S/4HANA Cloud 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 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 S/4HANA Cloud by browser from any network with internet access. The following diagram summarizes the technical system landscape for standard user access:

Communications between customer browser and the system landscapes of SAP S/4HANA Cloud 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.

6.2 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 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 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**

The network for SAP S/4HANA Cloud 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 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.

### 6.3 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.

**i 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.

### Key Features

The following table explains the key features available:

<table>
<thead>
<tr>
<th>Key Feature</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deletion and blocking: End of purpose check</td>
<td>Determines whether data is still relevant for business activities based on the residence period defined for the data.</td>
</tr>
<tr>
<td>Deletion and blocking: Blocking of data</td>
<td>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.</td>
</tr>
<tr>
<td>Monitoring and logging data access</td>
<td>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.</td>
</tr>
<tr>
<td>Tracing changes of business objects</td>
<td>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.</td>
</tr>
<tr>
<td>Information Retrieval</td>
<td>Supports the data subject’s right to get information about their data that is being processed.</td>
</tr>
<tr>
<td>ILM Business Rule Creation</td>
<td>Simplifies the process of defining residence and retention rules for your ILM objects.</td>
</tr>
<tr>
<td>Consent Administration</td>
<td>Provides functions to import consent records as copies and to search for and display stored consent records.</td>
</tr>
</tbody>
</table>
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