

Browse the Book

Learn to enable end users' roles and provide them with access to individualized KPIs. Explore predefined business content shipped as part of the integration between SAP S/4HANA and SAP Analytics Cloud. Finally, review best practices for technical integration with SAP BW, SAP BusinessObjects BI Platform, and SAP Cloud Platform.

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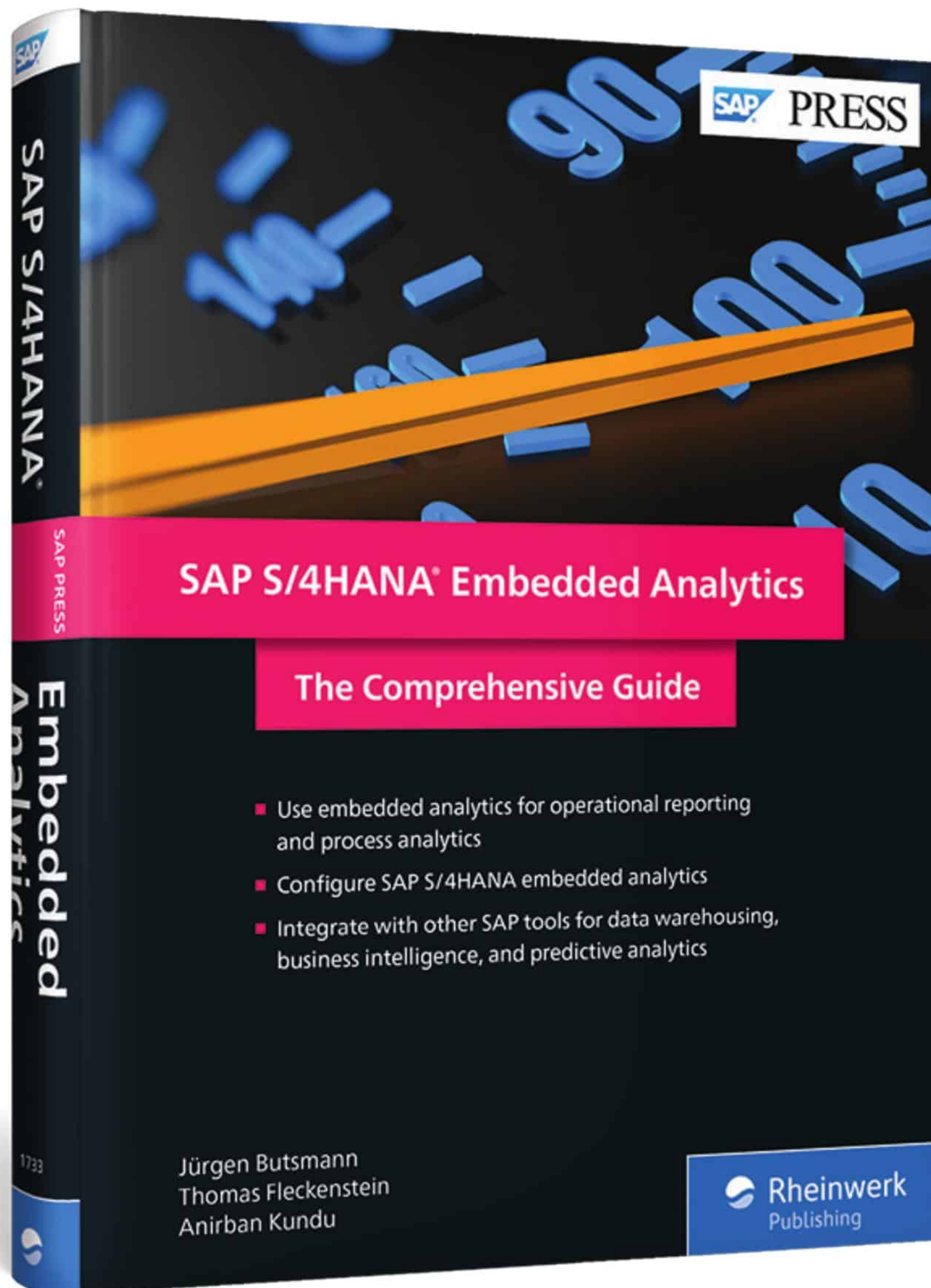
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Chapter 5

Predefined Analytics Content

You can get started with the predefined analytics content and experience the insight-to-action scenario to immediately realize value from your investment. SAP S/4HANA embedded analytics has a rich set of apps ready to use. Packaged best practices content is also available for integration with SAP S/4HANA.

SAP S/4HANA embedded analytics is a powerful framework that enables users in your organization to rapidly model, create, and share their views, reports, KPIs, and apps. In addition to powerful modeling capabilities and a rich set of key user tools, SAP S/4HANA embedded analytics also delivers prepackaged best practices content for the various lines of business (LOBs). With 900+ views and 300+ KPIs, SAP S/4HANA embedded analytics provides a range of analytical capabilities across LOBs to cover most immediate reporting and analytics requirements.

Along with the analytical apps delivered with SAP S/4HANA, the best practices guide for SAP S/4HANA embedded analytics is a valuable asset: it provides a step-by-step guide for installation, configuration, and integration of the SAP S/4HANA embedded analytics toolsets and content.

In this chapter, we'll show how analytics specialists can enable the roles required for end users and provide them access to KPIs tailored to their needs. Because all analytical apps are available as part of the SAP S/4HANA core, they're available without any additional license. We'll also explore the predefined business content shipped as part of the integration of SAP S/4HANA and SAP Analytics Cloud across finance, procurement, and manufacturing. Finally, we'll highlight the best practices guide for technical integration with SAP BW, the SAP BusinessObjects BI Platform, and SAP Cloud Platform.

5.1 Content Delivered with SAP S/4HANA

In Chapter 4, we discussed applications such as overview pages, analytical list pages, SAP Smart Business KPIs, and Analysis Path Framework apps. As SAP invests in more content and ships additional content with new releases, it’s paramount that organizations looking to explore the value of embedded analytics have a central place to search for and see the details of all applications available as part of the SAP S/4HANA suite. For this reason, SAP has developed the SAP Fiori apps library, the central repository of information about all the apps available in SAP S/4HANA. This library is on the web and doesn’t require any SAP product license to access. Because this is the most popular source of information available to the any organization looking to implement SAP S/4HANA, it appears as the first result if you search Google for “SAP Fiori apps library”. However, the SAP Fiori apps library (shown in Figure 5.1) can be accessed at the following URL: <https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/>.

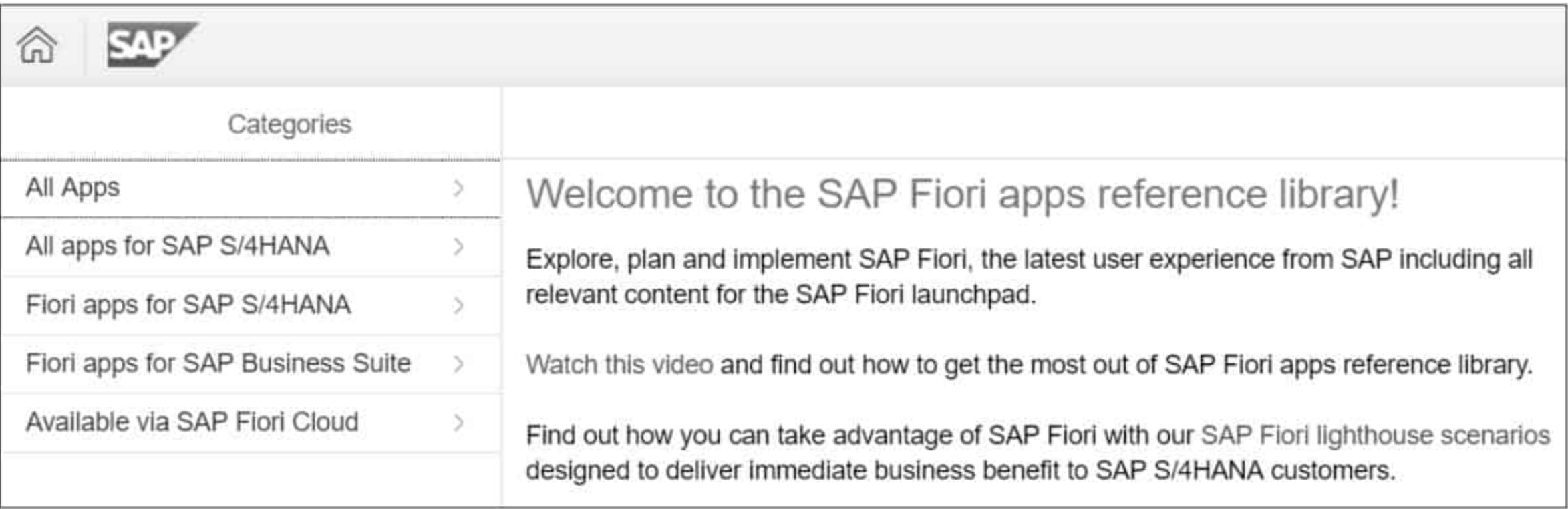


Figure 5.1 SAP Fiori Apps Library

From the landing page, click on **All Apps for SAP S/4HANA**, then navigate through the list of apps across roles, LOBs, release versions, and other parameters, as shown in Figure 5.2.

Most users in a project first want to search the apps available for their LOB and then navigate to the role available in the area for the list of the apps. Alternatively, you can search using the name of an app, which will bring up all the details of the apps which can be used either during the time of implementation or during configuration of original app, including the roles required for the app. In Figure 5.3, apps are filtered based on the UI technology to implement.

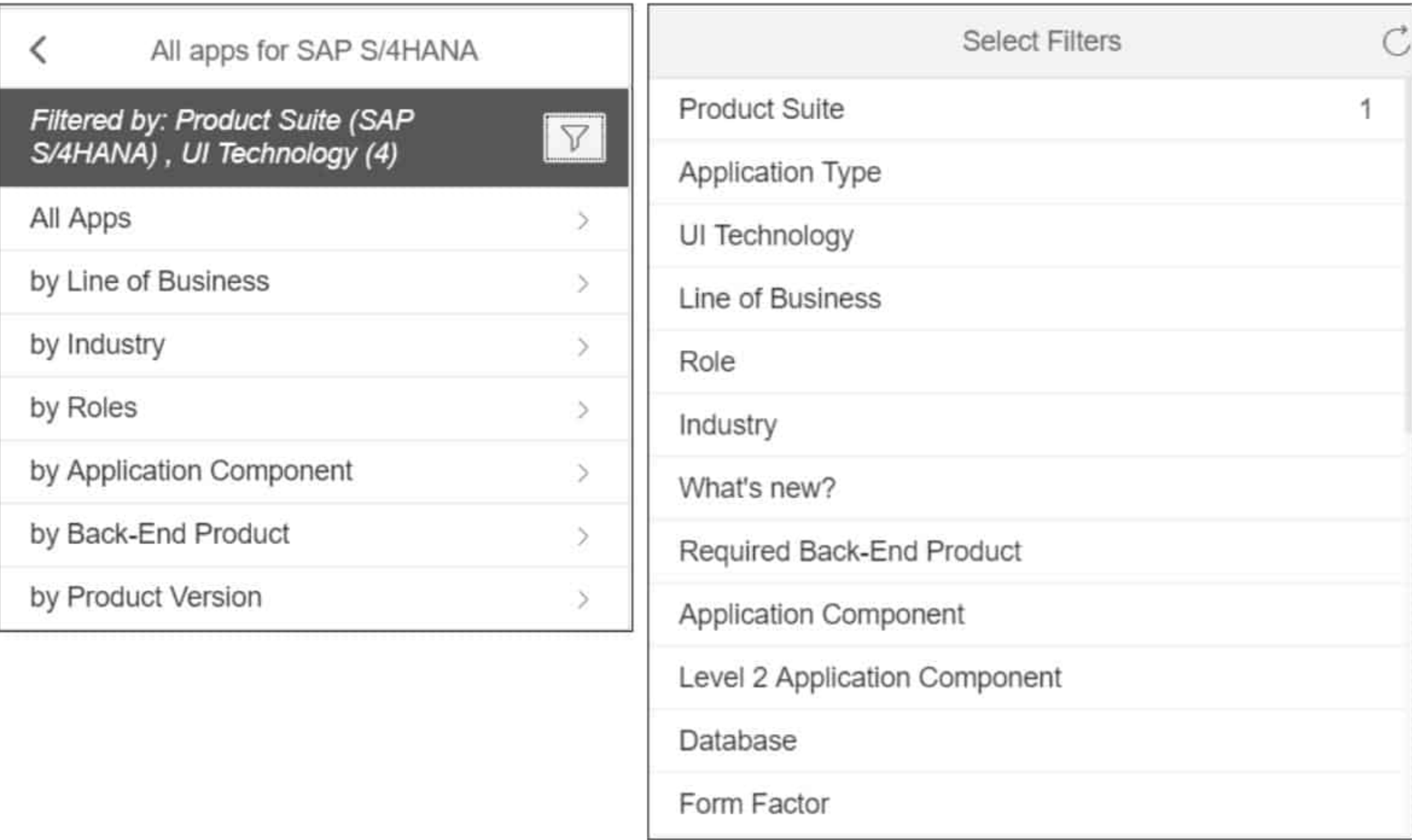


Figure 5.2 Navigation Options for SAP Fiori Apps Library

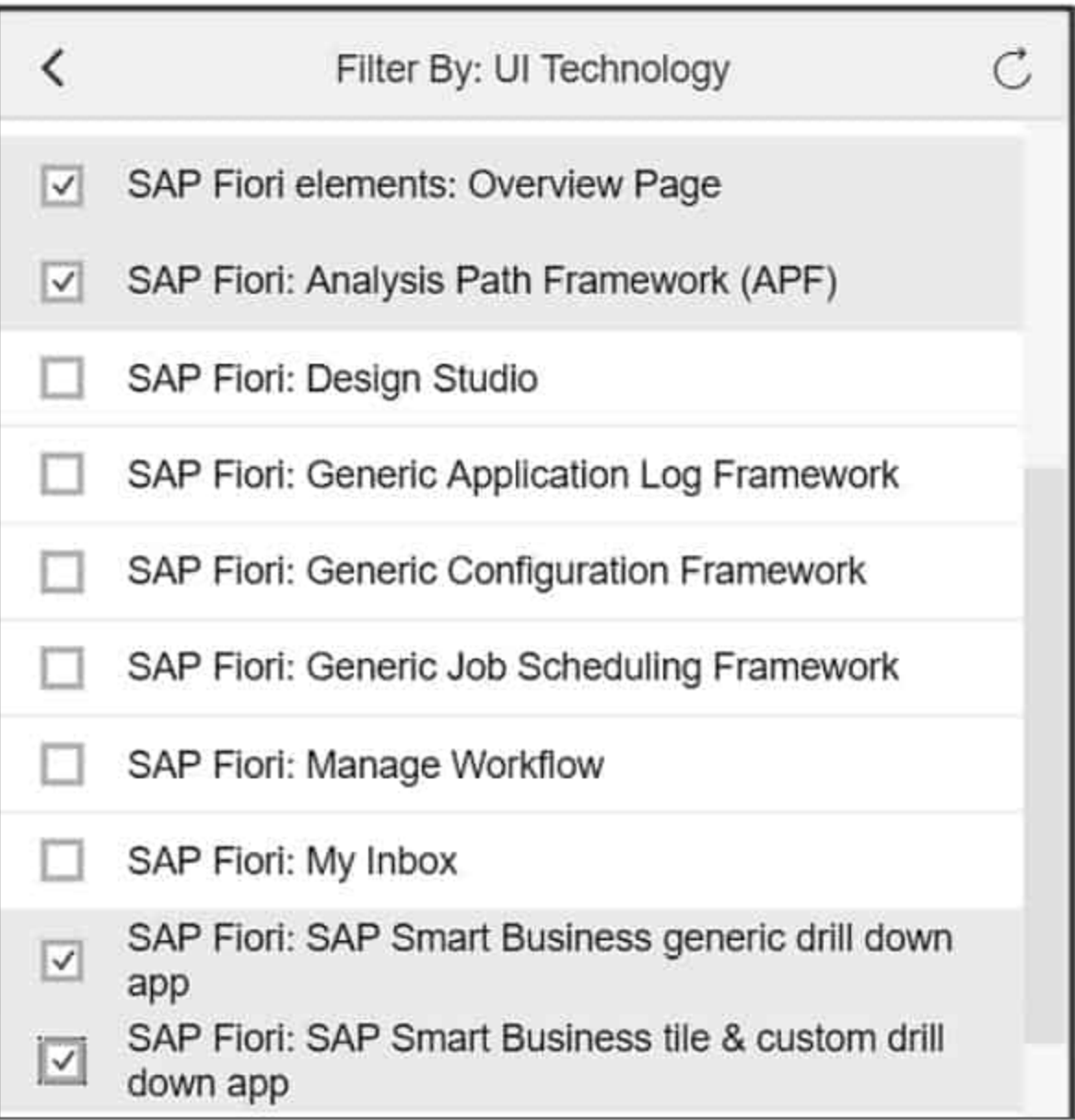


Figure 5.3 Sample List of Analytical Apps

Once you select UI technologies, you’ll see a filtered list that you can then explore in detail. This also can be shown in a list view, as in Figure 5.4. This list can be downloaded as an Excel workbook, and analysis then can be performed for implementation of a set of apps.

Overview

Entire Library

Product Suite (SAP S/4HANA)

Application Type

UI Technology (7)

Line of Business

Role

Required Back-End Product

Database

Form Factor

App Name

*Please make sure to select the required Product Suite for analysis

Apps (163) | All Apps

☐ App	Required Back-End	Description
Accounts Payable Manager		
☐ Aging Analysis (S/4HANA) Analytical Tablet, Desktop F1733	SAP S/4HANA HANA DB exclusive	With this app you can see the aging information across your organization so that you can identify negative trends in the total payable amount, the net due amount, and the overdue amount. This allows you to timely react by having your team taking appropriate actions to reverse these trends.
☐ Cash Discount Forecast (S/4HANA) Analytical Tablet, Desktop F1735	SAP S/4HANA HANA DB exclusive	With this app you can forecast the available cash discounts in the short term. You can get a prediction over the discounted amount of blocked invoices on the next payment days.
☐ Cash Discount Utilization (S/4HANA) Analytical Tablet, Desktop F1736	SAP S/4HANA HANA DB exclusive	With this app you can monitor in real time the cash discount utilization in your responsible area. You can find out which company code or location needs to make better use of cash discounts. You can also find out about the reasons for cash discount loss so that it can be avoided in the future.
☐ Days Payable Outstanding - Detailed Analysis Analytical Tablet, Desktop F2688	SAP S/4HANA HANA DB exclusive	The analytical app displays the Key Performance Indicator (KPI) Days Payable Outstanding (DPO), that is the number of days it takes on average for your company to pay supplier invoices (payables). You can use this App to analyze DPO figures from various view points using drill down analytics as well as to investigate root causes and...

Figure 5.4 List View for Selected Apps

As noted earlier, we have 300+ apps across different LOBs that can be activated as standard content in the first phase of the product. As shown in the list in Figure 5.5, there is a rich set of apps available for finance, sourcing and procurement, sales, and supply chain.

< Line of Business

Search by Line of Business

Filtered by: Product Suite (SAP S/4HANA) , Application Type (Fiori - Analytical)

Asset Management	18	>
Commerce	18	>
Finance	156	>
Human Resources	1	>
Industry Specific	1	>
Manufacturing	30	>
Marketing	16	>
R&D/Engineering	18	>
Sales	48	>
Service	23	>
Sourcing and Procurement	76	>
Supply Chain	72	>
Sustainability	7	>

Figure 5.5 Analytical Apps by LOB

You can start using the standard apps shipped with SAP S/4HANA embedded analytics and then identify requirements for enhancements for your implementation. These enhancements could be made using the key user tools and the information for configuration available in the SAP Fiori apps library as well.

In Chapter 4, Section 4.2, we explained how to configure the standard purchasing analytics apps. The user needs to be assigned the SAP_BR_BUYER role to access all such apps. In this chapter, we'll activate the analytical apps for the accounts payable (AP) manager and accounts receivables (AR) manager roles. Figure 5.6 and Figure 5.7 show the standard analytical apps available for the AP/AR manager.



Figure 5.6 Standard Account Payables Apps

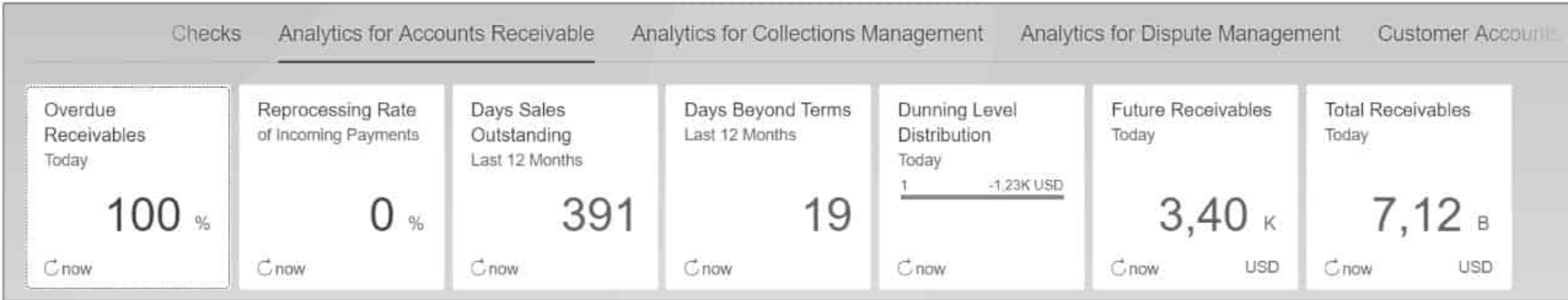


Figure 5.7 Standard Accounts Receivables Apps

To activate the standard content, search for the required installation and the configuration details in the SAP Fiori apps library. Filtering the apps library with the **Application** type set as **Analytical** and the AP/AR manager roles selected will return the required apps. You can navigate to the set of apps available for a role and can select any app for further analysis. In this example, we can explore the Days Payable Outstanding app. Click on the list of apps on left side of screen to see details about the selected app. Figure 5.8 shows the list of apps, with the Days Payable Outstanding app selected.



Figure 5.8 SAP Fiori Apps Library Filtered by Role and Application Type

You can explore the prerequisites for the apps in the SAP Fiori apps library. The product features and screenshots of the app are available as well. The apps library details the app and its key features so that you can understand its business functionality before implementing it. Figure 5.9 shows the app description for Days Payable Outstanding Analysis, in which you can locate the application type, database, form factor, and SAP Fiori ID. Also, the product features of the app are described on this page.

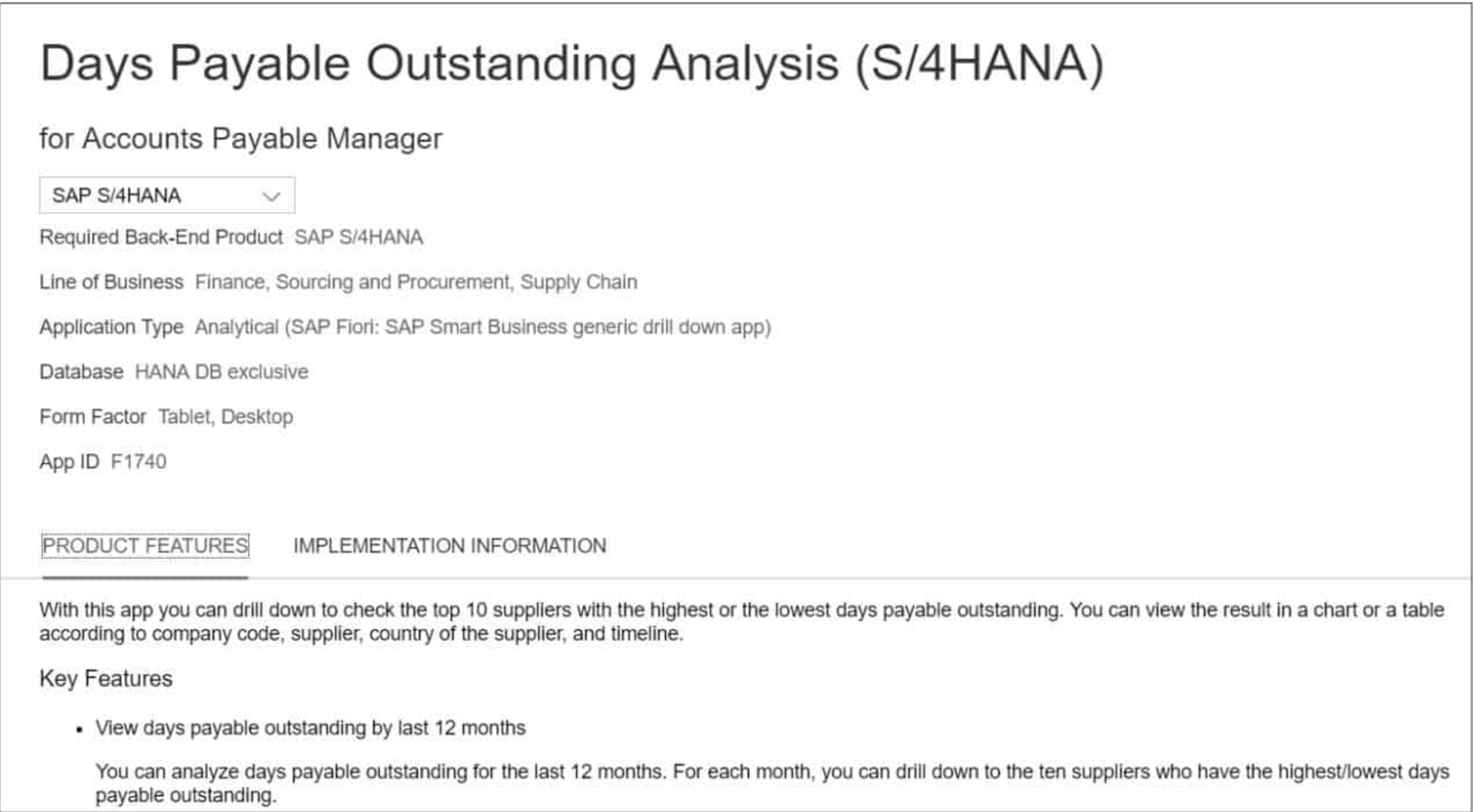


Figure 5.9 Days Payable Outstanding Overview

Once you plan to start the implementation or decide to activate the app in the system, you can navigate to the **Implementation Information** tab to explore further details, as shown in Figure 5.10. **Important SAP Notes**, **Installation**, **Configuration**, and **Support** details are provided in this section.

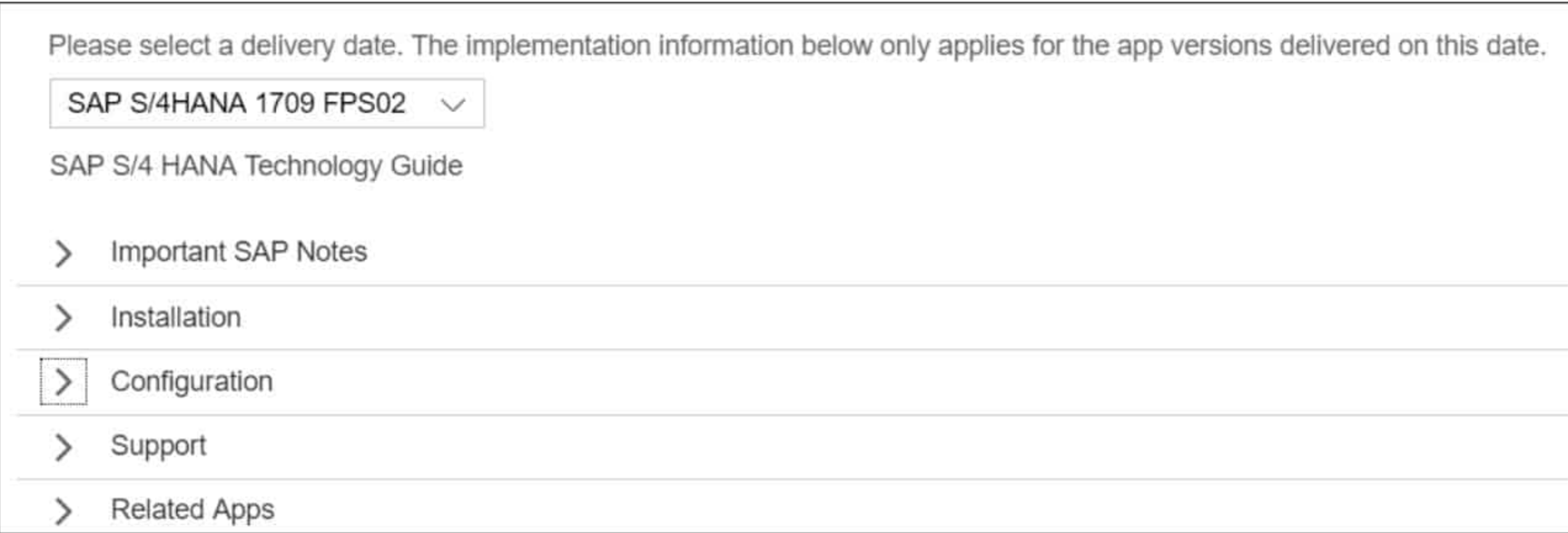


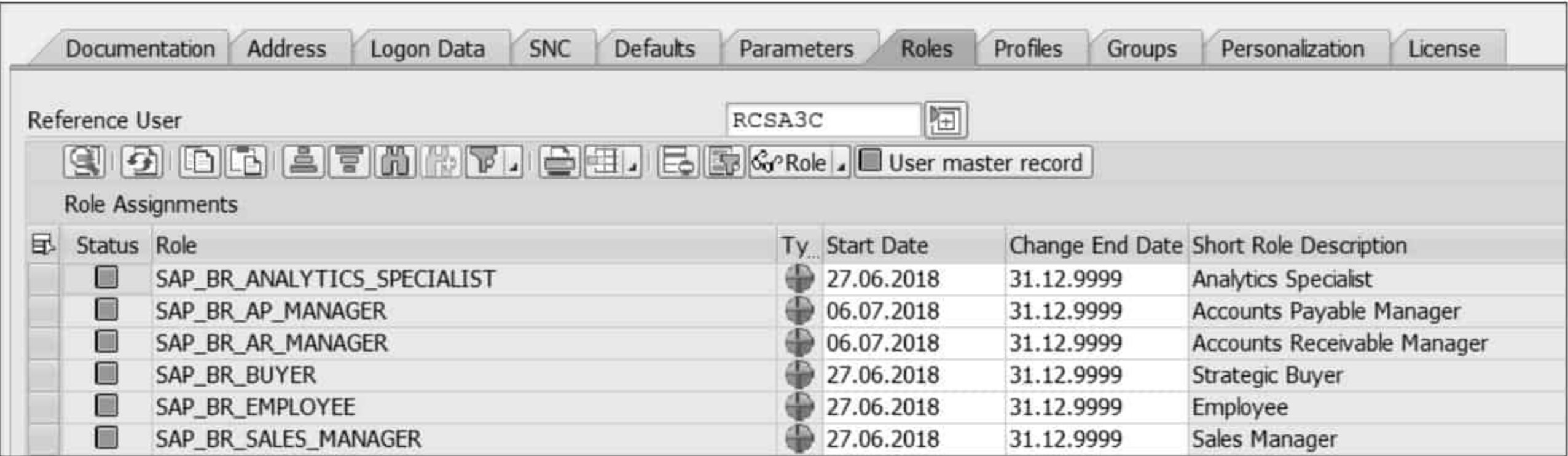
Figure 5.10 Technical Details for Installation and Configuration

Because all the apps are available in the SAP S/4HANA core, the most important configuration is to make the apps available to the correct end users. If no role is assigned to an end user, they'll see a blank SAP Fiori launchpad without any tiles. The administrator decides which apps need to be assigned to which user group, then assigns the exact role name for the user group to a user in the SAP Fiori frontend server. The **Configuration** section of the apps library and the section on **Business Role(s)** (see Figure 5.11) provide the required information.

Business Catalog(s)	
Catalog Name	Catalog Description
SAP_SFIN_BC_AP_ANALYTICS	Accounts Payable - Analytics
Business Group(s)	
Business Group	Group Description
SAP_SFIN_BCG_AP_ANALYTIC	Analytics for Accounts Payable
Business Role(s)	
Role Name	Role Description
SAP_BR_AP_MANAGER	Accounts Payable Manager

Figure 5.11 Role Description for Days Payable Outstanding

Only when the role is applied in the frontend server do the apps become visible to the user. Figure 5.12 shows that the user has been assigned the accounts payable manager and the accounts receivables manager roles. Additional roles can be provided based on requirements.



The screenshot shows the 'Role Assignments' tab in the SAP Fiori Frontend Server. It displays a table of roles assigned to the user RCSA3C. The roles include SAP_BR_ANALYTICS_SPECIALIST, SAP_BR_AP_MANAGER, SAP_BR_AR_MANAGER, SAP_BR_BUYER, SAP_BR_EMPLOYEE, and SAP_BR_SALES_MANAGER, each with a start date of 27.06.2018 and an end date of 31.12.9999.

Status	Role	Ty	Start Date	Change End Date	Short Role Description
☒	SAP_BR_ANALYTICS_SPECIALIST		27.06.2018	31.12.9999	Analytics Specialist
☒	SAP_BR_AP_MANAGER		06.07.2018	31.12.9999	Accounts Payable Manager
☒	SAP_BR_AR_MANAGER		06.07.2018	31.12.9999	Accounts Receivable Manager
☒	SAP_BR_BUYER		27.06.2018	31.12.9999	Strategic Buyer
☒	SAP_BR_EMPLOYEE		27.06.2018	31.12.9999	Employee
☒	SAP_BR_SALES_MANAGER		27.06.2018	31.12.9999	Sales Manager

Figure 5.12 Role Assignments in SAP Fiori Frontend Server

The administrator can activate the standard apps for the end users by following this process for any other app as well. This process enables the administrator to activate any of the 300+ standard apps for a set of end users. Chapter 4 contained comprehensive details about the different types of standard analytical apps available; in the next sections, we'll talk more about the best practices package content and how it adds value by expediting the implementation process.

5.2 Analytics Content and SAP Best Practices

SAP has made significant investment in packaged best practices to allow customers to implement SAP innovations with ease. The SAP Best Practices package contains important information about implementation and configuration of the innovations from SAP. SAP Best Practice packages consolidate the most common queries customers have and provide step-by-step guides to answer these questions. In implementation projects, you may encounter problems like the following:

- How do I implement real-time operational reports in SAP S/4HANA?
- How can we enable insight-to-action scenarios across functional areas?
- How can integration be set up between SAP S/4HANA and SAP Analytics Cloud?
- How can we visualize and analyze SAP S/4HANA data in SAP Analytics Cloud?

- How can I integrate SAP S/4HANA with analytical solutions provided by SAP and get up and running with prebuilt content built in the SAP BusinessObjects BI platform?
- How can we consolidate data from SAP S/4HANA (CDS views) within SAP BW?

Answers to these types of queries are consolidated in an SAP Best Practices package, available for no additional cost. The starting point for the analysis is the SAP Best Practices Explorer, which includes a list of all the solution packages available across the SAP portfolio. Figure 5.13 shows the available packages for SAP S/4HANA. The SAP Best Practices Explorer is available at <https://rapid.sap.com/bp/>.

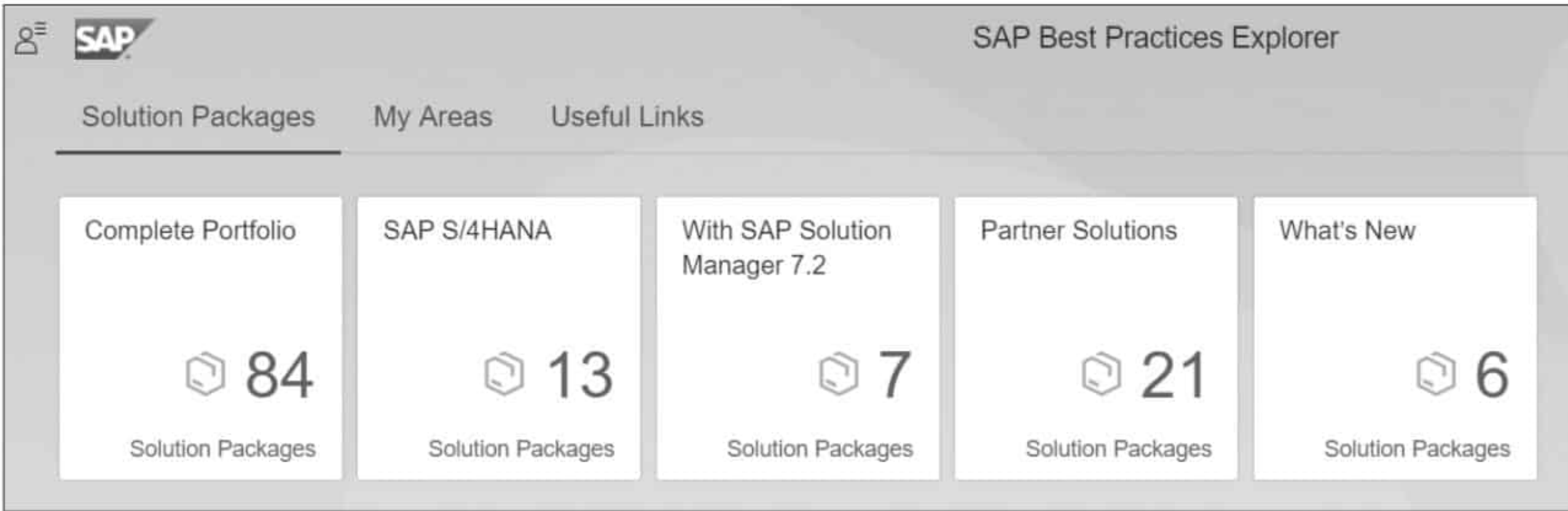
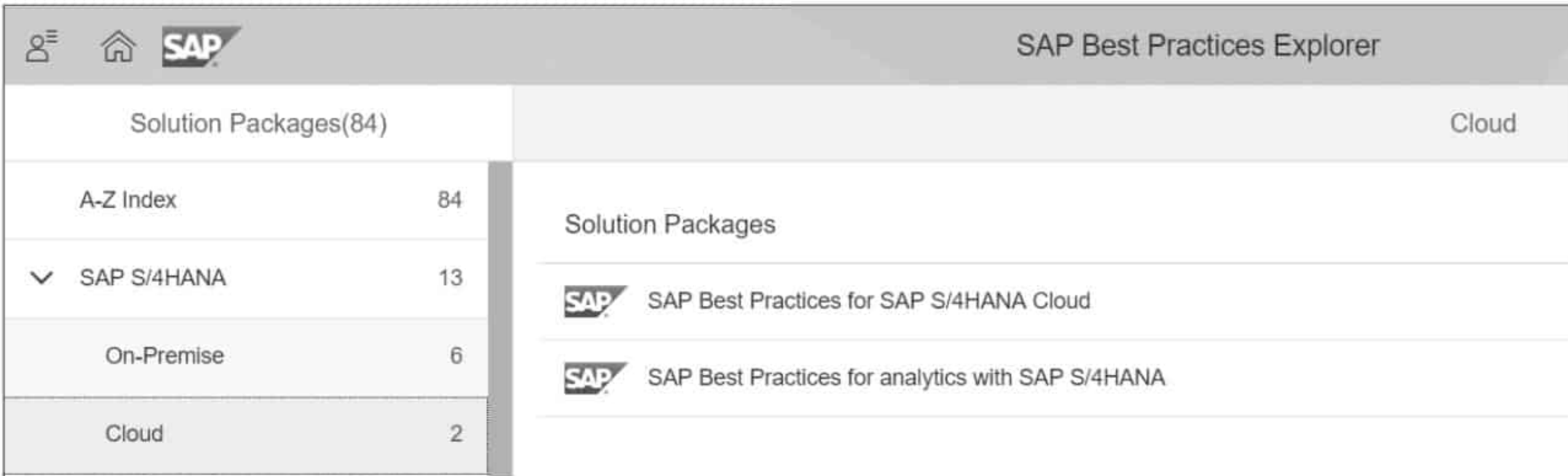


Figure 5.13 SAP Best Practices Explorer

In the SAP Best Practices Explorer, you can navigate to the SAP S/4HANA solution packages and then select an installation type. Figure 5.14 and Figure 5.15 list the packages available for the cloud deployment and the on-premise deployment. Select a package based on the deployment type and navigate to the solution package for installation and configuration information.



The screenshot shows the SAP Best Practices Explorer interface with the 'Solution Packages(84)' list on the left and the 'Cloud' deployment type selected on the right. The list on the left includes 'A-Z Index' (84), 'SAP S/4HANA' (13), 'On-Premise' (6), and 'Cloud' (2). The right pane shows the 'Solution Packages' for the 'Cloud' deployment type, including 'SAP Best Practices for SAP S/4HANA Cloud' and 'SAP Best Practices for analytics with SAP S/4HANA'.

Solution Packages(84)	Cloud
A-Z Index 84	Solution Packages
▼ SAP S/4HANA 13	SAP Best Practices for SAP S/4HANA Cloud
On-Premise 6	SAP Best Practices for analytics with SAP S/4HANA
Cloud 2	

Figure 5.14 SAP Best Practices Package for SAP S/4HANA Cloud

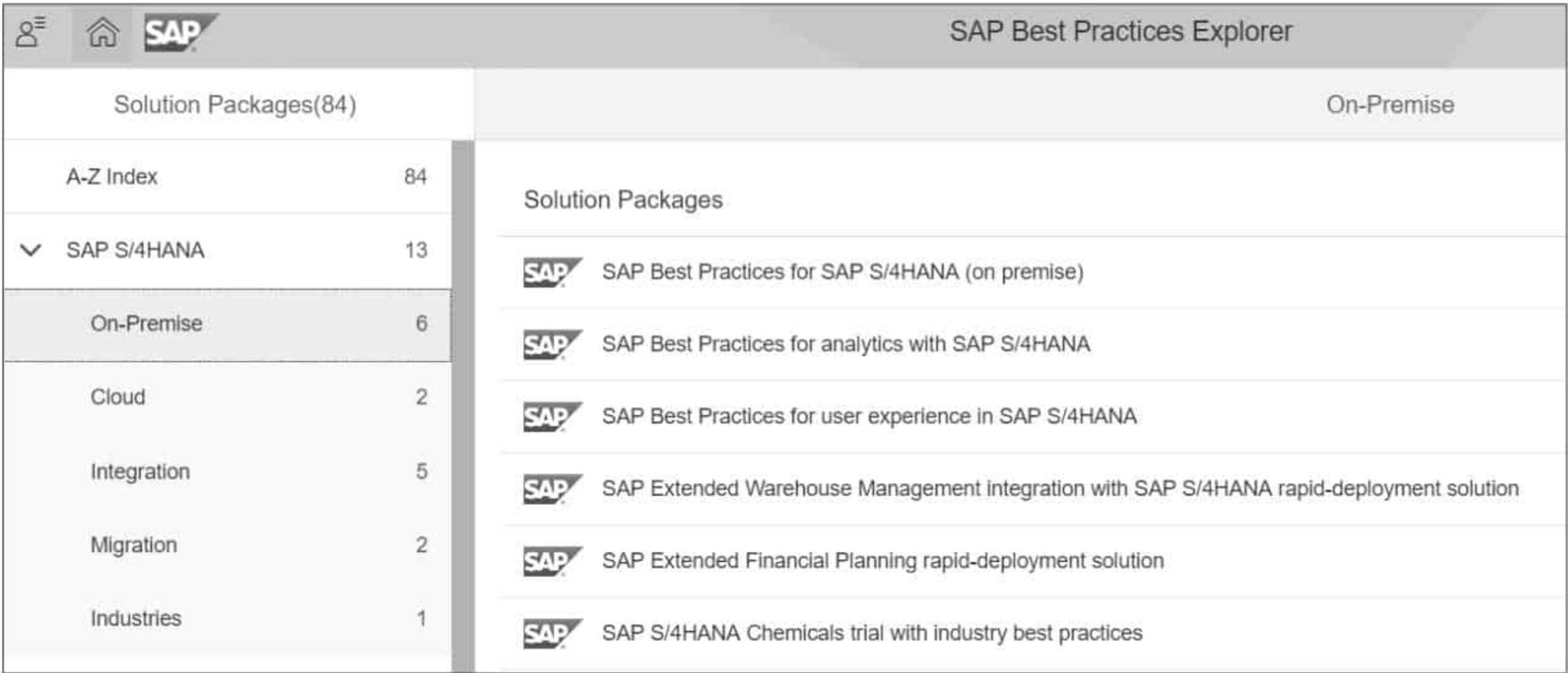


Figure 5.15 SAP Best Practices Package for SAP S/4HANA On-Premise

The SAP Best Practices package for analytics with SAP S/4HANA is shown in Figure 5.16. To access this package, click on **SAP S/4HANA** under the solution package in the homepage and then select **Cloud** under the SAP S/4HANA solution package in the navigation tree. This lists the packages associated with SAP S/4HANA Cloud, and you can navigate to **SAP Best Practices for Analytics with SAP S/4HANA**.

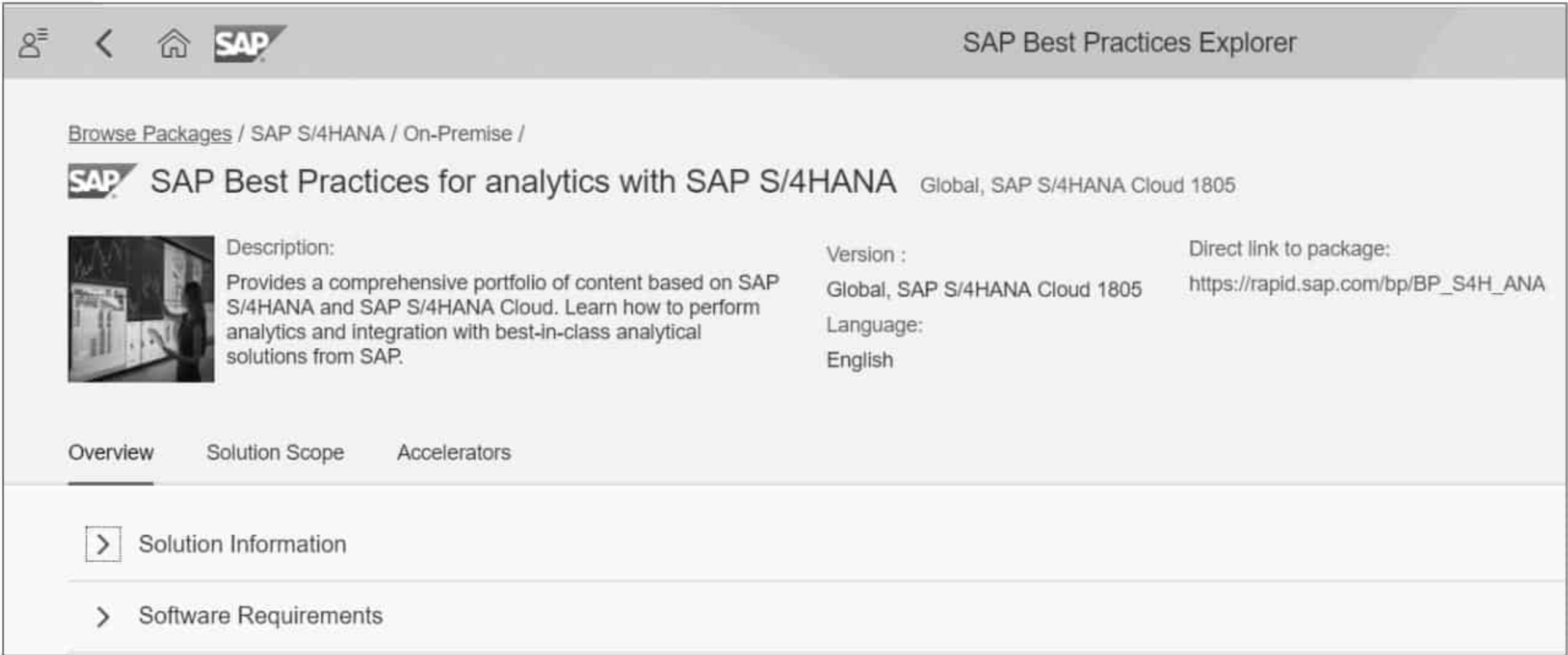


Figure 5.16 SAP S/4HANA Embedded Analytics Package

Once you’re in the SAP Best Practices for analytics with SAP S/4HANA, you can navigate to the **Overview**, **Solution Scope**, or **Accelerators** tab. Select the **Solution Scope** tab for a list of specific scope items required for the project, as shown in Figure 5.17.

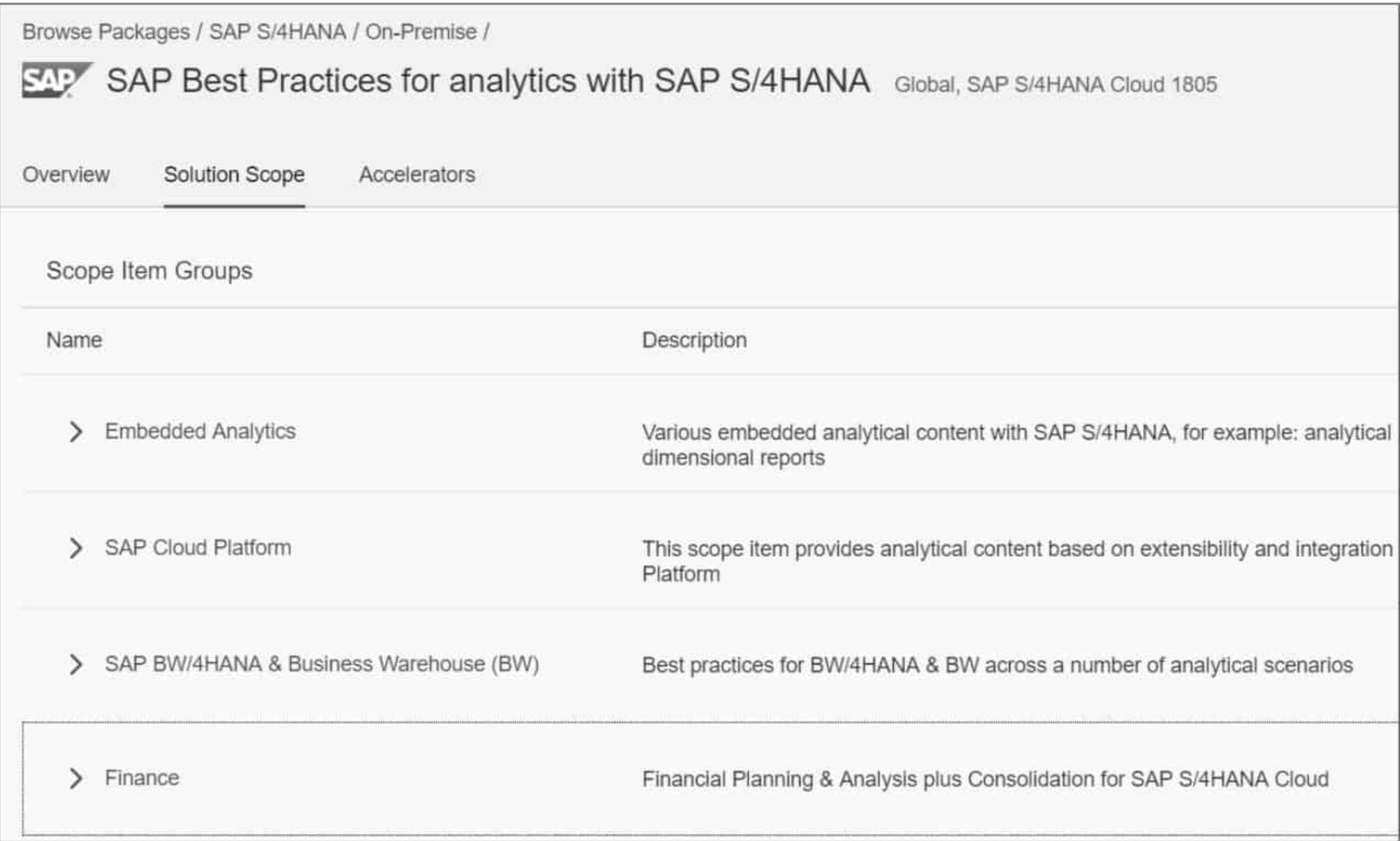


Figure 5.17 Analytics Solution Scope

The following is a comprehensive list of the scope items included as part of the SAP S/4HANA embedded analytics scope:

- BGH: Embedded Analytics with SAP S/4HANA
- 2P6: Extensibility for Embedded Analytics in SAP S/4HANA Cloud
- BGA: Integration Between SAP S/4HANA and SAP BI
- BGB: Integration Between SAP S/4HANA and SAP BW
- 1JK: Integration Between SAP S/4HANA and SAP Cloud Platform
- 1SO: SAP Hybris Marketing Cloud Integration with SAP Analytics Cloud
- 1P4: Integration Between SAP Hybris Marketing & SAP Analytics Cloud
- 1TP: Business Content for Retail with SAP Analytics Cloud
- 1U8: Real Time Financial Analysis Content for SAP S/4HANA Cloud
- 2K6: SAP S/4HANA Cloud Financial Consolidation Content with SAP Analytics Cloud
- 28W: SAP S/4HANA Cloud Professional Services Content with SAP Analytics Cloud
- 2IJ: Financial Analysis for SAP S/4HANA Cloud

- 2EB: Financial Planning for SAP S/4HANA Cloud
- 2YG: SAP Project Budgeting & Planning for SAP S/4HANA Cloud
- 29D: SAP S/4HANA Cloud Procurement Content with SAP Analytics Cloud
- 28Y: SAP BW/4HANA Integration with SAP S/4HANA Cloud
- 28S: SAP S/4HANA Cloud Manufacturing Content with SAP Analytics Cloud

The **Embedded Analytics with SAP S/4HANA** scope item’s document provides the following:

- The general configuration steps required to manually set up the prerequisite configuration within the system landscape to run SAP S/4HANA embedded analytics.
- For each analytical app within SAP S/4HANA, this guide provides the additional configuration steps to run specific analytic applications. The following analytic applications are included: analytic SAP Fiori applications, SAP Smart Business apps, and Web Dynpro.

You can download the complete package if you have an SAP S-user ID. The package includes configuration guides for each scope item, technical prerequisites, system landscape information, and configuration steps. We recommend downloading the solution package via the **Download** option shown in Figure 5.18. Once you click on this, you’ll be forwarded to the **Software Downloads** screen shown in Figure 5.19.

You can also navigate to the content library for the SAP Best Practices package (see Figure 5.20) and select the technical scope and then the functional content for LOBs. You can access this library at <https://bit.ly/2NMH7Pf>.



Figure 5.18 Download Option for Solution Package

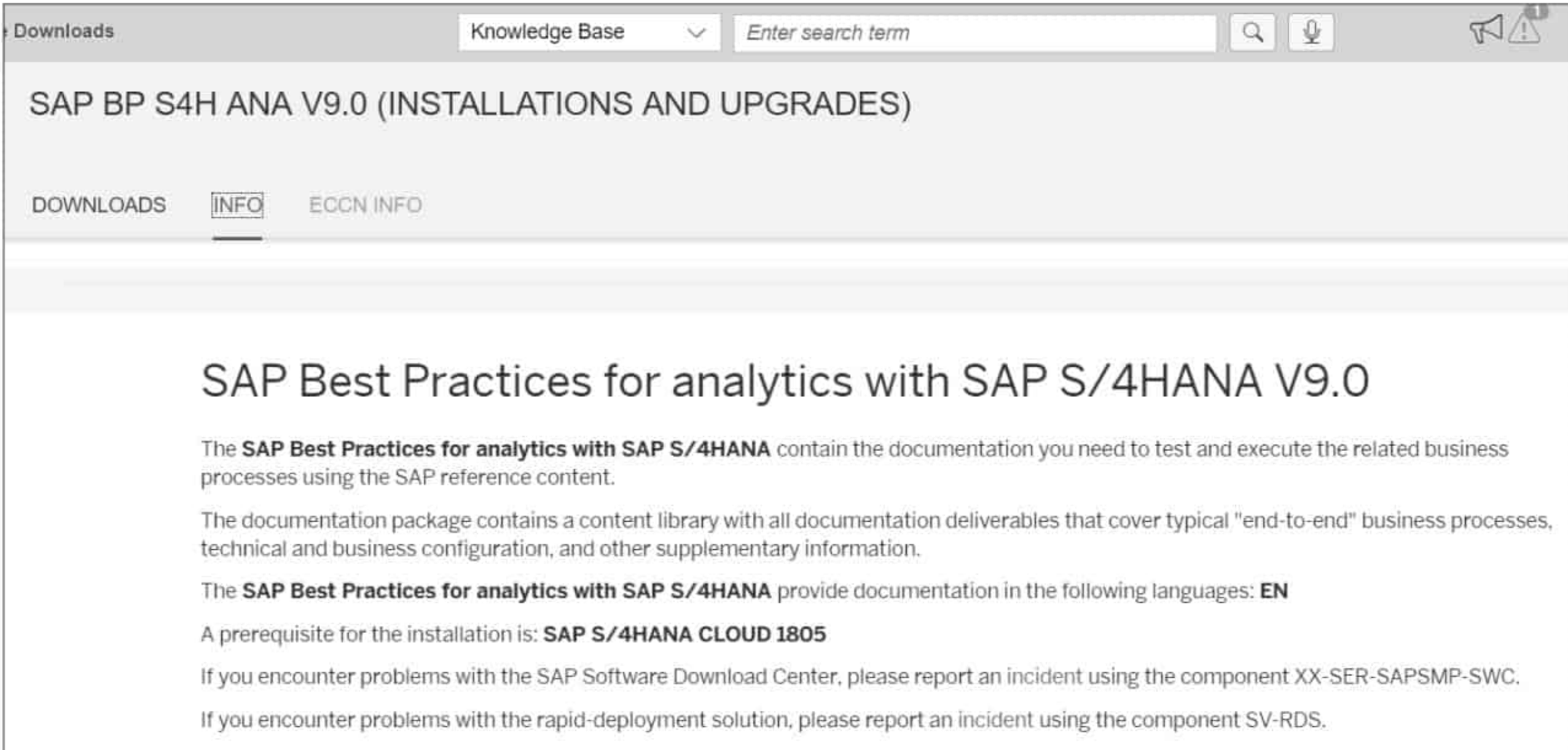


Figure 5.19 Software Downloads Area for SAP Best Practices Content for Analytics with SAP S/4HANA

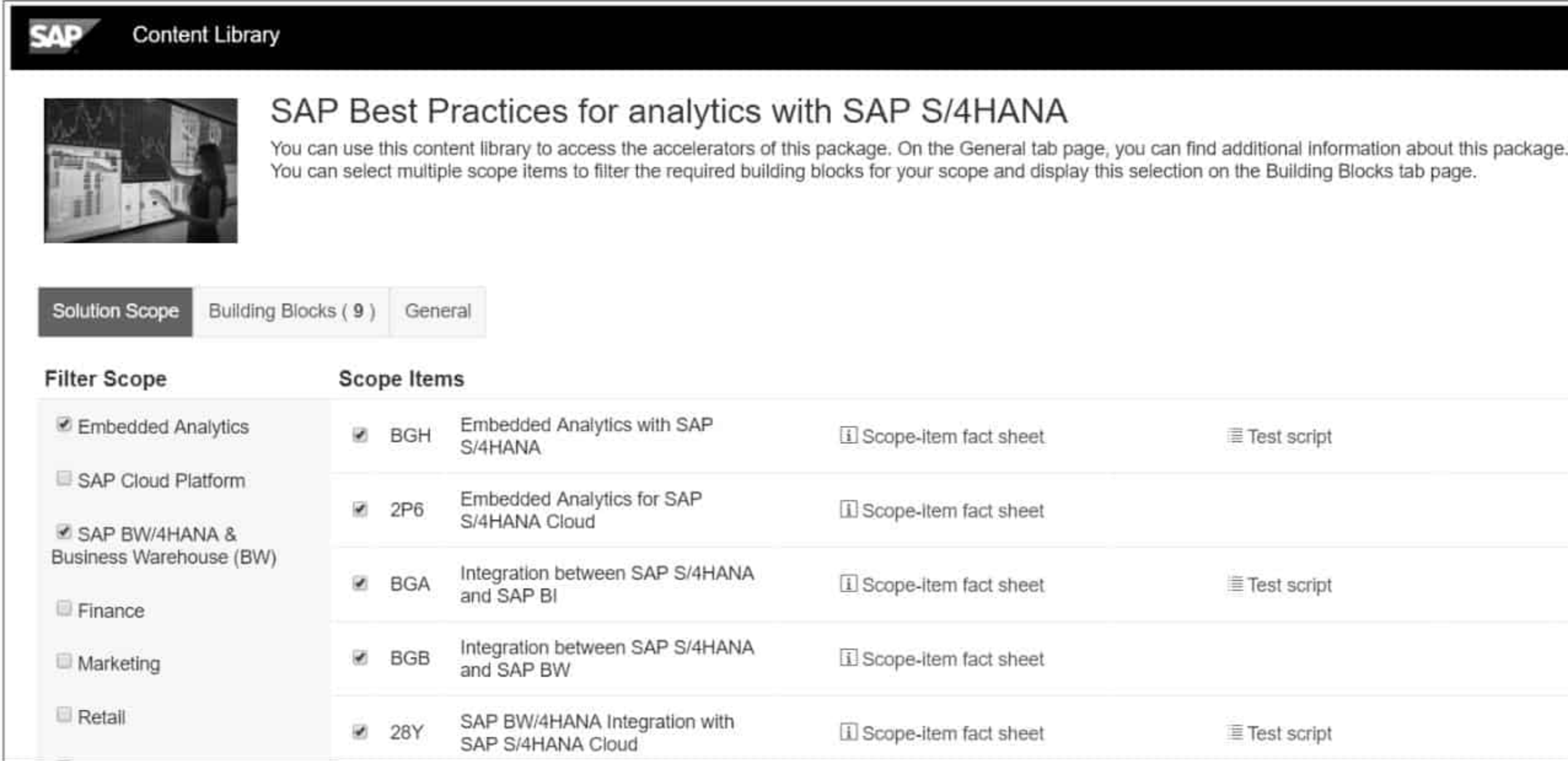


Figure 5.20 Content Library for SAP Best Practices

You can select the solution scope you’re interested in, based on which the building blocks are assembled. As shown in Figure 5.21, navigating to a building block lets you download the configuration guide for each scope item. This document describes the

step-by-step process for configuration along with the prerequisites. We highly recommend downloading these guides, which are available at no extra cost, and using them for accelerating your project.

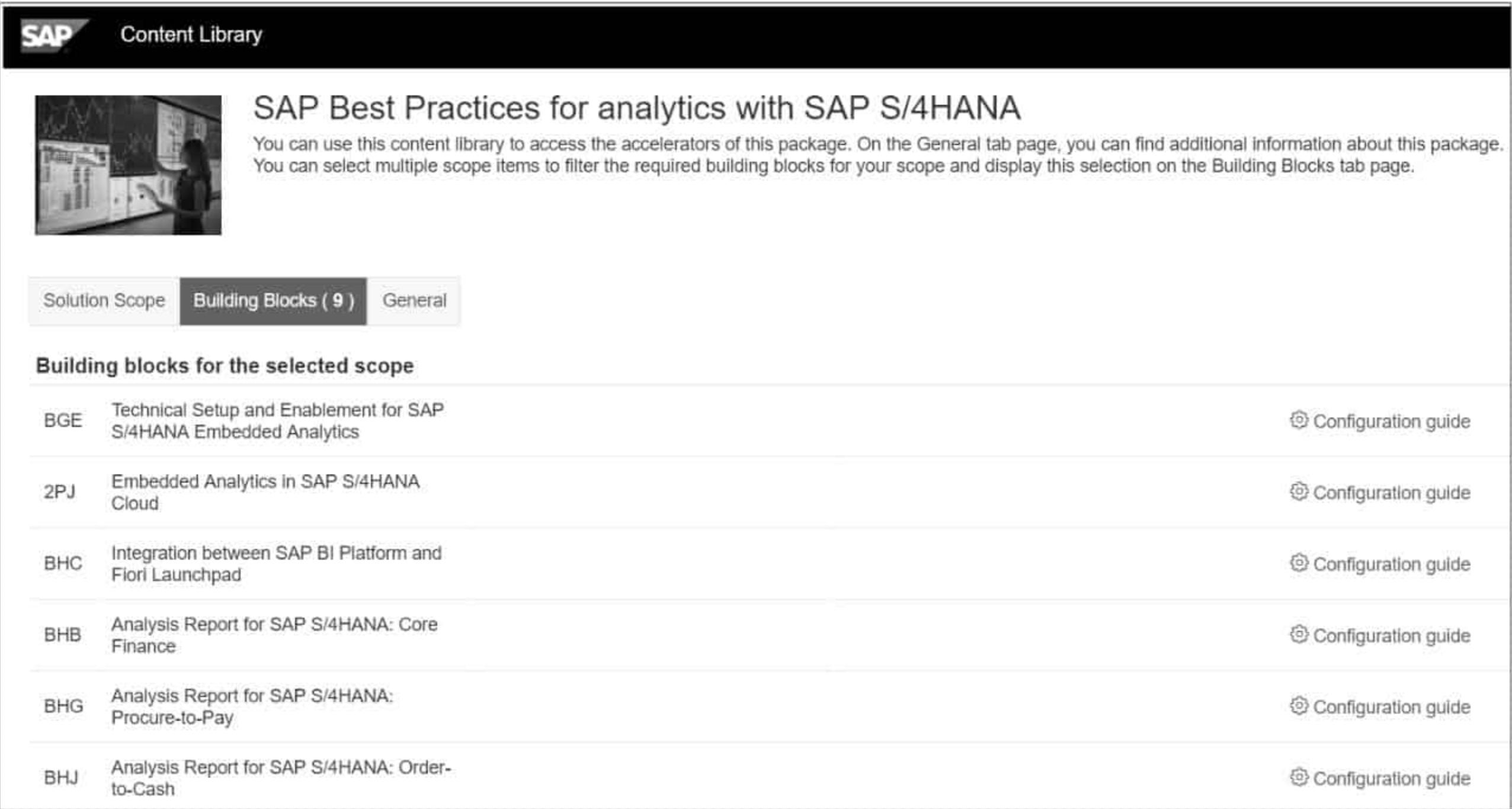


Figure 5.21 Package Description with Configuration Guides

Figure 5.22 shows the solution scope for the functional content for finance. You can select content across different LOBs and configure them as based on requirements. The SAP Best Practices integration built for SAP Analytics Cloud can be imported into the SAP Analytics Cloud system to let users get started with predefined dashboards and visualizations. We'll discuss finance-specific best practices more in Section 5.3.2.

Scope Items			
☒	1U8	SAP Real-time Financial Analysis for SAP S/4HANA Cloud	Scope-item fact sheet Test script
☒	2IJ	SAP Financial Analysis for S/4HANA Cloud	Scope-item fact sheet Test script
☒	2EB	SAP Financial Planning for SAP S/4HANA Cloud	Scope-item fact sheet Test script
☒	2YG	SAP Project Budgeting & Planning for SAP S/4HANA Cloud	Scope-item fact sheet Test script
☒	2K6	SAP S/4HANA Cloud Financial Consolidation content with SAP Analytics Cloud	Scope-item fact sheet Test script

Figure 5.22 SAP Best Practices Functional Content

In Figure 5.23, we've navigated to the content library as part of the SAP Analytics Cloud; after browsing through the business content, you can import all the stories delivered as SAP Best Practices packages.

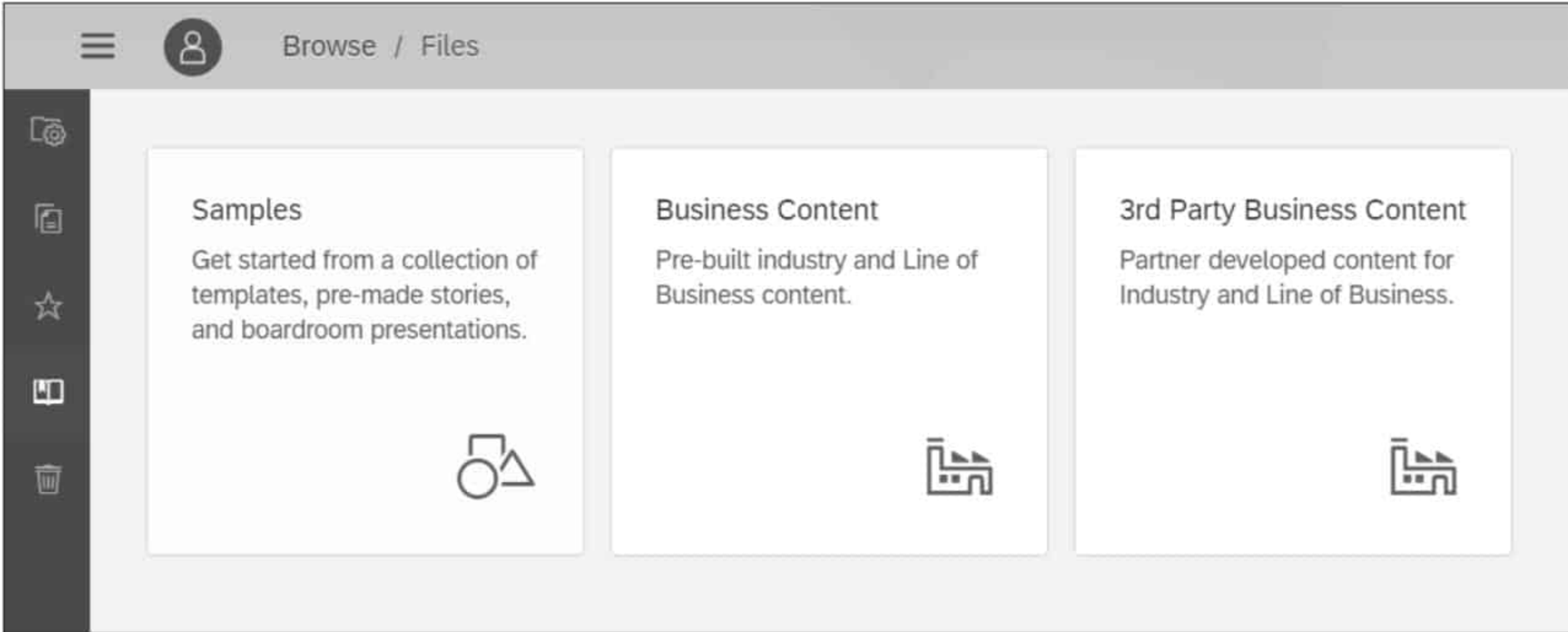


Figure 5.23 Importing SAP Best Practices Package into SAP Analytics Cloud

In the content library, content for different functional areas is provided in the SAP Best Practices packages. You can browse through the different stories available and, based on requirements, can import the stories as well. Figure 5.24 shows the list of SAP Best Practices stories under the business content in the content library of SAP Analytics Cloud.

Content Library / Business Content	
Name	Description
☐ Financial Consolidation for SAP S/4HANA Cloud (SAP Best Practices)	Content for SAP Best Practice: Financial Consolidation for SAP S/4HANA Cloud
☐ Financial Planning & Analysis for SAP S/4HANA Cloud (SAP Best Practices)	Content for SAP Best Practice: Financial Planning & Analysis for SAP S/4HANA Clo...
☐ Manufacturing for SAP S/4HANA Cloud (SAP Best Practices)	Content for SAP Best Practice: Manufacturing for SAP S/4HANA Cloud
☐ Procurement for SAP S/4HANA Cloud (SAP Best Practices)	Content for SAP Best Practice: Procurement for SAP S/4HANA Cloud
☐ Professional Services for SAP S/4HANA Cloud (SAP Best Practices)	Content for SAP Best Practice: Professional Services for SAP S/4HANA Cloud
☐ Project Budgeting & Planning for SAP S/4HANA Cloud (SAP Best Practices)	Content for SAP Best Practice: Project Budgeting & Planning for SAP S/4HANA Clo...
☐ Retail for SAP S/4HANA (SAP Best Practices)	Content for SAP Best Practice: Retail for SAP S/4HANA

Figure 5.24 Content Library in SAP Analytics Cloud

One such story, **Procurement for SAP S/4HANA Cloud (SAP Best Practices)**, is imported into the SAP Analytics Cloud. On successful import of the story, you can showcase the

existing story or use the predefined models from the SAP S/4HANA system for building your own dashboard or stories. Figure 5.25 shows the import result of the SAP Best Practices package in SAP Analytics Cloud, along with the display the stories and the models available in the system. After navigating to the content section of the import, you'll see the data models behind the stories, as shown in Figure 5.26.

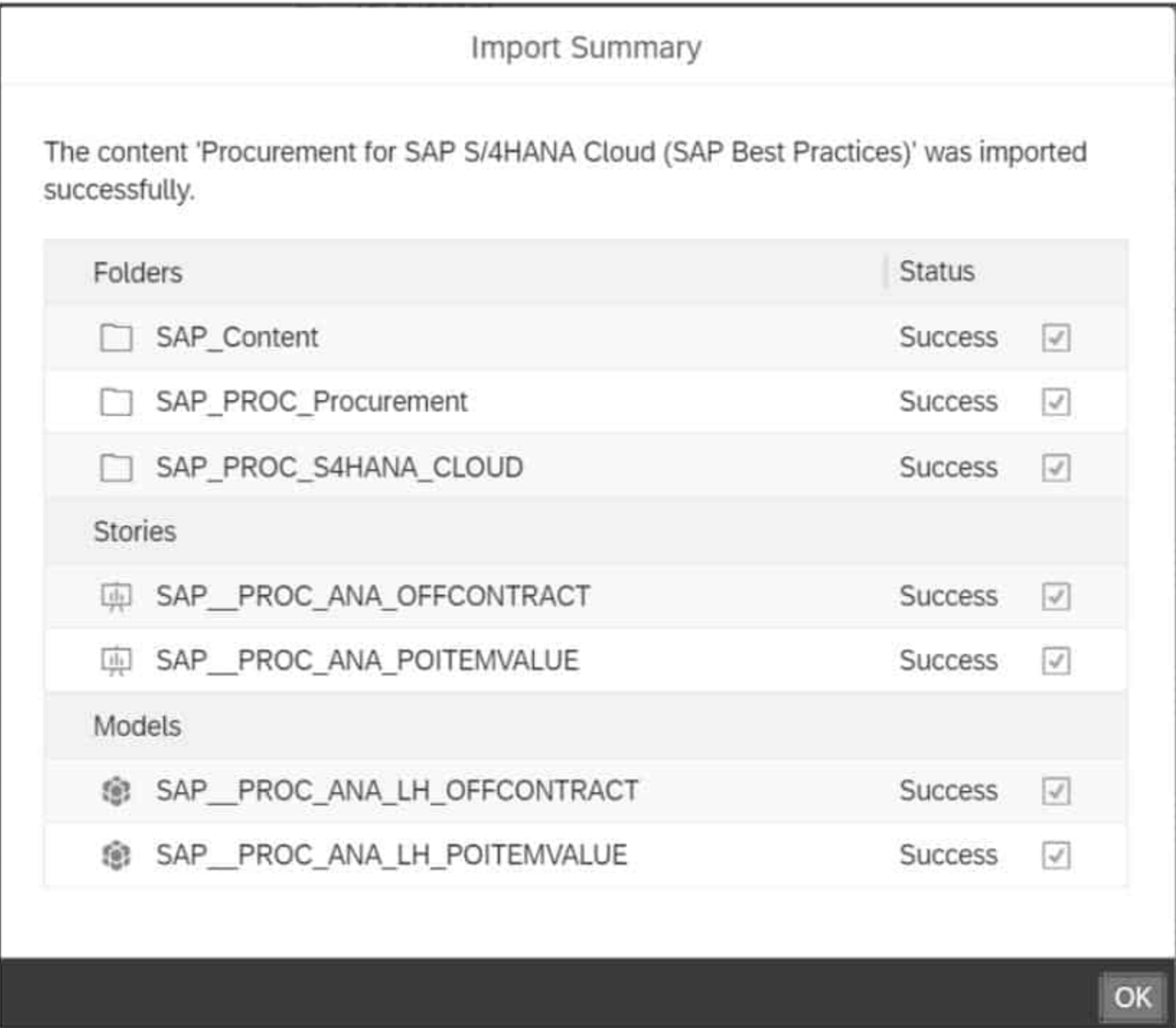


Figure 5.25 Importing Stories into SAP Analytics Cloud

Procurement for SAP S/4HANA Cloud (SAP Best Practices)		
Overview	Publishing	Content
Folders		
✓	📁 SAP_Content	
✓	📁 SAP_PROC_Procurement	
✓	📁 SAP_PROC_S4HANA_CLOUD	
Stories		
✓	📄 SAP__PROC_ANA_OFFCONTRACT	SAP Procurement Off Contract Spend
✓	📄 SAP__PROC_ANA_POITEMVALUE	SAP Procurement Purchase Order Item Report
Models		
✓	⚙️ SAP__PROC_ANA_LH_OFFCONTRACT	SAP Procurement Off Contract Spend
✓	⚙️ SAP__PROC_ANA_LH_POITEMVALUE	SAP Procurement Purchase Order Item Report Query

Figure 5.26 Content Description for Procurement Story in SAP Analytics Cloud

5.3 Line-of-Business-Specific Best Practices

In this section, we'll describe stories available in SAP Analytics Cloud. We'll look at representative examples from procurement, finance, and manufacturing content, but note that the content library has a rich source of other content available for use. During the analysis phase, you identify the scope content in SAP Best Practices Explorer, but the actual visualization of the story happens in SAP Analytics Cloud. You need to import these stories into SAP Analytics Cloud and follow the steps in the SAP Best Practices guide to make the content available to end users.

5.3.1 Procurement Analytics Content

The best practices content for procurement in SAP S/4HANA Cloud with SAP Analytics Cloud answers the following questions:

- How do I perform a real-time analysis of off-contract spend and costs incurred during the procurement process for SAP S/4HANA Cloud data?
- How do I visualize procurement-related SAP S/4HANA Cloud data and present it in a robust dashboard?
- How do I reconcile live data with the source system of SAP S/4HANA Cloud and identify if any documentation available?

Figure 5.27 shows the data flow between SAP S/4HANA CDS views, which are used to create the data model in SAP Analytics Cloud, which in turn is used to create the analytical reports for procurement. This shows the live connection between the SAP S/4HANA system and SAP Analytics Cloud, which eliminates the need for replication of data in the latter.

The stories contain the following information:

- Process to link the live connector in SAP Analytics Cloud to SAP S/4HANA Cloud
- Prebuilt set of analytical dashboards and reports to help you analyze purchase spend and off-contract spend for performing robust analytics on SAP S/4HANA Cloud data
- Full documentation of what CDS view to use and how to set up the live connection to SAP S/4HANA Cloud

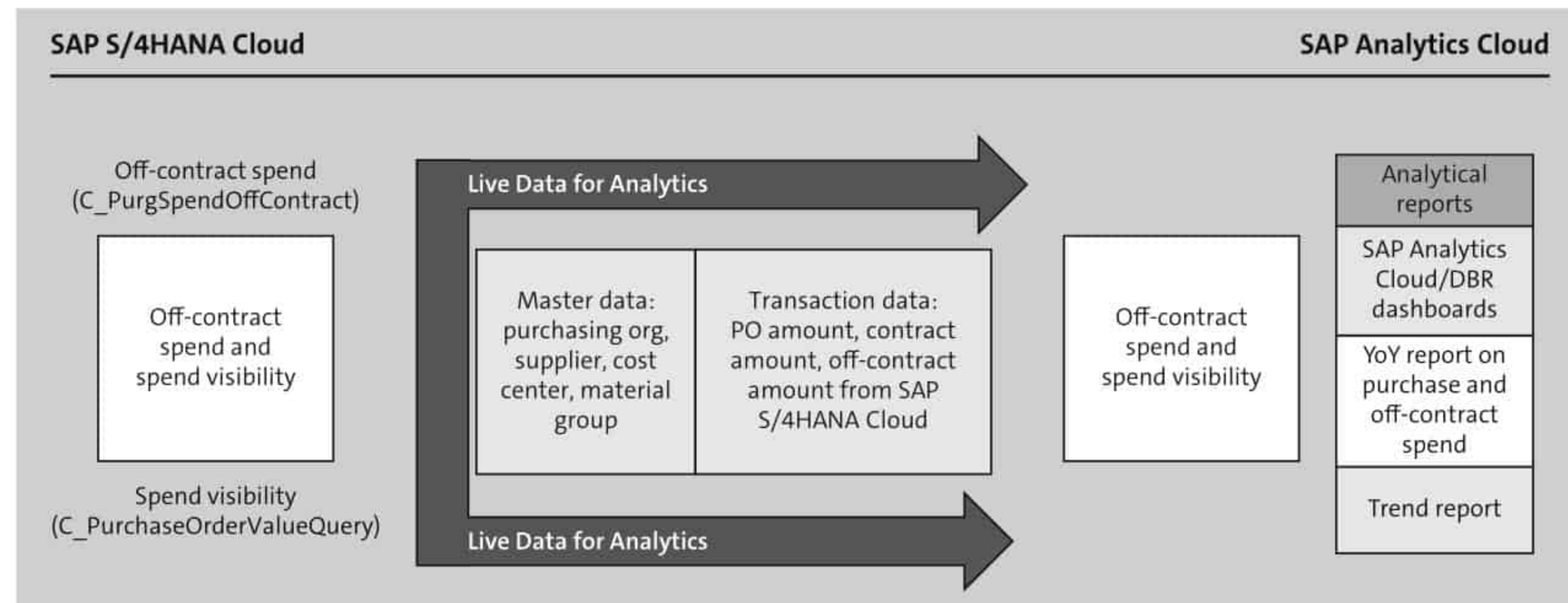


Figure 5.27 Schematic Information Flow for Procurement Story

Figure 5.28, Figure 5.29, and Figure 5.30 shows a sequence of analysis where we start with the off-contract overview screen (Figure 5.28), from which we could drilldown into built-in report (Figure 5.29). From there, we can look at additional purchasing KPI like spend visibility overview reports (Figure 5.30).

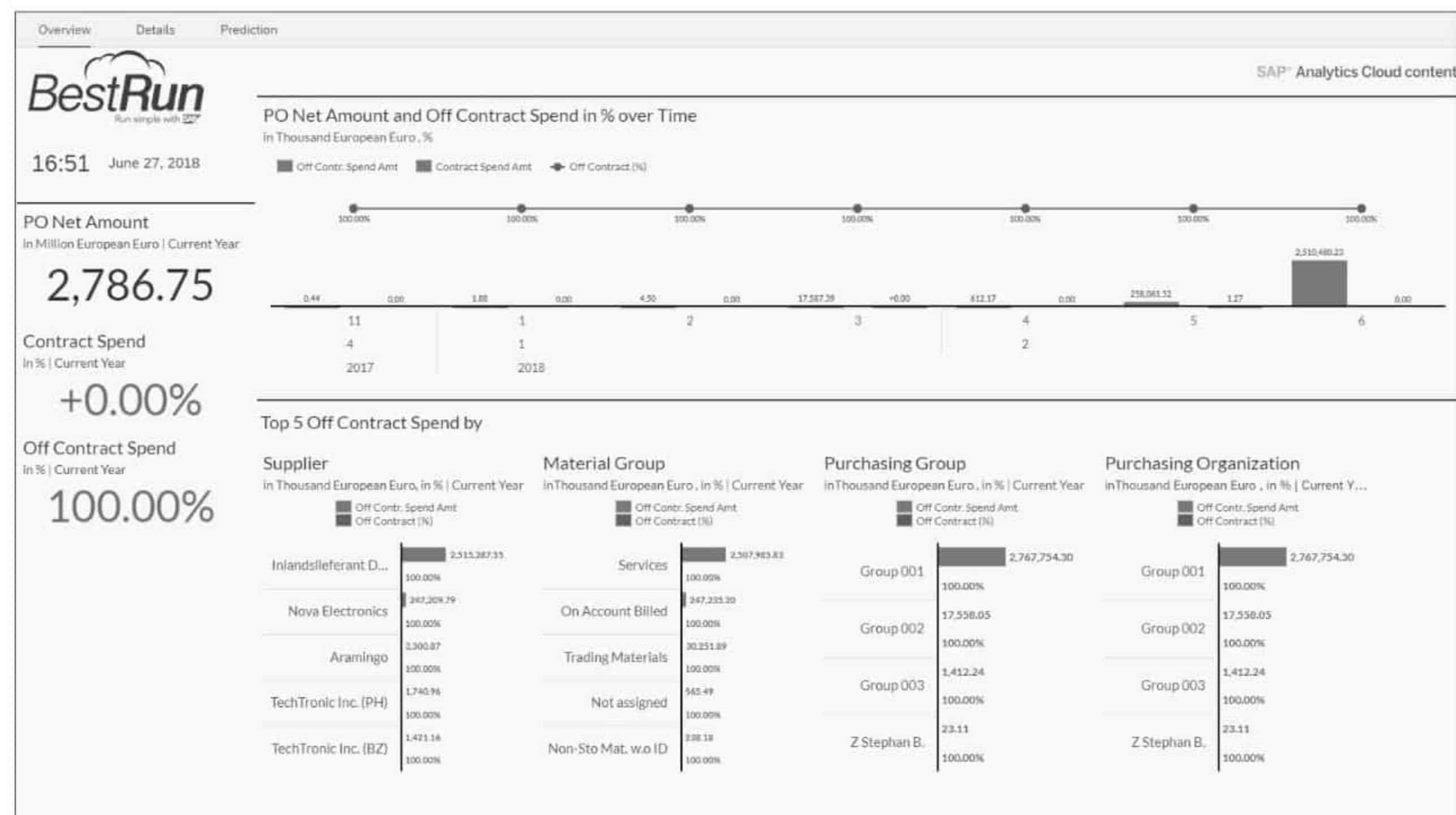


Figure 5.28 Off Contract Overview Screen

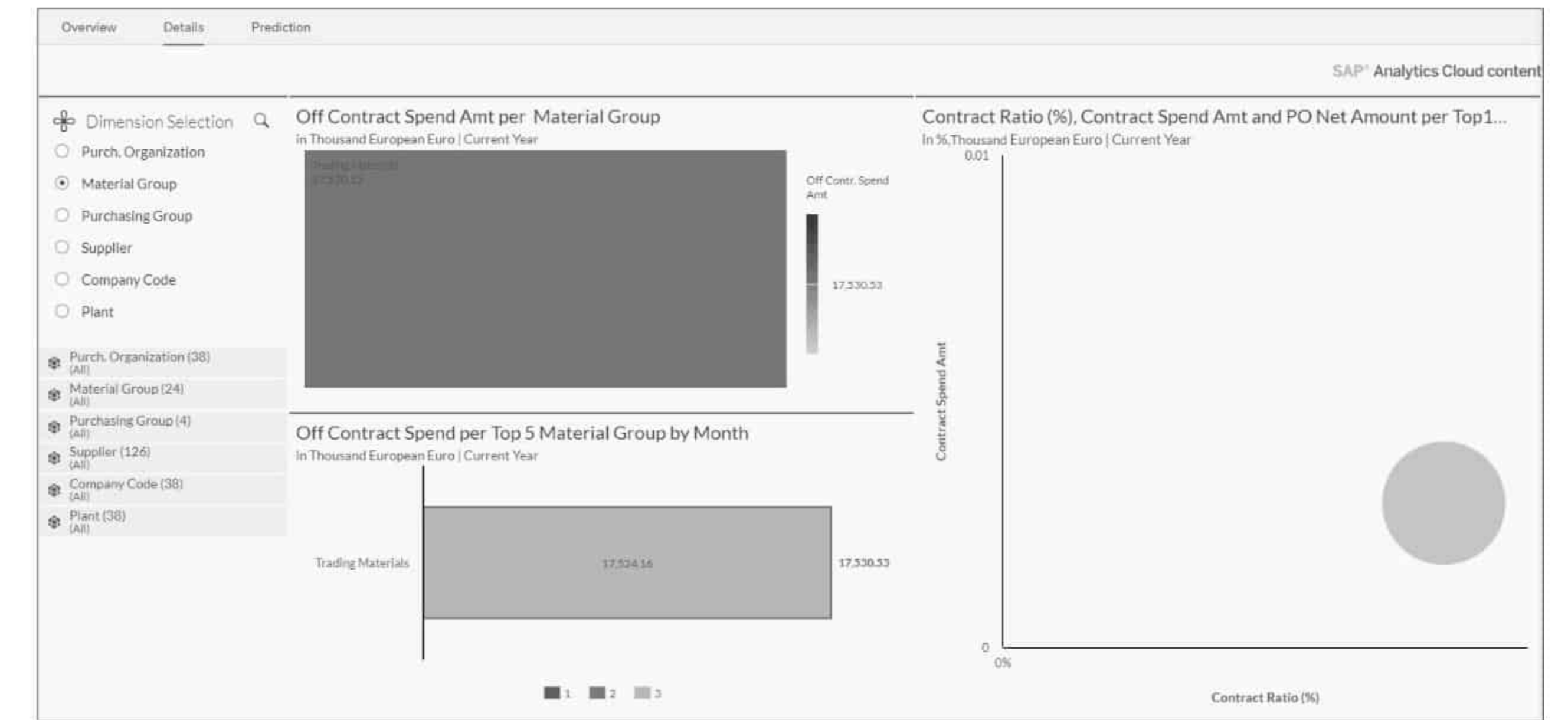


Figure 5.29 Detail Screen: Perspective



Figure 5.30 Spend Visibility Overview

The report helps in the following analyses:

- Purchase order net amount and off contract in percentage over time
- Compare purchase order amount by calendar month, supplier and material group, purchasing group
- Top five off-contract spend amount by plant and material group, supplier and material group
- Top five purchase order amount by cost center, supplier, material group

Figure 5.31 shows the data model used for the story in SAP Analytics Cloud. It shows the analytical queries available in the SAP S/4HANA system and used for building the cloud model. You can also use this story as a template for more content in procurement. For the custom queries created, you can build a model in SAP Analytics Cloud and then can build custom reports and stories.

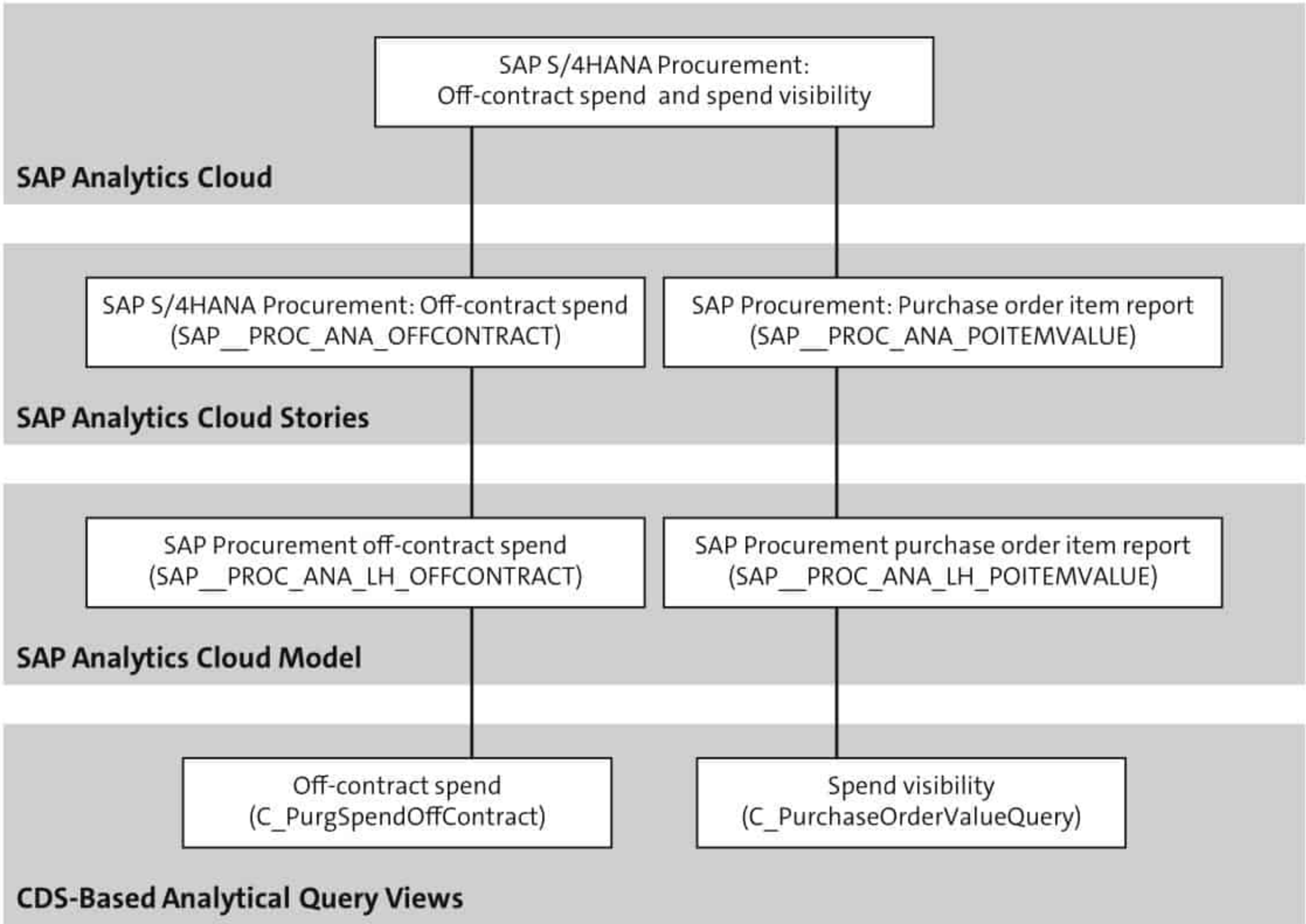


Figure 5.31 Data Model Flow for Procurement Story

5.3.2 Financial Planning and Analysis Content

SAP Best Practices for Financial Planning & Analysis for SAP S/4HANA Cloud using SAP Analytics Cloud includes the following:

- **Real-time integration between SAP S/4HANA Cloud and SAP Analytics Cloud**
SAP real-time financial analytics for SAP S/4HANA Cloud enables analysts or planners to dive into SAP S/4HANA Cloud using a real-time connector. Accelerators include a prebuilt set of live analytical dashboards, KPIs, and profit and loss (P&L)/balance sheet reports (SAP Best Practices analytics scope item 1U8).
- **Financial statement, cost center, and profit center planning**
SAP Financial Planning for SAP S/4HANA Cloud enables planners to complete a cost center, profit center, and balance sheet plan in SAP Analytics Cloud based on financial information sources for SAP S/4HANA Cloud. Accelerators include planning input templates, SAP Best Practices allocations, and a planning process flow (SAP Best Practices analytics scope item 2EB).
- **Trend analysis, variance analysis, and year-over-year analysis**
Financial analysis for SAP S/4HANA Cloud enables analysts or planners to analyze trends, variances, and growth rates for both actual and plan data in SAP Analytics Cloud. Accelerators mirror the content in real-time financial planning for SAP S/4HANA Cloud (SAP Best Practices analytics scope item 2IJ).
- **Integration between SAP Analytics Cloud and SAP S/4HANA Cloud**
SAP delivers best practices methodologies to integrate financial results from SAP S/4HANA Cloud into SAP Analytics Cloud, as well as pull plan data back into SAP S/4HANA Cloud. The SAP Best Practices methodology establishes SAP S/4HANA Cloud as the primary source of master data and financial structures.

Figure 5.32 outlines the following data flow for the solution:

1. Take the profit and loss statement from SAP S/4HANA Cloud, render it through a live feed in SAP Analytics Cloud, and provide a broad set of visualizations and reports to enable analytics.

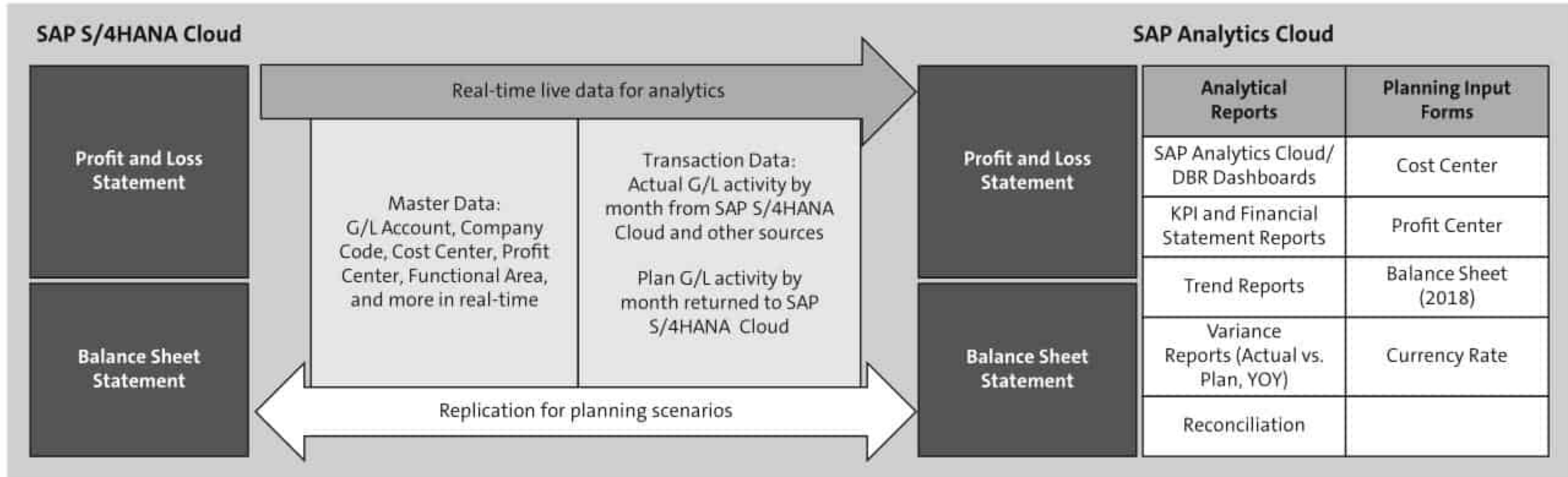


Figure 5.32 Finance Content Data Flow

2. Take that same P&L statement from SAP S/4HANA Cloud, import it into SAP Analytics Cloud, and let customers plan their future, including submitting plans (via planning input forms), proposing reorganizations, performing allocations, and analyzing sources beyond SAP S/4HANA Cloud.

Figure 5.33 shows the financial performance overview on one screen. Growth, market share, and profitability are the important KPIs shown in the overview. Further drill-downs into reports like profit ratios, earnings per share, operating income, and revenue and expenses also are available. Presenting the most important financial KPIs on a single overview page enhances the productivity of decision-makers and offers a holistic picture of the entire company.



Figure 5.33 Example of Finance Best Practices Content in SAP Analytics Cloud

Showing all important financial KPIs on a single screen requires a robust data model working behind the scenes. Figure 5.34 shows how the tables in SAP S/4HANA are combined to form the CDS models, which are the basis for the data models in the SAP Analytics Cloud. All stories are then developed based on these data models. The simplicity of SAP S/4HANA and integration with SAP Analytics Cloud provides the most critical financial information for the company on a single screen, which used to be only a dream.

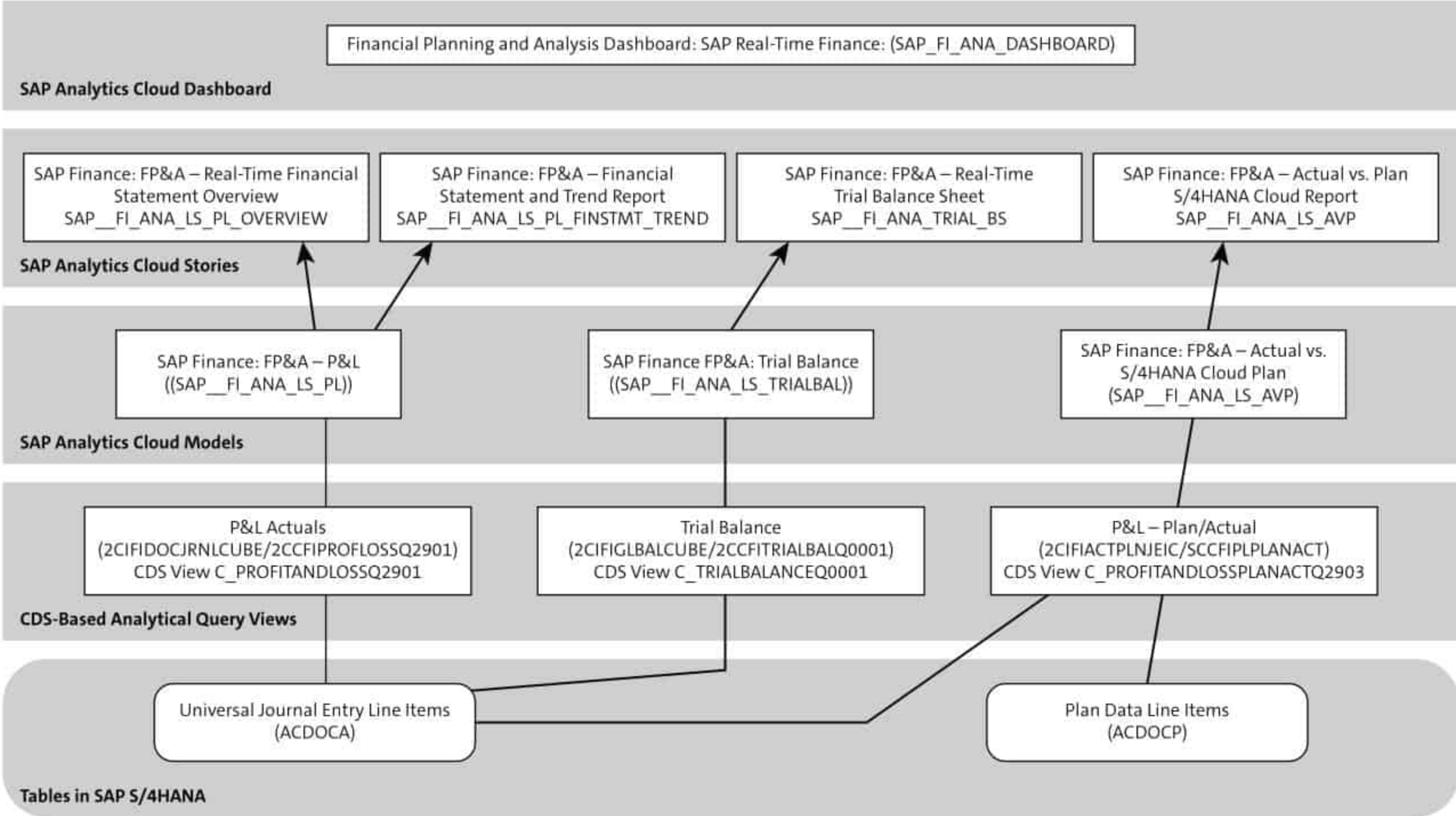


Figure 5.34 Data Model for Financial Planning and Analysis

Figure 5.35 shows the real-time financial analysis report. The overview page contains subreports: operating income and profit margin % by period, revenue and earnings by period, operating income, top five cost centers, and year over year (YoY) comparisons.

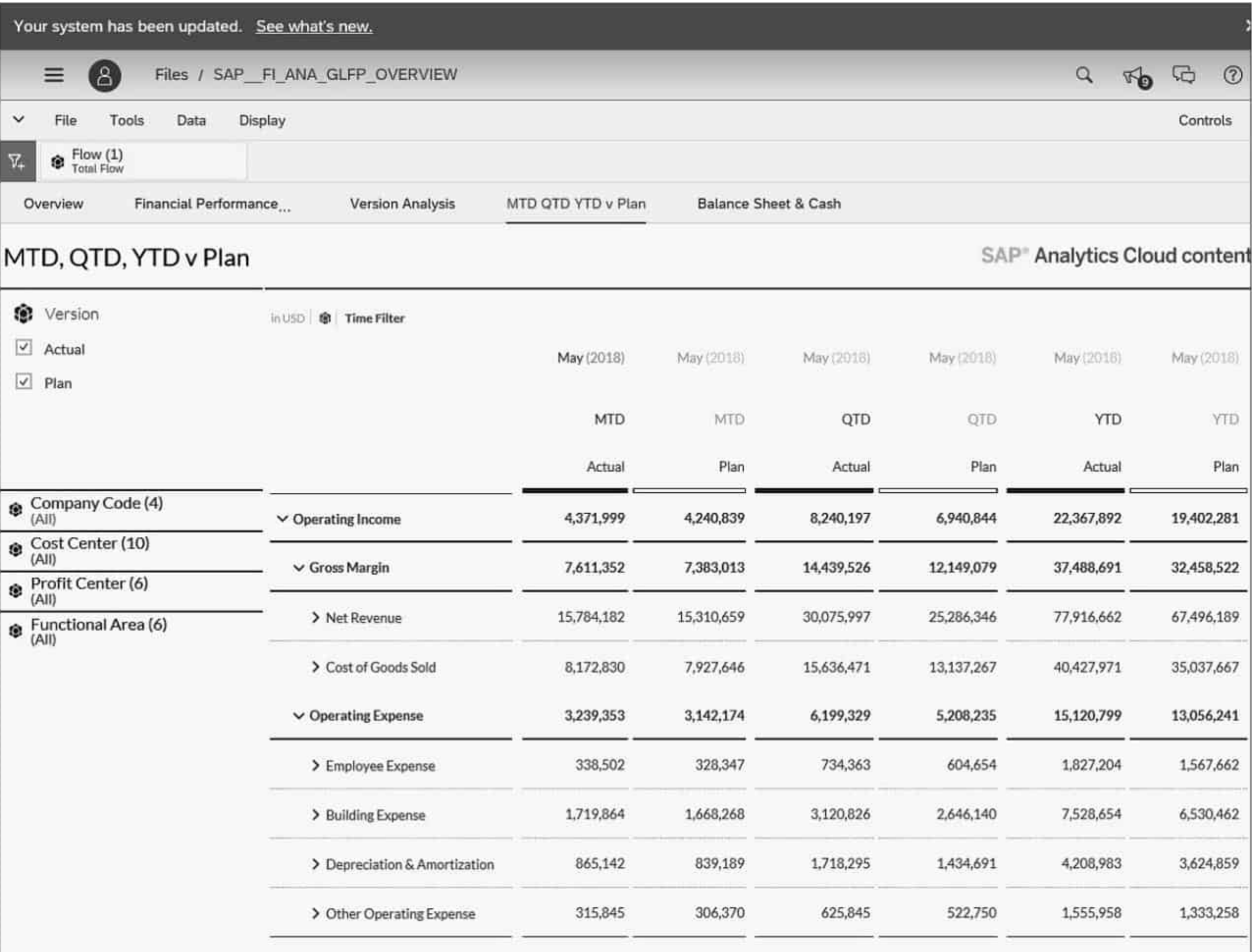


Figure 5.35 Real-Time Financial Analysis

5.3.3 Manufacturing Analytics Content

SAP Best Practices for manufacturing (plan to produce) for SAP S/4HANA Cloud using SAP Analytics Cloud include the following:

- **Real-time integration between SAP S/4HANA Cloud and SAP Analytics Cloud**
SAP real-time manufacturing (plan-to-produce) content for SAP S/4HANA Cloud enables an analyst to dive into SAP S/4HANA Cloud using a real-time connector. Accelerators include a prebuilt set of live analytical reports with KPIs (SAP Best Practices analytics scope item 28S).

- **Production cost overview, actual vs. plan comparison, and target comparison**
SAP manufacturing content for SAP S/4HANA Cloud (SAP Best Practices analytics scope item 28S) enables users to analyze complete production costs, incorporating actual and plan production costs and the percentage of cost variance associated with production orders. Accelerators include manufacturing models, best practices documentation for integration, and business process flows.
- **Work center cost analysis and variance report**
Perform work center cost analysis by plant and capture the variance in plan vs. actual costs for production orders using SAP Analytics Cloud model and reports to support manufacturing analysis.
- **Predictive analytics using time series forecasting and smart grouping**
SAP predictive content for manufacturing using SAP S/4HANA Cloud enables analysts to predict the cost variance (fixed vs. actual) completion and finish date. Smart grouping prediction will provide insight to optimize costs at work centers.

In a nutshell, the manufacturing best practices content provides answers to the following questions:

- How do I examine real-time production costs and provide a comparison between actual costs and planned costs based on SAP S/4HANA Cloud data? How does this work with views of the provided plan costs, actual costs, target costs, control costs, and work center analysis?
- How do I visualize SAP S/4HANA Cloud plans to produce data and present it in a robust dashboard?
- What SAP S/4HANA Cloud-based view should I use for production costs and work center analysis?

The story shown in Figure 5.36 provides an overview of a manufacturing business using the following elements:

- Prebuilt set of analytical dashboards and reports that help track manufacturing trends in the business
- Prebuilt set of KPIs for robust analytics on SAP S/4HANA Cloud data, incorporating actual and plan production costs and percentage of cost variance associated with production order,

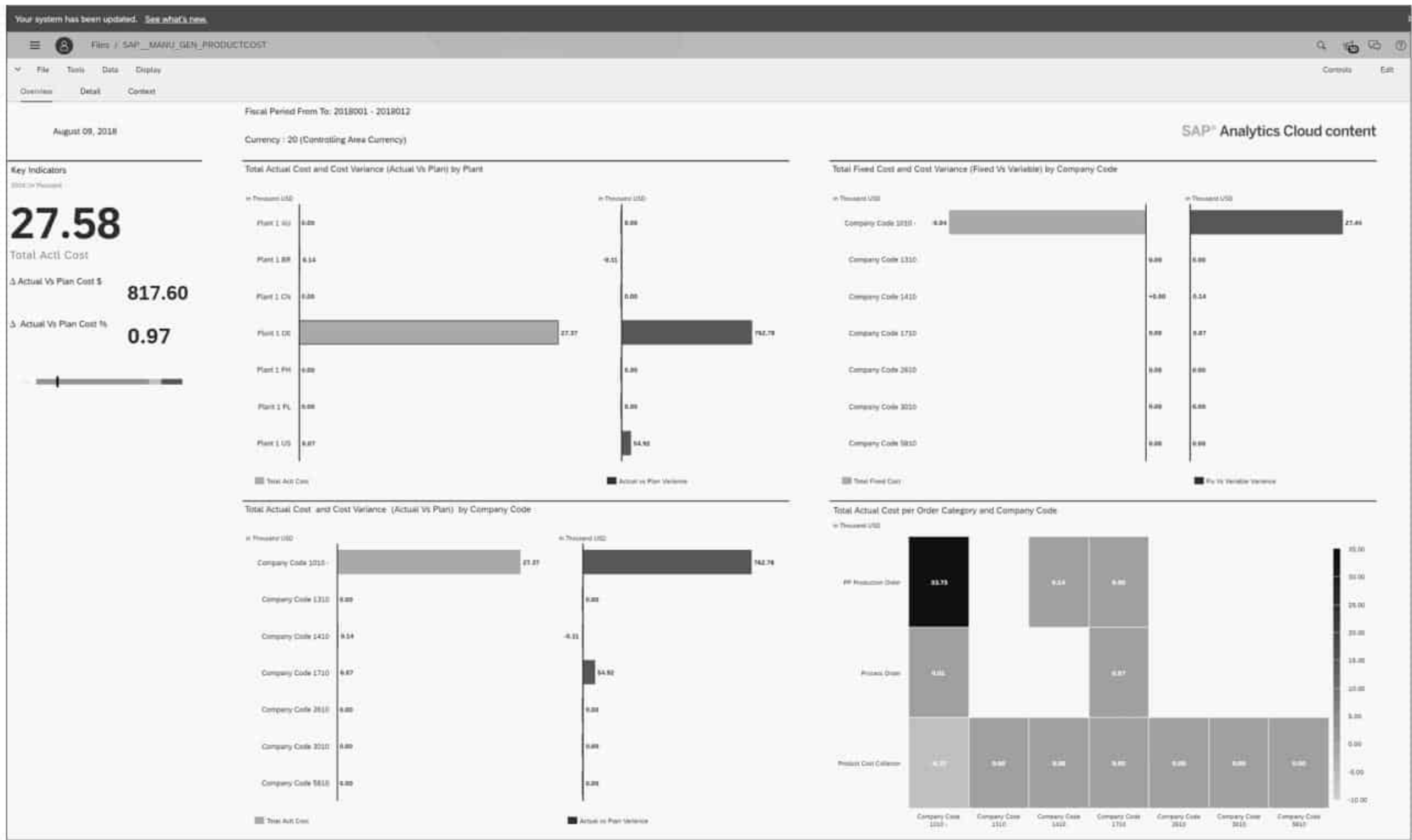


Figure 5.36 Manufacturing Best Practices Content for SAP S/4HANA

- Total actual cost and cost variance (actual vs. plan) for production cost by profit centers
- Total actual cost percentage per order type
- Cost variance (fixed vs. variable) by time periods
- Cost variance (actual vs. plan) by company code and order type
- Top performing entities: top performing plants, work centers, and profit centers by actual input cost
- Input cost variance by partner cost center for production planned orders

Figure 5.37 shows the CDS views relevant for the production cost analysis, work center analysis, and manufacturing scrap analysis connected to SAP Analytics Cloud through a live connection and generating the various reports for the plan-to-produce analysis.

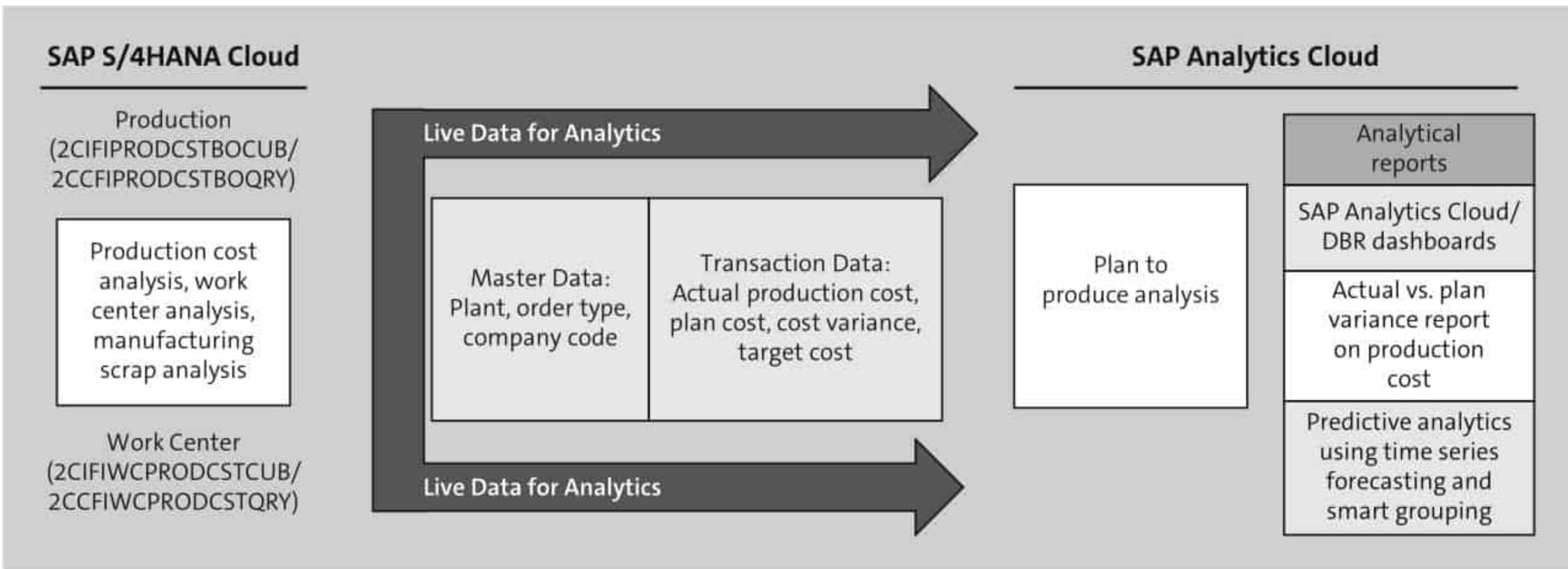


Figure 5.37 Manufacturing Data Flow

Figure 5.38 shows the transformation of the actual CDS view-based analytical queries to the SAP Analytics Cloud analytical models. Each story in manufacturing is then created based on this data model in SAP Analytics Cloud.

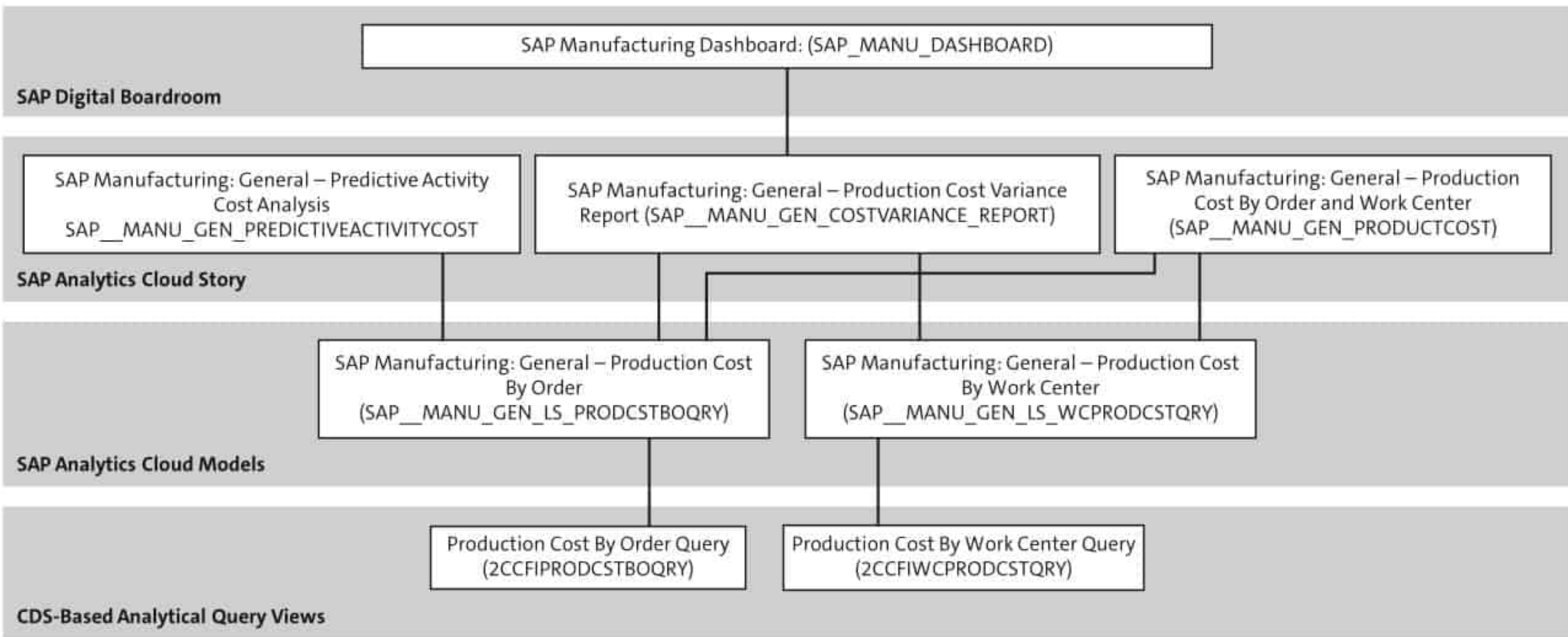


Figure 5.38 Manufacturing Data Model

The examples summarized across procurement, finance, and manufacturing are selected best practices content that we described to provide an overview of the content available with the solution packages. As shown in the content browser for SAP Analytics Cloud, there are many more stories than those covered here. You can use the process described earlier to import various stories to meet your requirements. Beyond SAP Analytics Cloud integration with SAP S/4HANA, the best practices also provide technical guides that cover the integration of the SAP S/4HANA system with

SAP BW and with SAP Cloud Platform. In the next section, we'll detail some important technical packages. As mentioned earlier, this is just a snapshot of some of the content you can easily consume. SAP Best Practices Explorer is the central repository from SAP to which each release's new solution packages are added or in which the scope items are enhanced. Therefore, we recommend that you consider the best practices content available for both the functional content and the technical content during project requirements analysis.

5.4 Integration Best Practices

In the following sections, we'll outline some of the important technical information available in the configuration guides for the best practices packages. We highly recommend reviewing these documents thoroughly before you start the installation or configuration phase.

5.4.1 SAP BW Integration

If you have SAP Business Warehouse running and want to add the benefits of SAP S/4HANA, it's possible to consume data from SAP S/4HANA in SAP BW.

For this guide, there are two main situations for the integration of SAP BW and SAP S/4HANA:

- SAP BW and SAP S/4HANA using two different databases
- SAP BW embedded in SAP S/4HANA

Separate Installations

With SAP BW and SAP S/4HANA installed on two different databases, the transactional and master data from the SAP S/4HANA analytics virtual data model is consumed by the SAP BW Open ODS view. This scenario is valid for SAP BW and SAP S/4HANA deployed across different SAP HANA instances (you must have SAP HANA smart data access configured). Figure 5.39 shows the integration architecture between SAP S/4HANA and SAP BW.

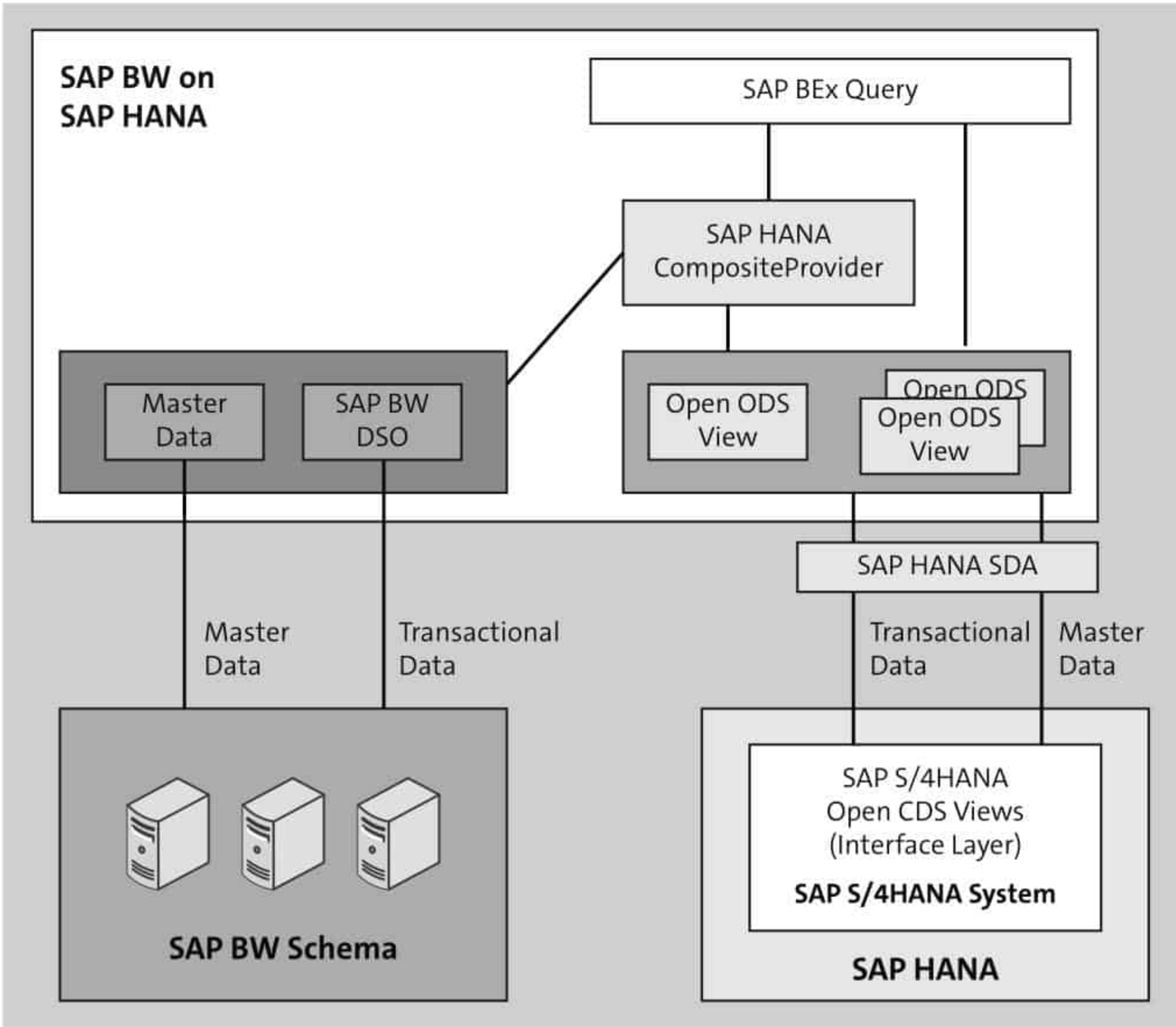


Figure 5.39 Integration Architecture between SAP S/4HANA and SAP BW

You can integrate SAP BW and SAP S/4HANA embedded analytics across different SAP HANA instances with Open ODS views and SAP HANA smart data access. In this case, the consumption of SAP S/4HANA analytics transactional and master data views by SAP BW has the following features:

- Real-time (transactional and master) access to SAP S/4HANA OLTP data with the help of Open ODS views consuming SAP S/4HANA analytics CDS views
- Flexible, agile modeling through Open ODS views
- Capability to enrich data from SAP S/4HANA analytics views with SAP BW managed master data (e.g., hierarchies)
- Takes full advantage of SAP Business Explorer reporting capabilities
- Security handled by SAP BW authorizations
- *Optional:* Transactional data from SAP S/4HANA analytics enhanced with data stored in an SAP BW DataStore object (e.g., historical data/plan data) by utilizing an SAP HANA CompositeProvider

The following recommendations are provided for this scenario:

- Implement Open ODS views based on SAP S/4HANA ABAP CDS interface/reuse views
- Distinguish between transactional and master data (attribute and text) views and create associations accordingly
- Start with the Open ODS views for master data (attribute and text), then proceed with transactional Open ODS views
- SAP client needs to be added to the key of all Open ODS views and needs to be uniquely filtered
- Use an SAP BEx query on top of Open ODS views/CompositeProviders to take advantage of the full set of reporting features:
 - Restricted and calculated key figures
 - SAP BEx variables, such as hierarchy node variables
 - Exceptions and conditions
 - Currency conversion during report execution
 - Report-to-report interface

Open ODS views provide functionality to switch from virtual access to persistence. Generation of data flow with a DataSource, advanced DataStore Object, and SAP BW transformation (requires SAP BW 7.40 SP 8 or higher).

Embedded SAP BW in SAP S/4HANA

With embedded SAP BW in SAP S/4HANA, you can simply display and use SAP S/4HANA analytics consumption/query views without any further investments. This option is mainly used to leverage SAP BEx capabilities and is valid for embedded SAP BW setup. There is also transactional data provisioning via SAP S/4HANA analytics Open CDS views in an SAP BEx query, as shown in Figure 5.40.

Consumption of SAP S/4HANA analytics Open CDS views in SAP BW via an ODP transient provider has the following properties:

- Supports SAP BEx variables
- Supports restricted key figures
- Supports exceptions and conditions
- Supports currency conversion

- Supports SAP BW report-to-report interface
- Supports SAP S/4HANA analytics privileges

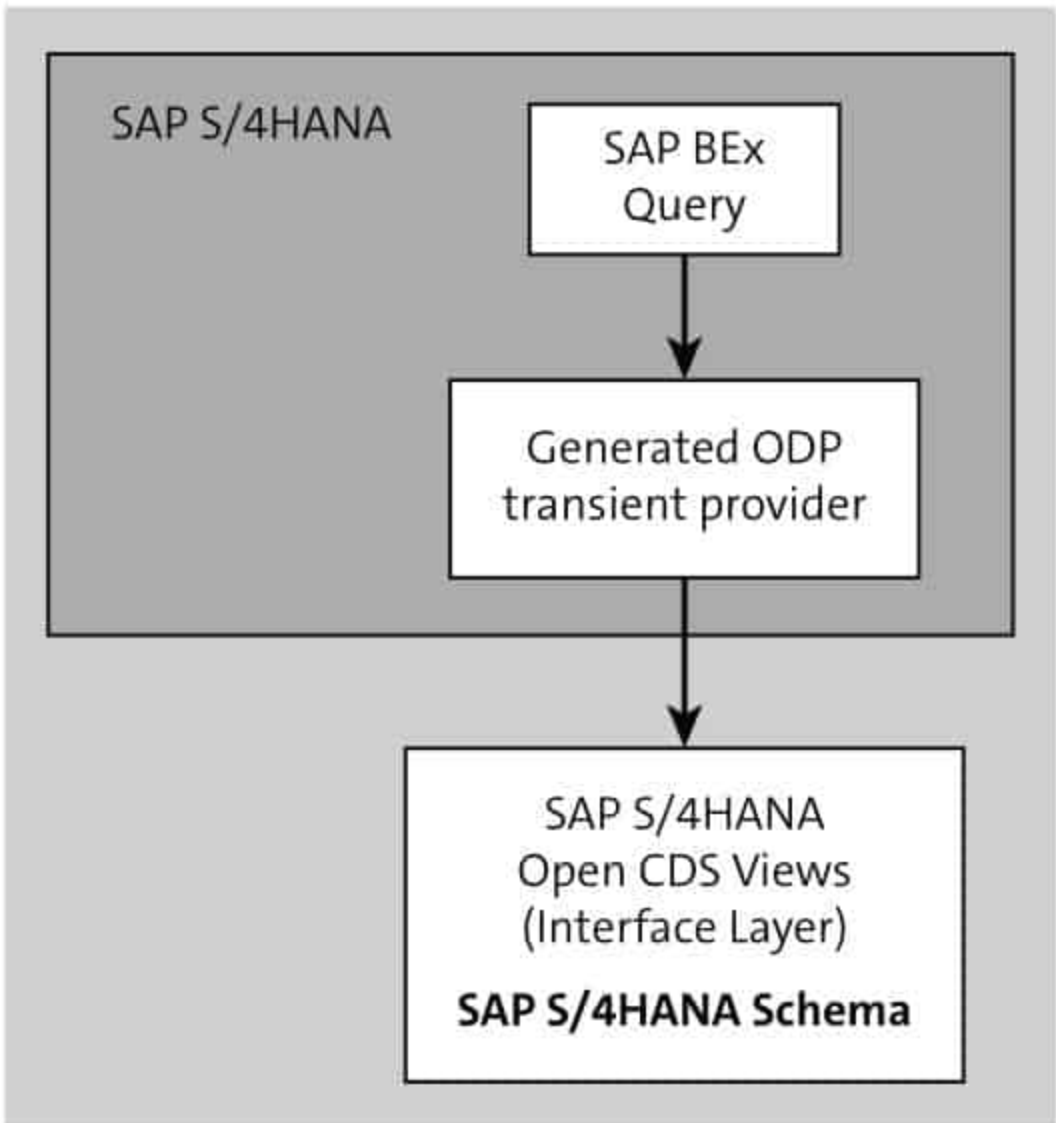


Figure 5.40 Embedded SAP BW Architecture

Another important scenario is SAP BW/4HANA reporting with SAP S/4HANA Cloud, as shown in Figure 5.41:

- Leverage this use case when SAP BW/4HANA needs to be the single source of truth for consolidated reporting across all systems in the landscape.

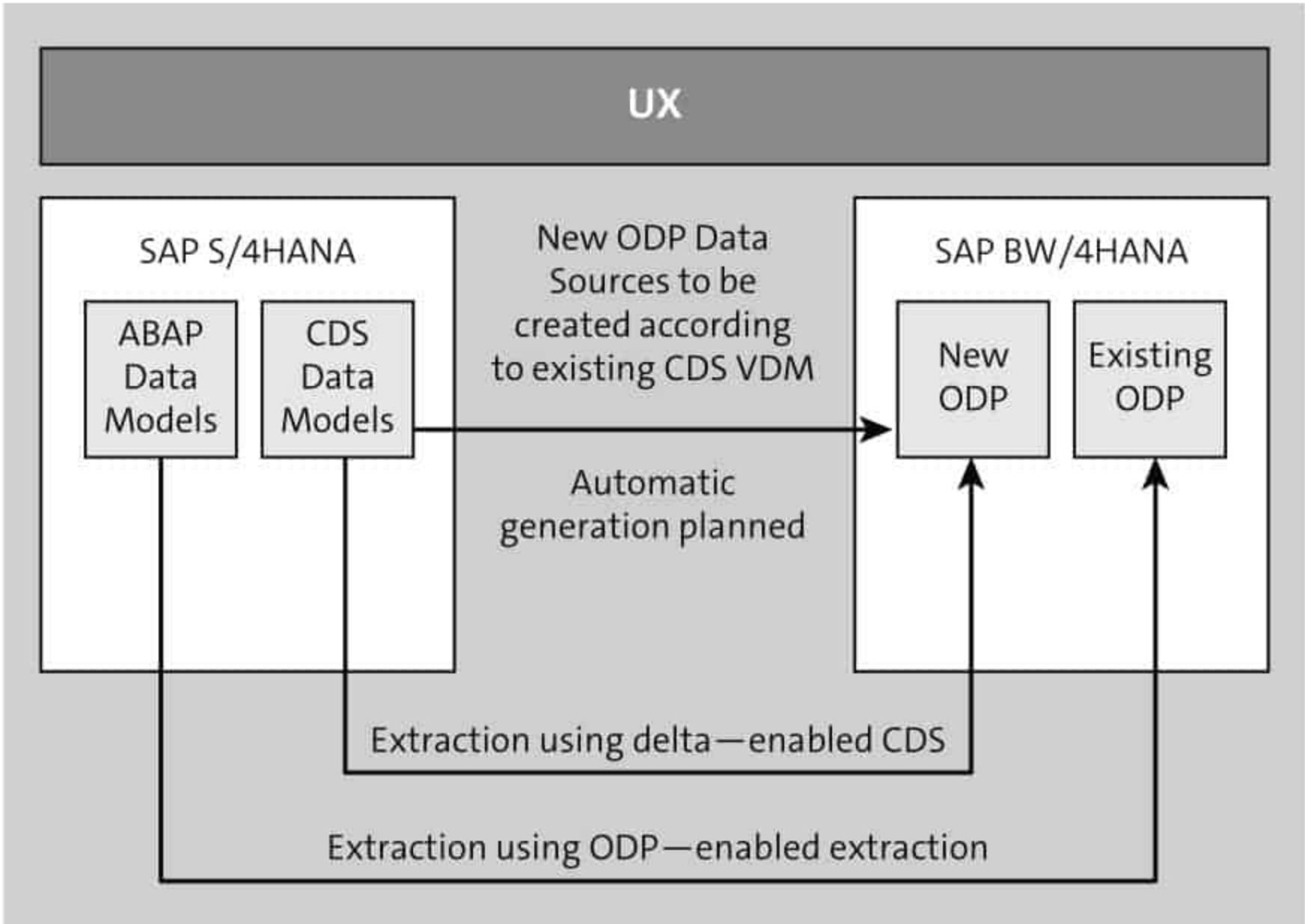


Figure 5.41 Integration between SAP S/4HANA and SAP BW/4HANA

- Integration scope items provide steps to configure the data replication from SAP S/4HANA Cloud to SAP BW/4HANA using whitelisted data sources on SAP S/4HANA Cloud.
- It also supports both delta and full loads.

Figure 5.42 shows the SAP BW/4HANA integration configuration with SAP S/4HANA Cloud architecture scope item. This is specified as scope item 28Y in the SAP Best Practices scenarios for analytics.

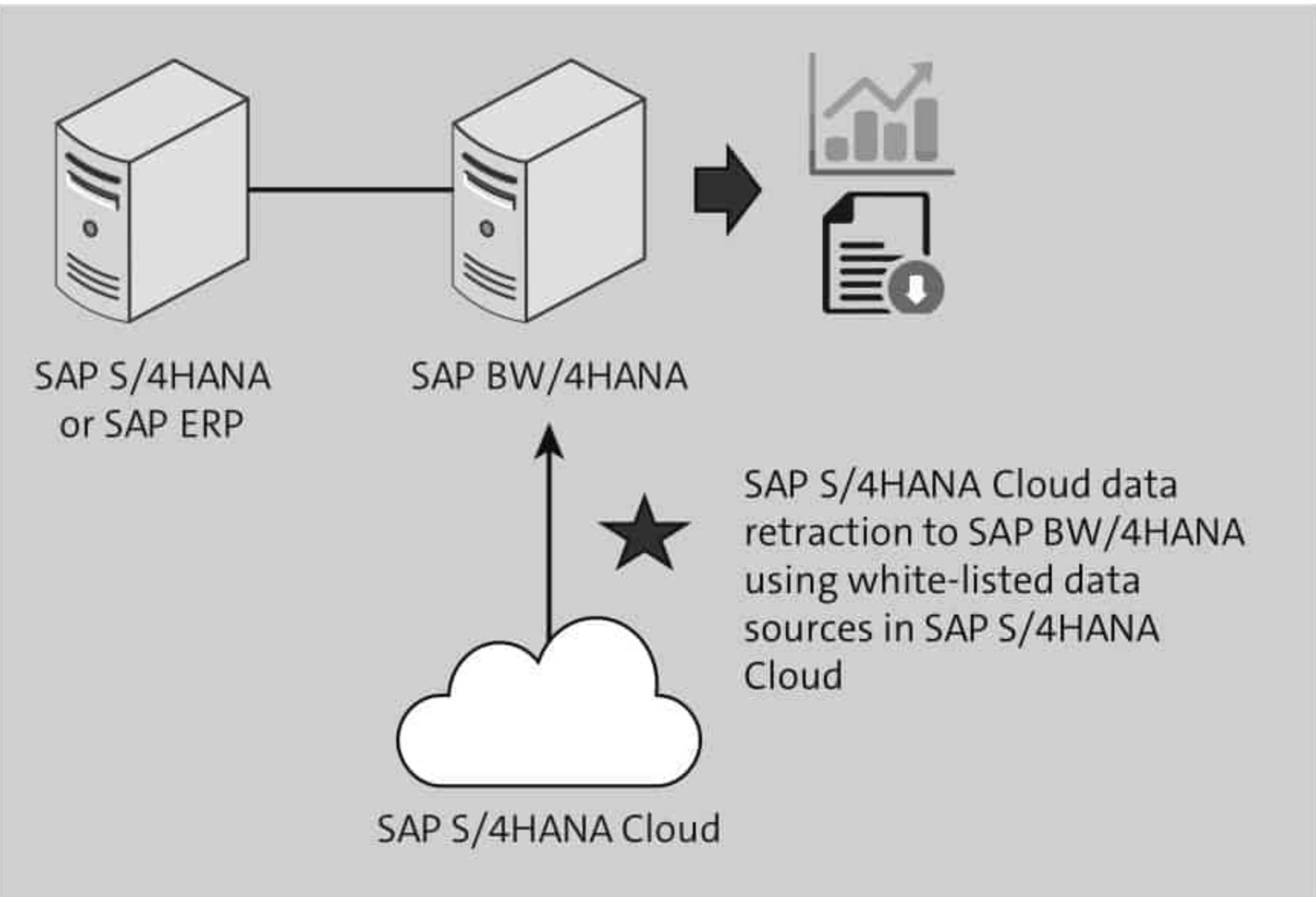


Figure 5.42 Integration of SAP S/4HANA Cloud with SAP BW/4HANA

Some recommendations and tips for this scenario are as follows:

- All SAP S/4HANA CDS views are automatically exposed as ODP transient InfoProviders and can be used in the SAP BEx Query Designer to define custom queries.
- This is a quick way to add SAP BW functionality without using SAP BW modeling objects.
- We recommend implementing SAP BEx queries based on SAP S/4HANA analytics CDS consumption/query views.
- Input parameters/variables defined in SAP S/4HANA analytics CDS views must be defined in an SAP BEx query as static filters (e.g., by a fixed value or mandatory variable).

- SAP BW analysis authorizations and SAP BW hierarchies are not supported.
- SAP BEx queries created on ODP transient providers can be transported through the SAP S/4HANA landscape because the transient provider is generated with the same technical name in all systems.

For more details on these scenarios, please download the configuration guide from SAP Best Practices Explorer.

5.4.2 SAP BusinessObjects BI Platform Integration

This configuration guide provides integration between the SAP Best Practices transactional business processes and the SAP BusinessObjects BI analytical content. Through this integration, end users can launch SAP BusinessObjects BI tools using SAP Fiori launchpad.

Predefined reports include the following:

- SAP Lumira, designer edition dashboards for core finance scenarios
- SAP Lumira, designer edition dashboards for procure-to-pay scenarios
- SAP Lumira, designer edition dashboards for order-to-cash scenarios
- SAP BusinessObjects Web Intelligence reports for sales order analysis
- SAP Crystal Reports for sales revenue analysis
- SAP Lumira reports for accounts receivable analysis, sales volume analysis, and inventory analysis

Figure 5.43 shows the integration architecture between SAP S/4HANA and SAP BusinessObjects BI. We recommend downloading the configuration guide, which provides a detailed step-by-step guide for configuration of the following:

- Web Dispatcher
- SAP BusinessObjects BI platform authentication
- SAP Fiori frontend server
- SAP Fiori launchpad designer
- SAP Fiori launchpad

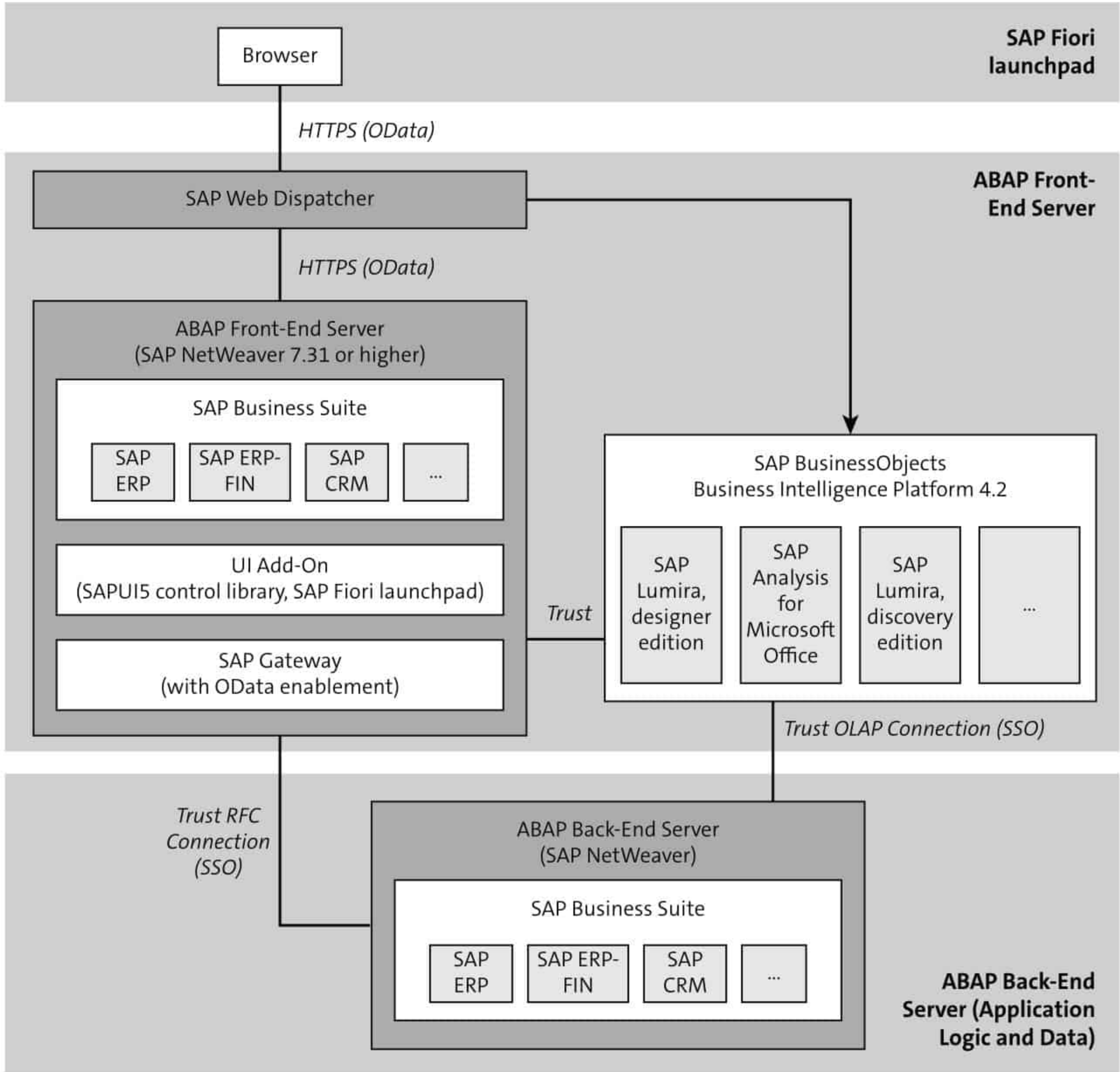


Figure 5.43 Integration of SAP S/4HANA and SAP BusinessObjects BI

5.4.3 SAP Cloud Platform Integration

The purpose of this best practices package is to describe the configuration steps required to build an SAP Fiori analytics app based on OData from the SAP S/4HANA system.

Before you configure the integration scenario between SAP S/4HANA and SAP Cloud Platform, the following system configurations are required:

- User access for SAP S/4HANA system.
- User access for SAP Cloud Platform with developer and cloud connector admin roles assigned.
- SAP Cloud Platform can enable the corresponding services—for example, SAP Portal service, SAP Web IDE, and SAP Smart Business service.

Figure 5.44 shows the data flow for the integration of SAP S/4HANA with the SAP Cloud Platform. The solution package, BT1, describes this integration; we recommend following the best practices guide for the integration.

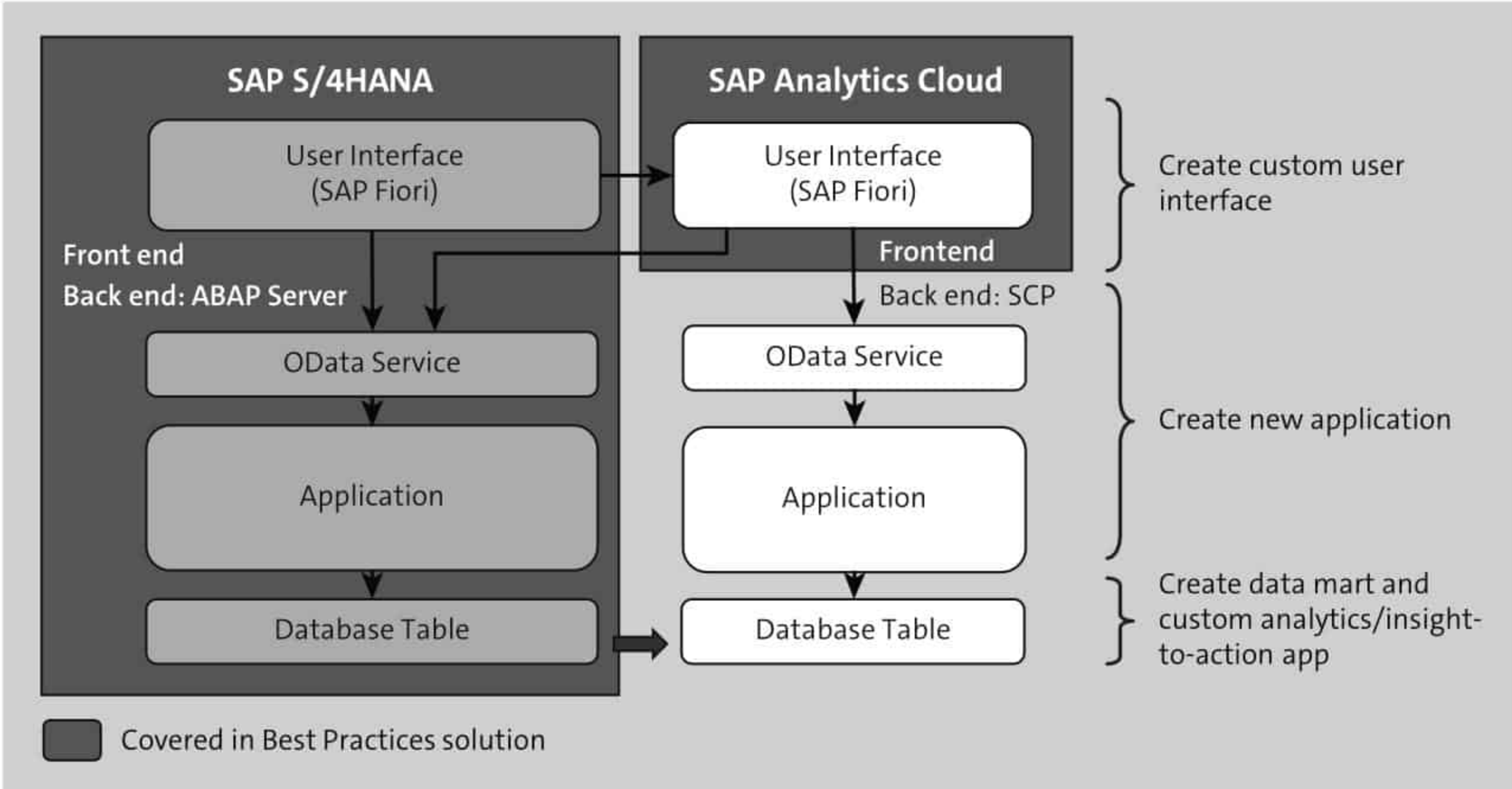


Figure 5.44 SAP S/4HANA Integration with SAP Cloud Platform

Beyond these packages, several other integration scenarios are provided as best practices content. We recommend grounding your implementation effort by providing due consideration to the best practices packages.

5.5 Summary

In this chapter, we discussed the analytical content SAP provides out of the box, ready for use by customers with SAP S/4HANA both on-premise and in the cloud. The number of applications increases with each release; we recommend checking the SAP Fiori apps library frequently for the latest information. SAP Best Practices Explorer is

also a helpful guide for any implementation. Not only does it provide rich functional content to be used by teams, but also it provides detailed, step-by-step guides for technical integration as well. These two resources can help you derive significant benefit from an investment in SAP S/4HANA.

Standard content is great way to start deriving value from the SAP S/4HANA project, but we frequently see a need to extend the SAP-delivered applications as well. Customers need easy-to-use and comprehensive toolsets to extend their applications and create custom content. We'll discuss this capability in the next chapter, in which we'll describe how to explore the various options available to analytics specialists to customize and extend the standard SAP-delivered content.

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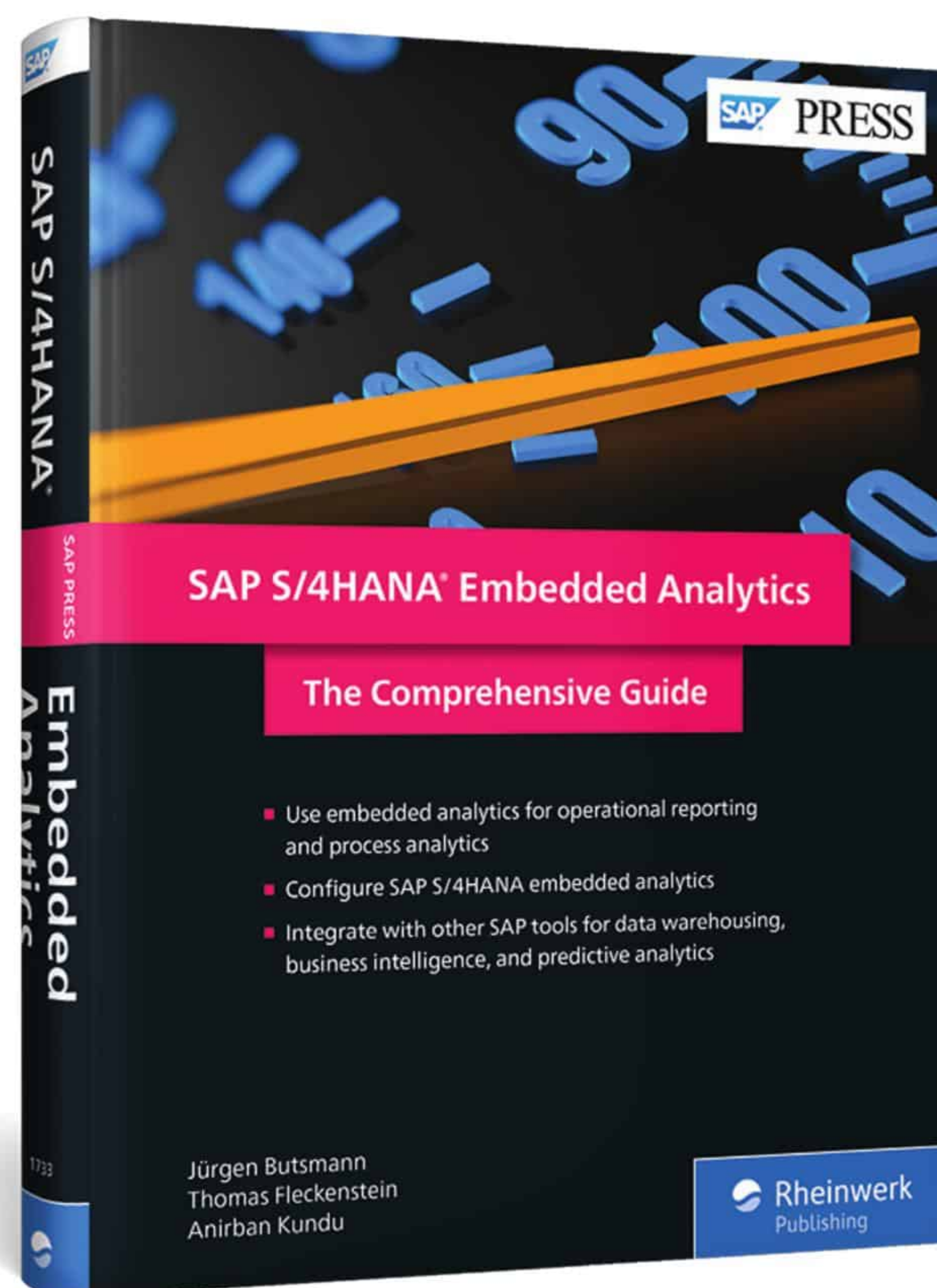
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