

The new world of SAP® Reporting and Analytics

Using embedded and enterprise analytics
to power the intelligent enterprise

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Start by running the S/4HANA Readiness Check. Align enterprise-wide business and IT objectives and stakeholders that will light your way to the intelligent enterprise.



Architect your modernizations and new S/4 intelligent capabilities to maximize business value and accelerate your start. Select the best-fit strategy for your enterprise—system conversion, selective data transition, or new implementation.



Begin your journey assured that uncertainty is in your rear view mirror. Execute, manage, control, and monitor each track with confidence that success is your only destination.

Your journey to SAP S/4HANA starts here



Evaluate the SAP Readiness Check, analyze your simplifications, and blueprint your renovations that will help you narrow your S/4 transition strategy decision.



Ready your company for the transformation by executing renovation activities and mapping out your selected S/4 adoption approach—assuring when its time to start, you'll have a smooth journey.

SAP S/4HANA Discovery and Preparation Roadmap

MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12
TECHNICAL SPT	SOLUTION & TECHNICAL ANALYSES		TRANSITION STRATEGY SELECTION			ECC MODERNIZATIONS + S/4 PRE-WORK					
	SAP READINESS CHECK ANALYSIS		SIMPLIFICATION + INNOVATION DISCOVERY			BUSINESS CASE + PROGRAM CHARTER DEVELOPMENT			PROGRAM PLAN + ESTIMATES-TO-COMPLETE		
Analyze SAP Technical Infrastructure. Select PRD replica to run SAP Readiness Check. Ensure interfaces, custom code and data volumes are consistent with PRD	Conduct SAP Readiness Check 2.0 deep-dive analysis sessions and playback results to key business and IT stakeholders.		Prepare and execute simplification and digital innovation sessions aligned to business improvement imperatives for change. Curate analyses, quantify pros & cons of each S/4 transition strategy, and select the best-fit approach.			Develop program business case and charter for your selected option. Document and quantify all business value opportunities by functional and technical area delivered thru digital transformation and automation.			Develop S/4HANA program WBS schedule, resource staffing plan, and estimates to complete. Submit budgetary funding requests.		
Load all applicable SAP Notes to run Readiness Check	Explore SAP S/4HANA transition strategies, concepts and approaches		SAP APPLICATION LIFECYCLE MANAGEMENT			SAP APPLICATION LIFECYCLE MANAGEMENT			SAP APPLICATION LIFECYCLE MANAGEMENT		
Validate SAP Solution Manager ALM processes, versions and readiness for SAP Readiness Check 2.0 generation	Develop a high-level discovery and preparation phase WBS plan & estimates		Assess the benefits of migrating your SAP ALM solution to SAP ALM Cloud or Solution Manager 7.2 SPS15+ to support the S/4HANA project and ongoing productive application management after go live. Achieve value in project management acceleration, quality delivery, and ongoing support efficiencies.			Establish program governance structures and PMO processes for scope, time, cost, resource, issue, risk, quality, and communications management, controlling and reporting for ECC Modernizations, S/4HANA Simplifications, Cloud Enablement, Data Harmonization and Archiving, and SAP ALM Renovation Pre-Projects. Implement new SAP ALM business processes, modernize system documentation and artifacts. Implement new Test Suite, migrate old ECC test assets, update test scenarios, scripts and cases. Implement and integrate new automated testing solutions and develop automated test assets.			Establish program governance structures and PMO processes for scope, time, cost, resource, issue, risk, quality, and communications management, controlling and reporting for ECC Modernizations, S/4HANA Simplifications, Cloud Enablement, Data Harmonization and Archiving, and SAP ALM Renovation Pre-Projects. Implement new SAP ALM business processes, modernize system documentation and artifacts. Implement new Test Suite, migrate old ECC test assets, update test scenarios, scripts and cases. Implement and integrate new automated testing solutions and develop automated test assets.		
Run SAP Readiness Check and validate all tiles have generated successfully	Review current-state LoBs, brands, geos, business models, multi-year business imperative roadmap including MA&D planning and initiatives		SAP FUNCTIONAL AREA WORKSTREAMS			SAP FUNCTIONAL AREA WORKSTREAMS			SAP FUNCTIONAL AREA WORKSTREAMS		
Upload results to SAP web services to generate SAP Fiori-based report and extend SAP authorizations to report for core team members	Review business and IT pain points and key digital transformation innovation areas		ECC Modernizations that Accelerate S/4 Transition Explore ECC modernizations that will improve business efficiencies, prepare your user community for S/4 adoption, and reduce overall change impacts.			Execute ECC Modernizations Develop business process decomposition and pre-work plan for all workstreams, e.g., OTC, PTP, FTP, RTR. Architect, design, build, test, and deploy new ECC OTC, PTP, FTP, RTR org changes, business process cleanup and S/4 preparation configuration.			Execute ECC > S/4 Simplifications and Improvements Develop high-level scope and designs for new build items. Architect, design, build, test, and deploy new ECC solutions to support future state S/4 simplification items and digital innovations.		
	Analyze SAP Readiness Check Report including Simplification Items, Add-Ons, Integrations, Custom Code, Master and Transactional Data, etc.		S/4HANA Simplifications and Improvements Evaluate, compare, and contrast current ECC feature/functionality with the new ways of working in S/4.			Execute ECC > S/4 Simplifications and Improvements Develop high-level scope and designs for new build items. Architect, design, build, test, and deploy new ECC solutions to support future state S/4 simplification items and digital innovations.			Architect and Design S/4HANA New Intelligent Functions and Capabilities Develop high-level scope and designs for new build items. Architect and design new intelligent S/4 functions, features, and capabilities that can drive business improvements through new digital business models.		
			SAP DATA CLEANSING, HARMONIZATION & ARCHIVING			SAP DATA CLEANSING, HARMONIZATION & ARCHIVING			SAP DATA CLEANSING, HARMONIZATION & ARCHIVING		
			Analyze SAP master and transactional data volumes, data inconsistencies and SAP DB size. Assess archiving potential that reduces the size and cost of the SAP HANA in-memory database.			Remediate Data Inconsistencies in Source ECC Cleanse and harmonize master data (CVI) and close transaction data open items. Analyze as-is database table sizes, volumes, and retention strategies.			Data Archiving Execution/Data Conversion and Migration Planning Project Execute data archiving and/or assess and select data migration tools for mapping and conversion of master data and historical transaction data.		
			SAP APPLICATION DEVELOPMENT			SAP APPLICATION DEVELOPMENT			SAP APPLICATION DEVELOPMENT		
			Analyze custom ABAP code, quantify RICEFW objects, and estimate remediation efforts. Assess key system integrations, add-ons and bolt-ons for vendor certification to target S/4HANA version.			Establish ABAP Test (ATC) instance on Cloud PoC Quantify custom code remediation efforts and categorize in P1, P2, P3, P4. Execute preliminary ATC checks for code remediation and adaptation.			Custom Code Remediation and Adaptation Execution Project Execute preliminary custom code remediation and adaptation of key system extensions, user exits, system bolt-ons and add-ons.		
			SAP FIORI, EMBEDDED & ENTERPRISE ANALYTICS			SAP FIORI, EMBEDDED & ENTERPRISE ANALYTICS			SAP FIORI, EMBEDDED & ENTERPRISE ANALYTICS		
			Understand the new S/4 virtual data model and the power of embedded analytics. Take full advantage of the SAP HANA database and Fiori user-based productivity enhancements. Discover how new augmented and predictive analytics based on ML will redefine the Insight-To-Action lifecycle.			Refine UX/UI, Reporting & Analytics Strategies Develop enterprise wide Fiori, embedded and enterprise reporting and analytics strategy, solutions, tools and implementation plans.			Refine UX/UI, Reporting & Analytics Strategies Develop enterprise wide Fiori, embedded and enterprise reporting and analytics strategy, solutions, tools and implementation plans.		
			CLOUD INFRASTRUCTURE & SAP TECH ARCHITECTURE			CLOUD INFRASTRUCTURE & SAP TECH ARCHITECTURE			CLOUD INFRASTRUCTURE & SAP TECH ARCHITECTURE		
			Assess the benefits of migrating on-premises infrastructures to cloud hyperscalers to achieve quantifiable business value in the areas of resiliency, agility, cost savings, and staff productivity. Review as-is, and design future-state SAP technical strategy, system instances, versions, OS/DB, sizing, HA/DR, Security and Compliance and develop cloud business case for change.			Build Cloud Proof-of-Concept (PoC) Based on PRD and the selected S/4HANA transition strategy Conversion or Shell, develop detailed plans for cloud migration including ETC.			Cloud Enablement/Migration Project Execute cloud migration from on-premise or co-location data center to cloud hyperscaler.		
			ORGANIZATIONAL CHANGE MANAGEMENT & TRAINING			ORGANIZATIONAL CHANGE MANAGEMENT & TRAINING			ORGANIZATIONAL CHANGE MANAGEMENT & TRAINING		
			Assess org change impact of transition strategy on business org alignment, readiness, users, deployment strategy, etc. Govern, manage and champion digital innovation discovery, and analysis using business process segmentation model approach to differentiating capabilities			Perform Stakeholder Assessment and Org, Site and User Change Impact Analysis based on S/4 simplification items and new intelligent capability augmentation.			Develop OCM&T Business Case for Change. Develop detailed OCM&T change, communications, and training plan. Identify and perform OCM&T workstream pre-work, e.g., role mapping, methods and tools enablement, training curriculum and assets, accelerators and job aides.		

“ While embedded analytics focuses on real-time operational reporting, enterprise analytics is suitable for holistic business management and covers a broader range of applications. ”



Embedded Analytics let you analyze and visualize the data directly in the source system. It eliminates the need for complicated and time-consuming data preparation steps. The combination of the simplified data model across applications, instant access to CDS views for real-time data retrieval, and the new Fiori front-end, enables all business users to choose from a wealth of standard SAP analytical reports.



Enterprise Analytics is a more comprehensive concept that encompasses complex analyses for strategic reporting, which are better served by data analytics platforms, such as SAP Data Warehouse Cloud and more traditional tools like SAP BW4/HANA, that can integrate and harmonize disparate data that is then accessible by advanced visualization and rendering tools such as SAP Analytics Cloud.



SAP Data Warehouse Cloud goes beyond traditional data warehousing to provide a multi-cloud, multisource business semantic service for enterprise analytics and planning. The SAP Data Warehouse Cloud solution provides data modeling, connectivity, virtualization, and access across the enterprise. Using managed spaces, business users can explore data, integrate new information, and share insights.

Overcoming the old ways of working

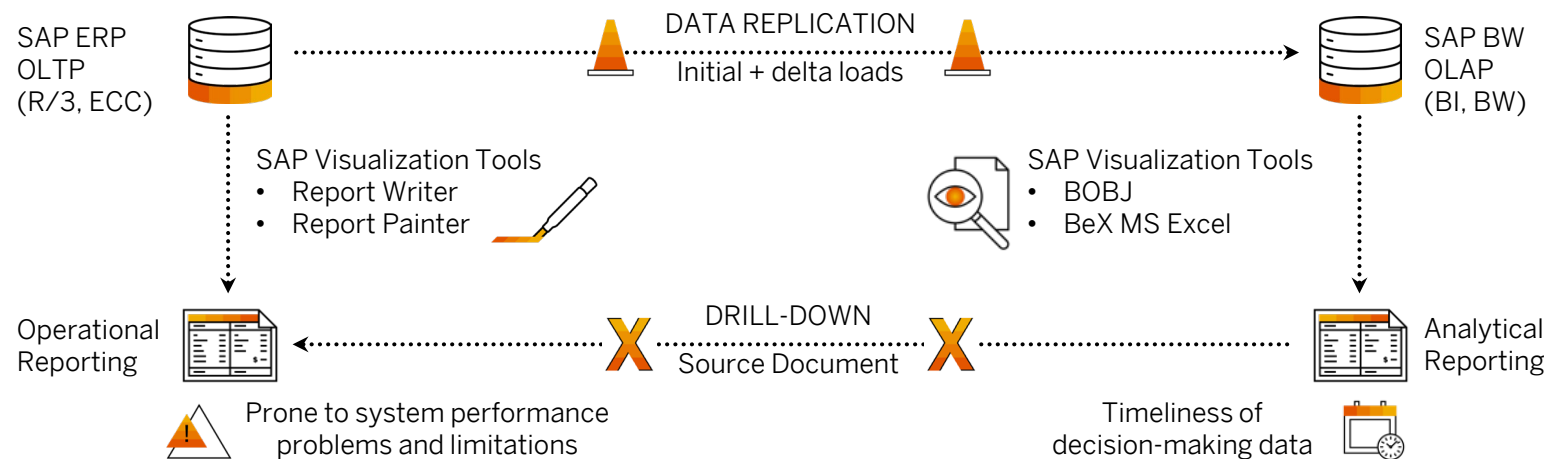
SAP has been a vast repository of data that captured a variety of data records from master to transactional data. Over the last 30 years, SAP responded to this core requirement with several different reporting tools.

HISTORICAL DATA REPORTING

The overarching principle during this time was to deliver pertinent information with the least performance impact. This thought led to a variety of technical approaches, mainly driven by having aggregate tables in the system that totaled transaction figures while line-item level data was created through transactions. This principle was further developed by off-loading reporting information to another server, conceptually separating transaction processing from reporting needs. The distinction between the online transaction processing (OLTP) and online analytical processing (OLAP) led to the birth of SAP's Business Intelligence suite of software products in the early 1990s.

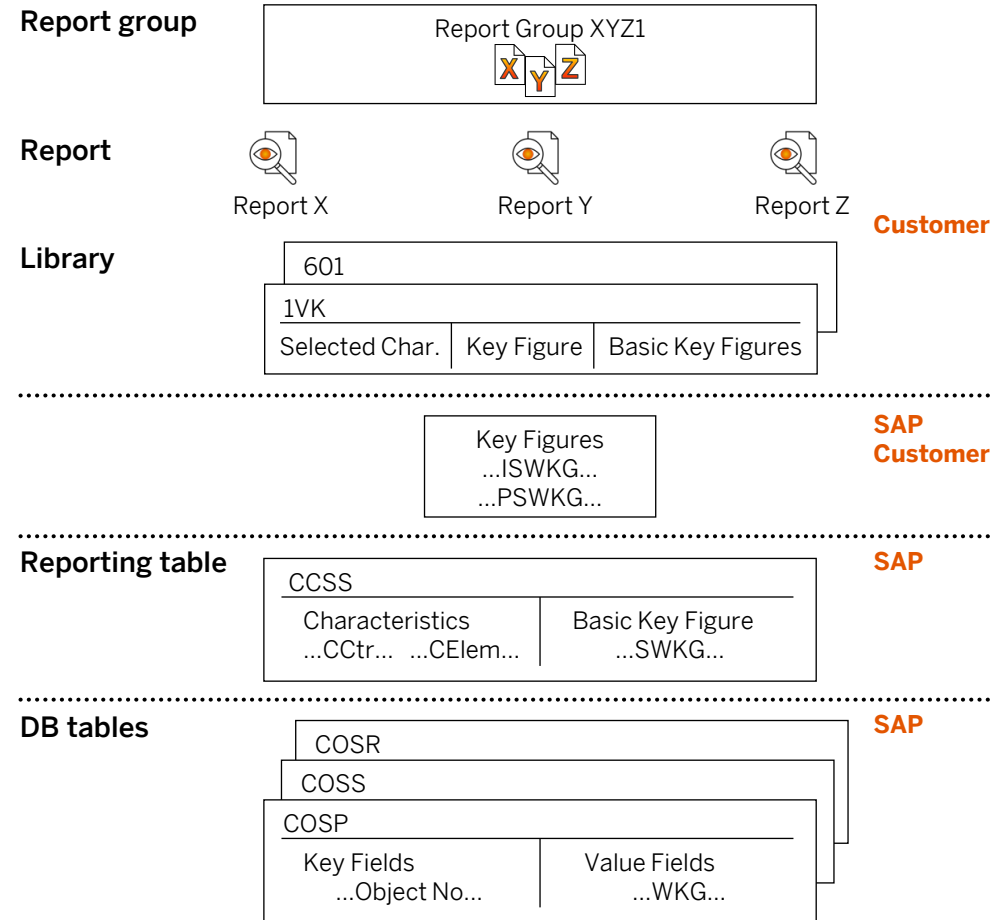
While operational reporting on a comparatively small slice of data remained in the OLTP system (ECC and R/3), the analyses of large data volumes was outsourced to another server (BW and BI). This process was supported through standard SAP extractors that on a scheduled basis would replicate the transaction data into the reporting environment via an initial or delta data load process.

TRADITIONAL SCENARIO



Reporting limitations of the classic data model

TRADITIONAL SCENARIO



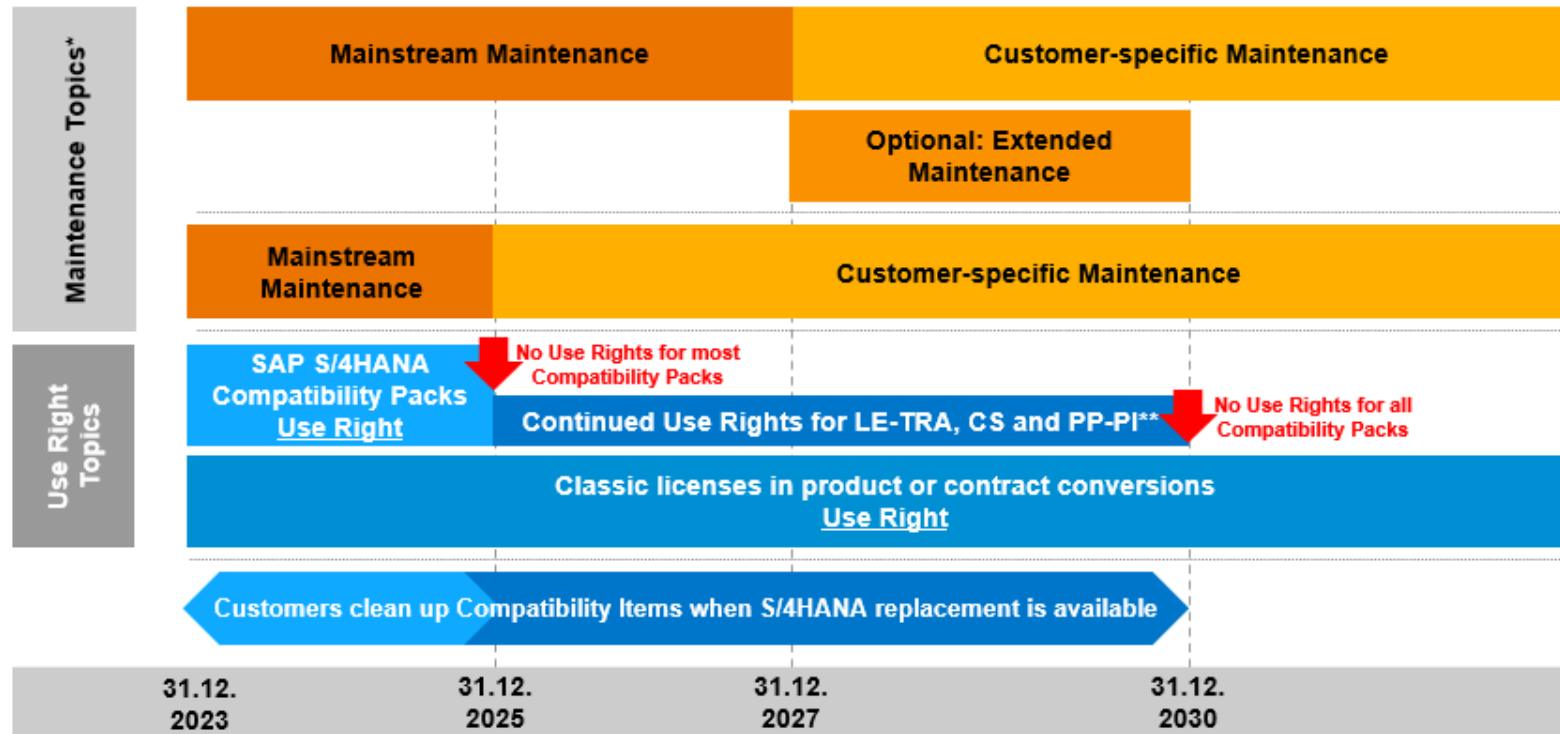
“ When it came to standard SAP delivered reports, most customers developed custom reports to meet business requirements either using standard reporting tools or introducing best-of-breed reporting tools. SAP customers’ investments in analytics applications and custom reporting must now fit with the new S/4HANA intelligent suite.”

Compatibility scope decommissioning



What happens to support of Compatibility Scope items?

Support stops for Compatibility Scope items after December 31, 2025 with the expiration of the usage rights. Exception: The support of the selected items of CS, PP-PI and LE-TRA which will end on December 31, 2030.



What is the approach for the migration to the recommended alternate solution in S/4HANA?

Customers must consider the following activities when they are planning to migrate from Compatibility Scope to the alternative solution in SAP S/4HANA.

- adaptation of custom code
- changes of customizing
- training of users in the new functionality
- data migration

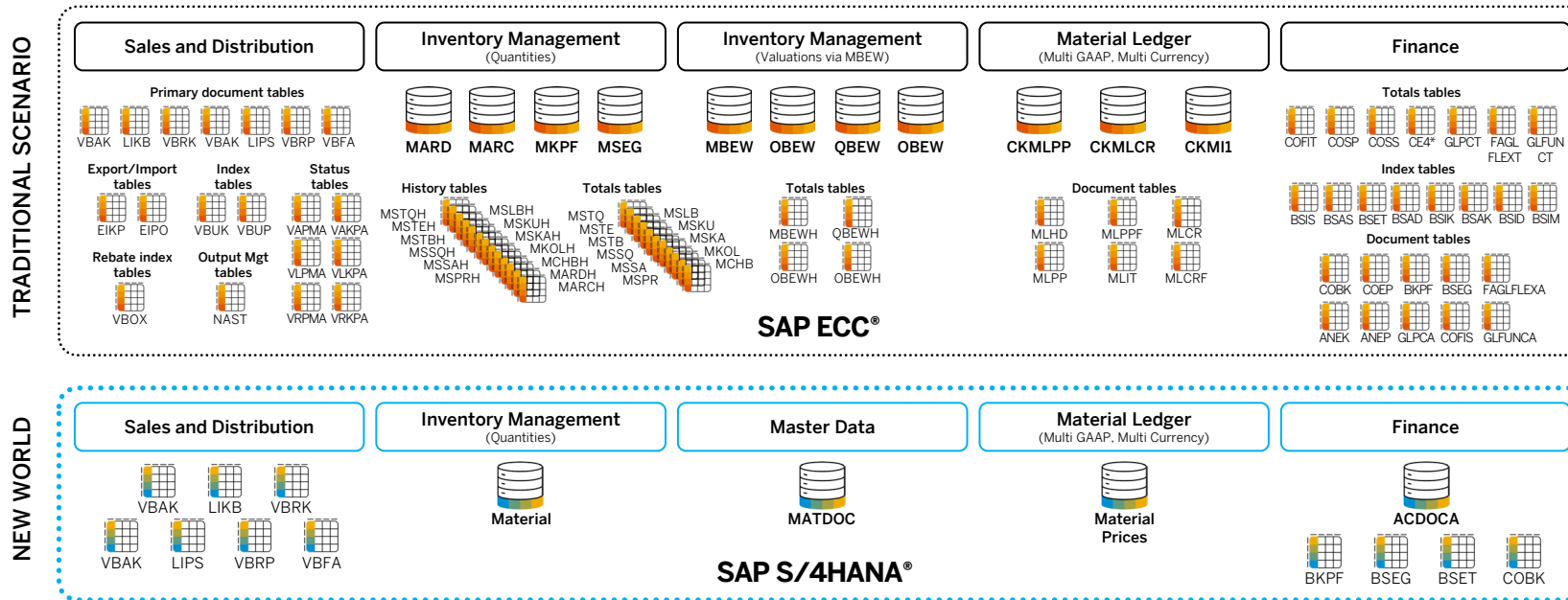
More information about how the transition is supported by the respective application can be found in the business impact notes or will be added to the business impact notes in the future. This support could consist of guides describing the transition to the alternative solution, functional, technical, and data model mapping between the Compatibility Pack and alternative solution, and dedicated reports and tools for automating individual steps of the transition.

<https://blogs.sap.com/2022/08/09/c-ompatibility-scope-what-happens-after-2025-2030/>

Simplifying the data model—single source of the truth

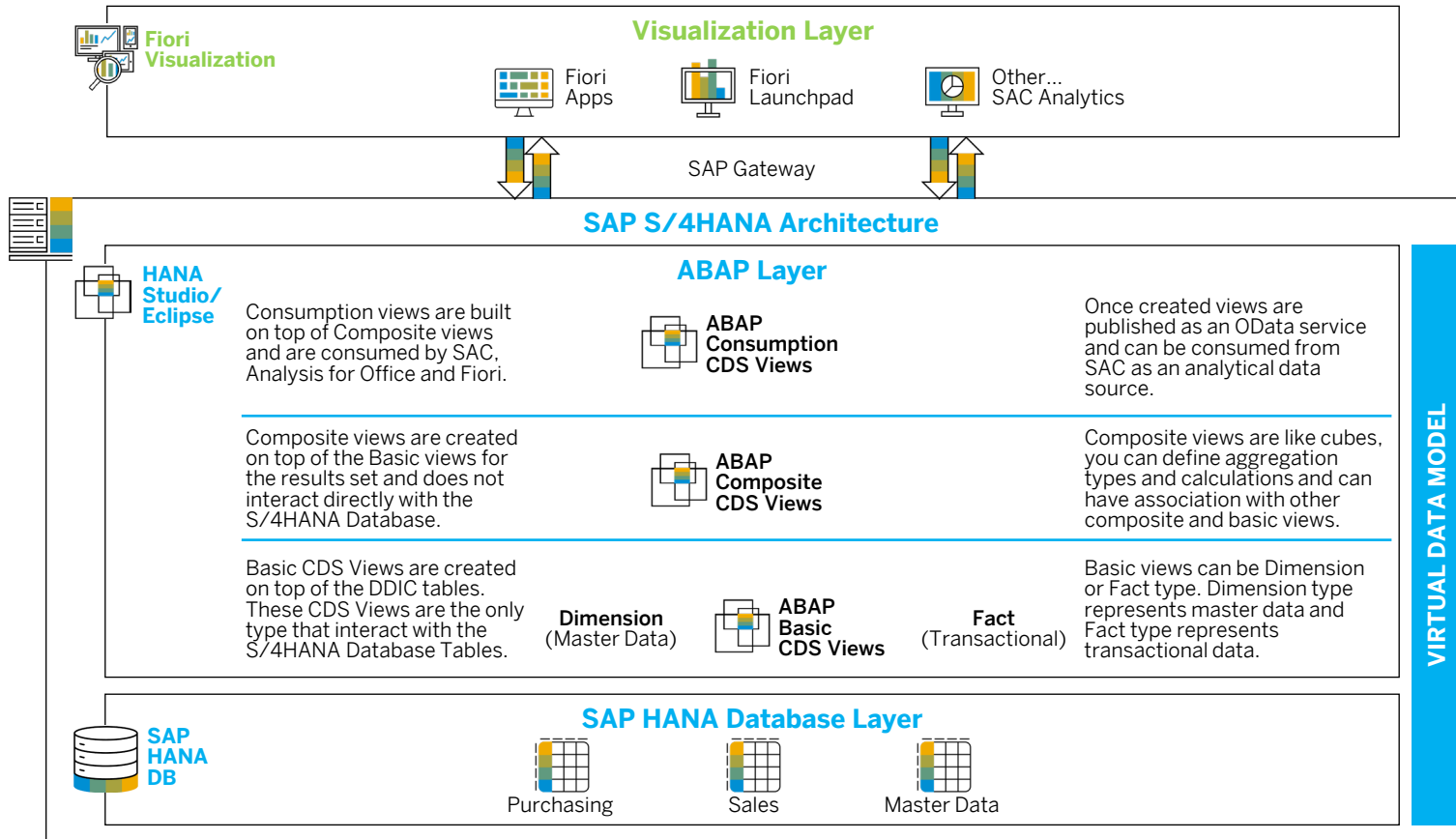
It was only with the introduction of the SAP HANA database technology that the last logical step could be taken—unite FI and CO into one physical table, known as ACDOCA.

“ SAP HANA with its superior compression techniques and columnar layout is now able to aggregate huge numbers of line items within seconds, making it possible to dispense with separate physical line item and totals tables in each application. Real-time integration is therefore guaranteed by design. Thanks to this technology, the Universal Journal with its centerpiece, table ACDOCA, could be developed. ”



Leveraging the power of in-memory, virtual data model

With the evolution of SAP HANA, the SAP core technology has undergone a paradigm shift in the way business applications are developed.



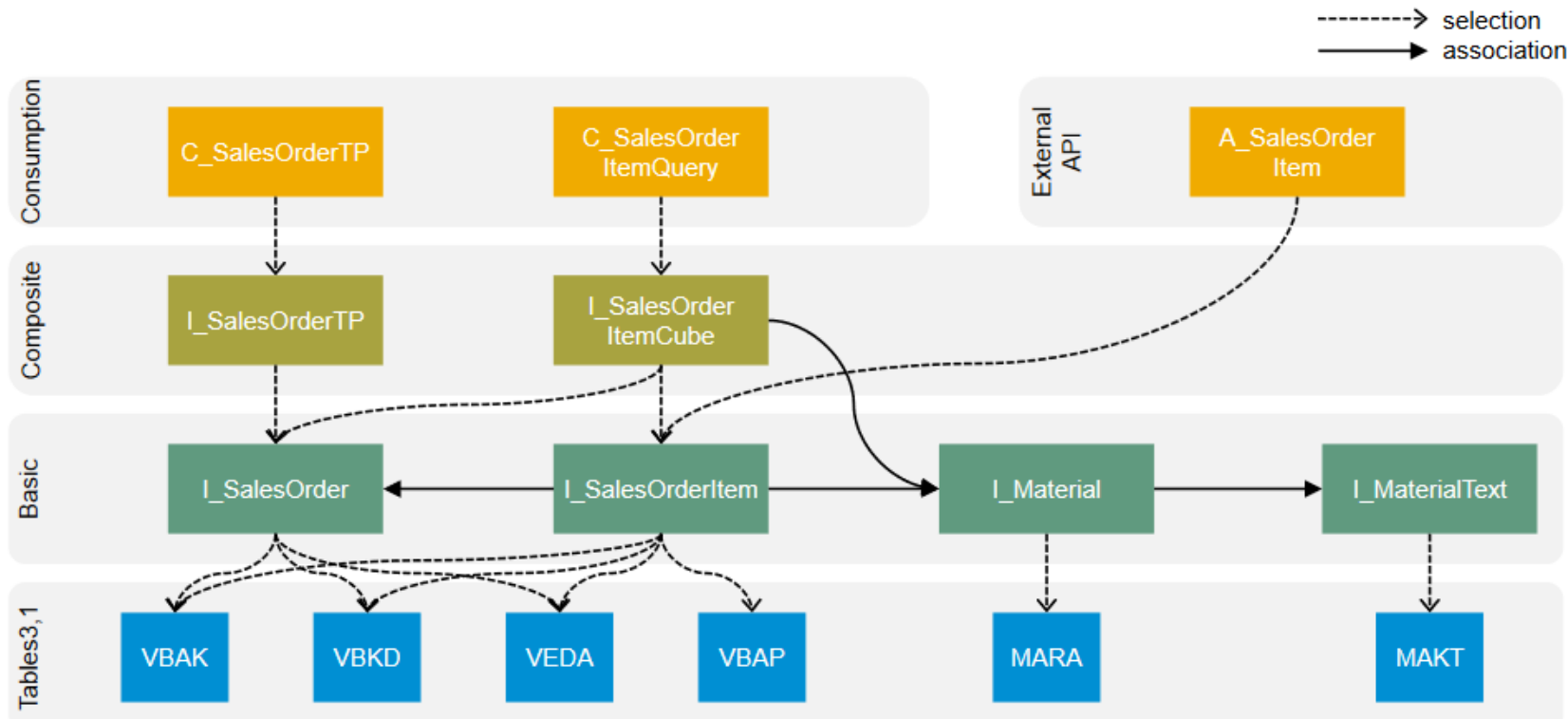
“ The simplification of the data storage logic introduced an optimized way of retrieving the data from the Universal Journal table ACDOCA, which now holds the ‘single source of truth’ for all accounting concerns. The absence of aggregate accounting tables eliminates the need to reconcile the transactions on a recurring basis, while delivering the same answer to queries in light speed.”

Discovering the new virtual data model

The virtual data model (VDM) contained in SAP S/4HANA

The Virtual Data Model (VDM) and ABAP Core Data Services (CDS)

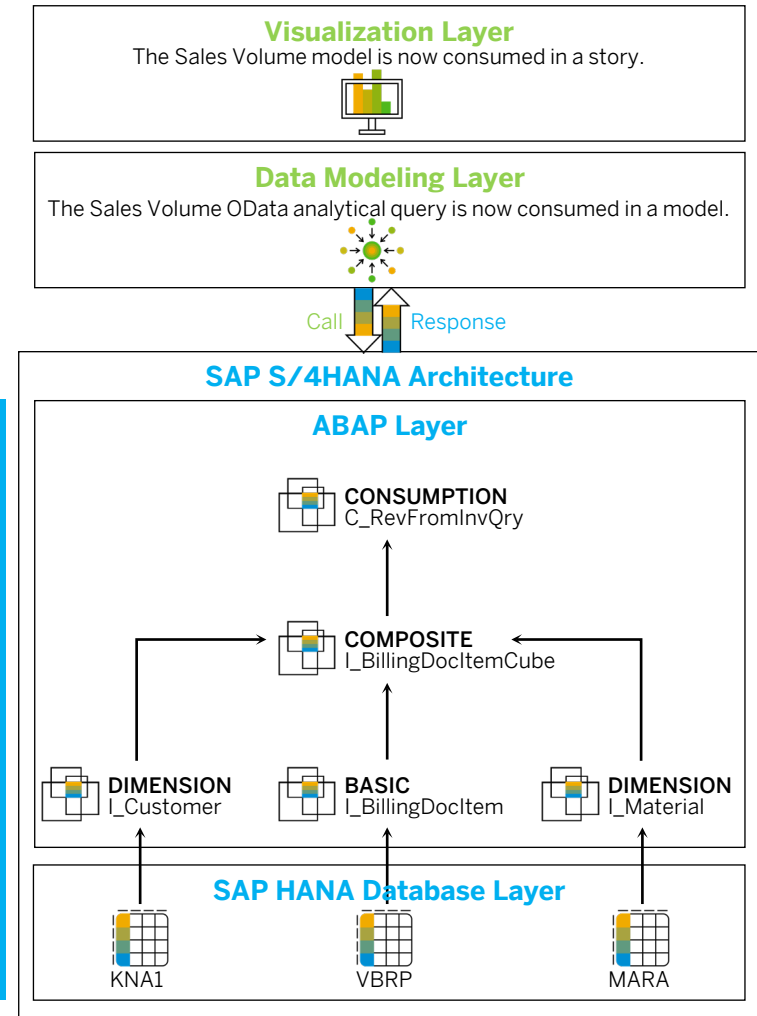
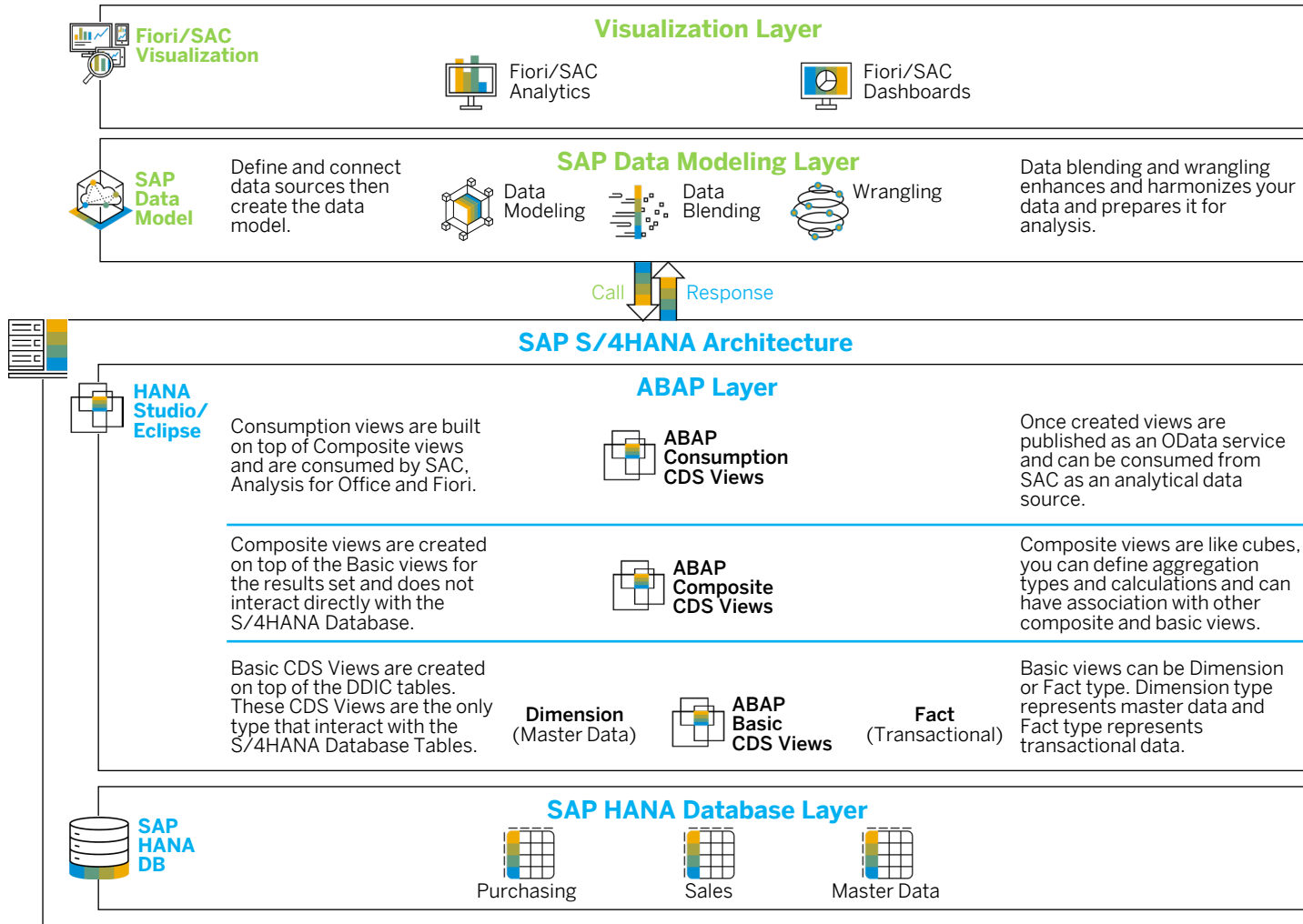
Sales Order and related views



The virtual data model (VDM) is a structured representation of Core Data Services (CDS) views in SAP S/4HANA. The VDM forms the basis for data access in SAP S/4HANA in, for example, analytical consumption or APIs. The CDS views that make up the VDM follow consistent modeling and naming rules. They expose business data – stored in abstract database tables – in a way that is based on business semantics and therefore easier to consume.

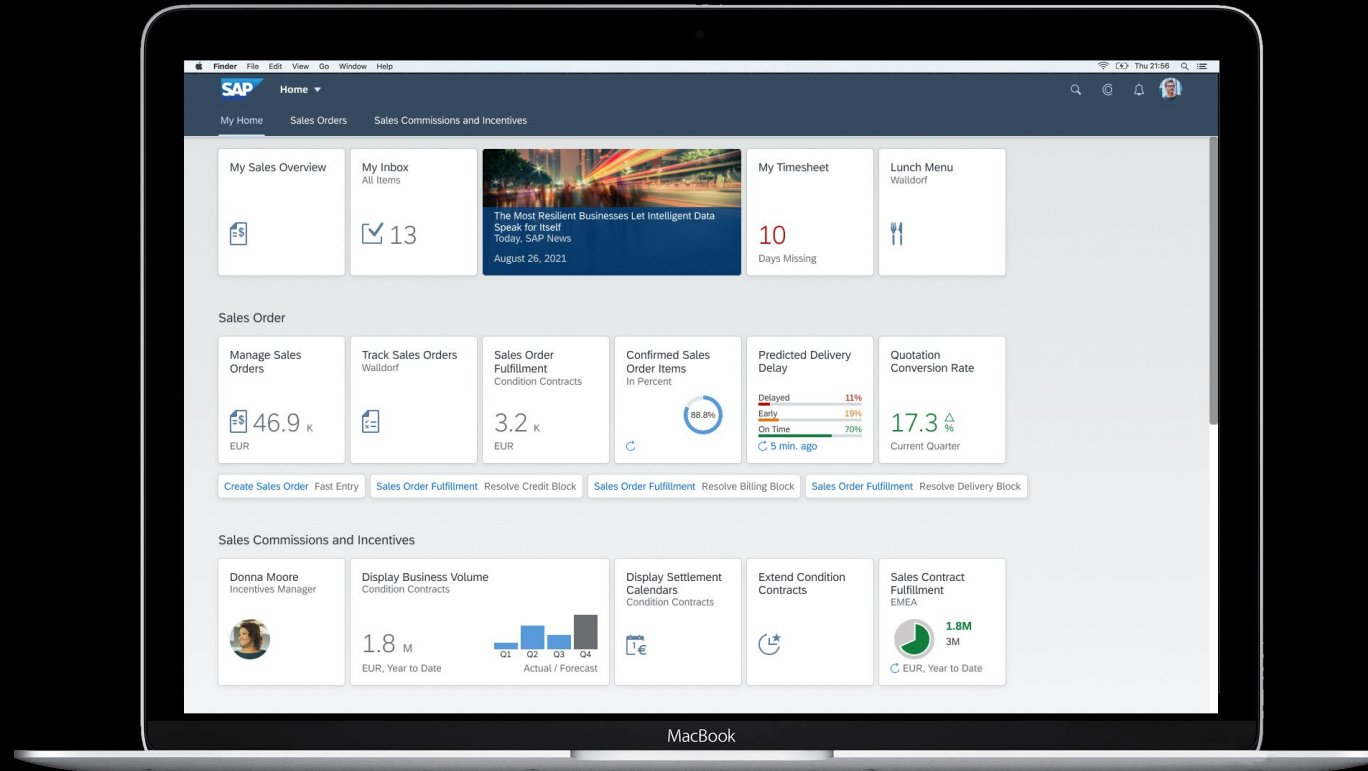
To access exactly the data required for the apps created, existing released CDS views are reused from those available in the VDM. For example, you can define views that aggregate and analyze data in a layered fashion, starting with existing views delivered by SAP and then adding your own views to match your specific use case.

Exploring the modeling and visualization options



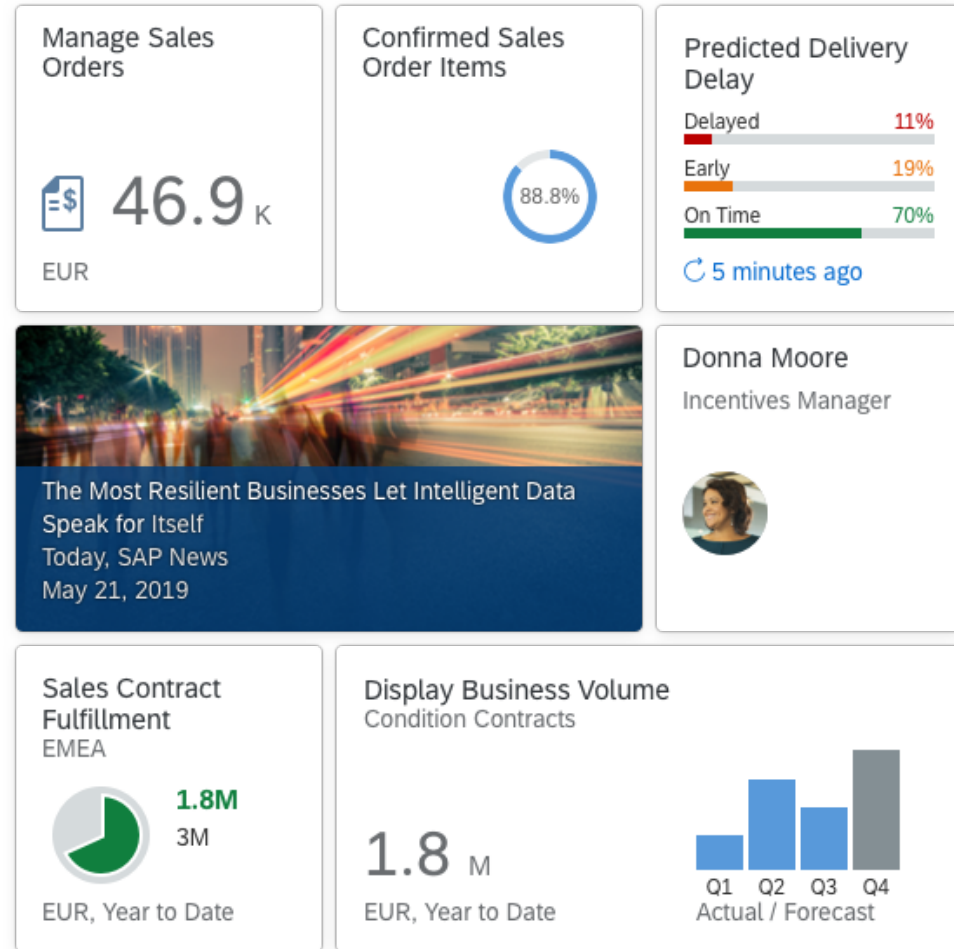
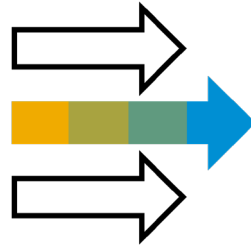
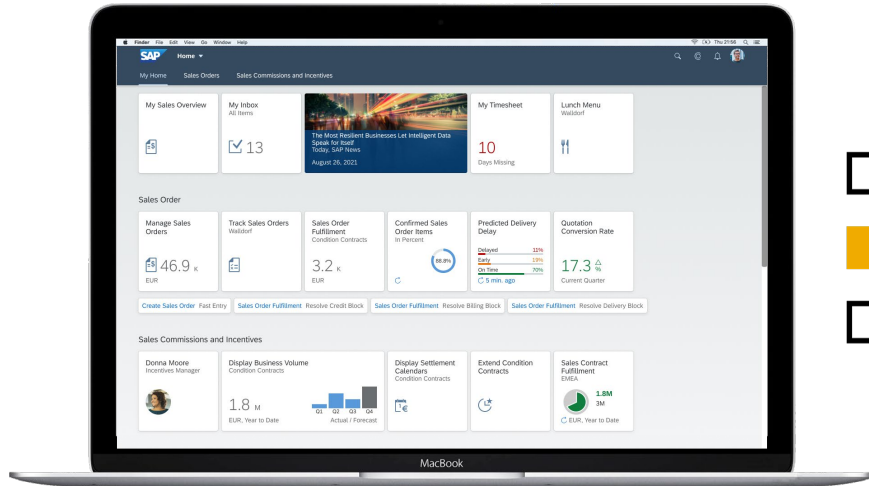
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Embedded Analytics



Fiori, your gateway to Embedded Analytics

The SAP Fiori launchpad home page is the first page that users see after they have signed in. It is the main entry point to SAP Fiori apps on mobile and desktop devices.



The launchpad home page displays tiles and links that allow the user to launch apps and may also show additional information. The page can be personalized, and apps can be added, removed, or bundled in groups.

Types of Embedded Analytics



Embedded Analytics apps are used to provide role-based, real-time information about business operations. Using Analytical apps, you can perform complex aggregations and calculations of your business operations data and react to changes in market conditions.

Comparison Chart (Micro Chart)—Use comparison charts to show detailed comparisons with semantic coloring for entries in a “Top N” list.



Trend Chart/Area Chart (Micro Chart)—You can use trend charts (aka, area charts) to show cumulated totals over time, based on amounts or percentages.



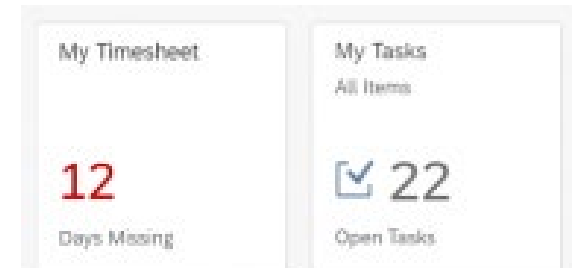
KPI & Monitoring Tiles – Key performance indicators are used to measure and monitor a company’s performance, and display status updates or an object count.



Bullet Chart (Micro Chart)—A bullet chart compares a single, primary value to one or more target values. The primary value is shown in the context of ranges (thresholds).



Column Chart (Micro Chart)—You can use column charts (bar charts) to compare categories using vertical bars. One axis shows specific categories, while the other represents a discrete value.

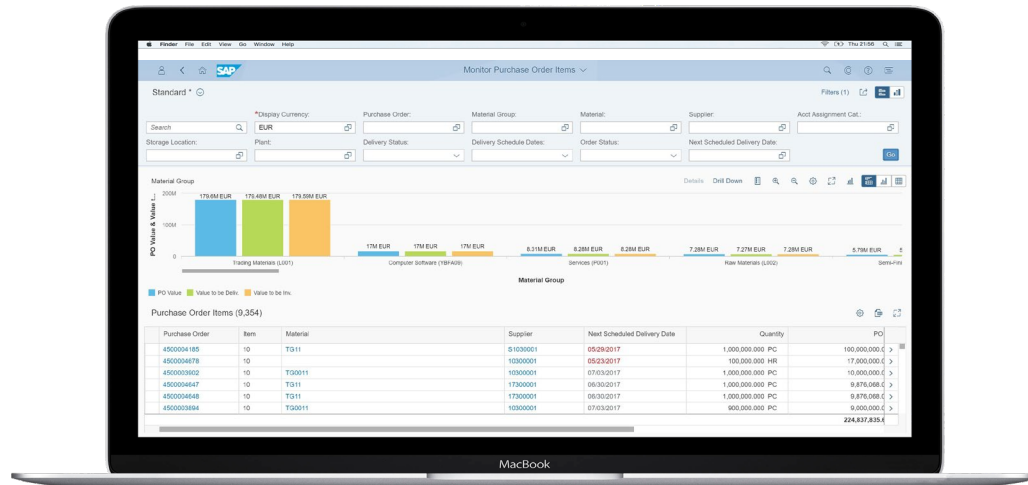


Using the new world of Embedded Analytics

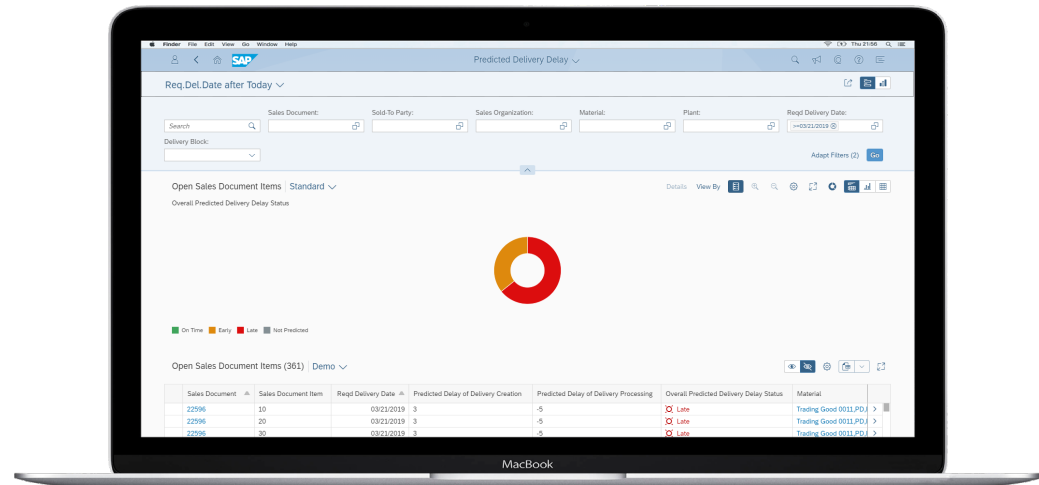


For the first time, SAP S/4HANA and its in-memory database, now enables real-time access to all operational reporting requirements with a single data concept—Embedded Analytics.

Embedded List Page Analytic: Monitor P.O. Order Items



Embedded Predictive ML Analytic: Predictive Delivery Delay



SAP S/4HANA brings OLTP and OLAP back together. This is because SAP S/4HANA runs on the SAP HANA platform and can handle the workloads of both transactions and analysis all in the same system with great performance. This means that we can use the transaction data in decision-making with advanced built-in analytics in real time.

SAP S/4HANA Embedded Analytics – Business User



Smart Business KPIs



- KPI monitoring on the Fiori Launchpad
- Drill-down into further analytical or transactional apps
- Save personal variants

Overview Pages



- Consolidated view on a certain domain, e.g. Purchasing
- Information presented in analytical tables and charts
- Take action in the same place or navigate to other apps
- Save personal variants

Analytical List Page



- Generic approach to mix analytical and transactional activities
- Display table or chart or a combination
- Take action directly in the same app or navigate to other apps
- Save personal variants.

In-app Analytics and ML



- Combine Analytics with transactional content in one screen
- Insight to action to prioritize based on facts
- Use drill-downs to determine transactional input parameters

Multi-dimensional Reports



- Analyze and visualize data from multiple dimensions
- Display pivot-table or chart or a combination
- Save personal variants

Dashboards



- SAP S/4HANA: Optional, additional content. Stories (SAP S/4HANA data only) shipped via SAP Analytics Cloud Content Repository
- SAP S/4HANA cloud: Fiori-embedded SAP Analytics Cloud content for SAP S/4HANA, stories available via SAP Analytics Cloud OEM tenant
- Queries supplying the data are shipped with SAP S/4HANA
- Used as templates, customers will copy and adapt

Powered by SAP Analytics Cloud

SAP S/4HANA Embedded Analytics–Analytics Specialist



Manage KPIs and Reports



Smart Business KPI & Report Modeler enables your company to define, manage, and leverage consistent KPIs and Reports across all your business functions.

View Browser



Search, browse and tag analytical and non-analytical queries. This application displays all the views that are created and released by SAP as well as the customer-created SAP views.

Custom CDS Views



If you need access to data in your system in a way the system does not offer so far, you can create your own data access by making use of a Custom Core Data Services view.

Custom Analytical Queries



Custom Analytical Queries transforms and organizes raw data delivered from business documents into a meaningful multidimensional report.

Custom Catalog Extensions



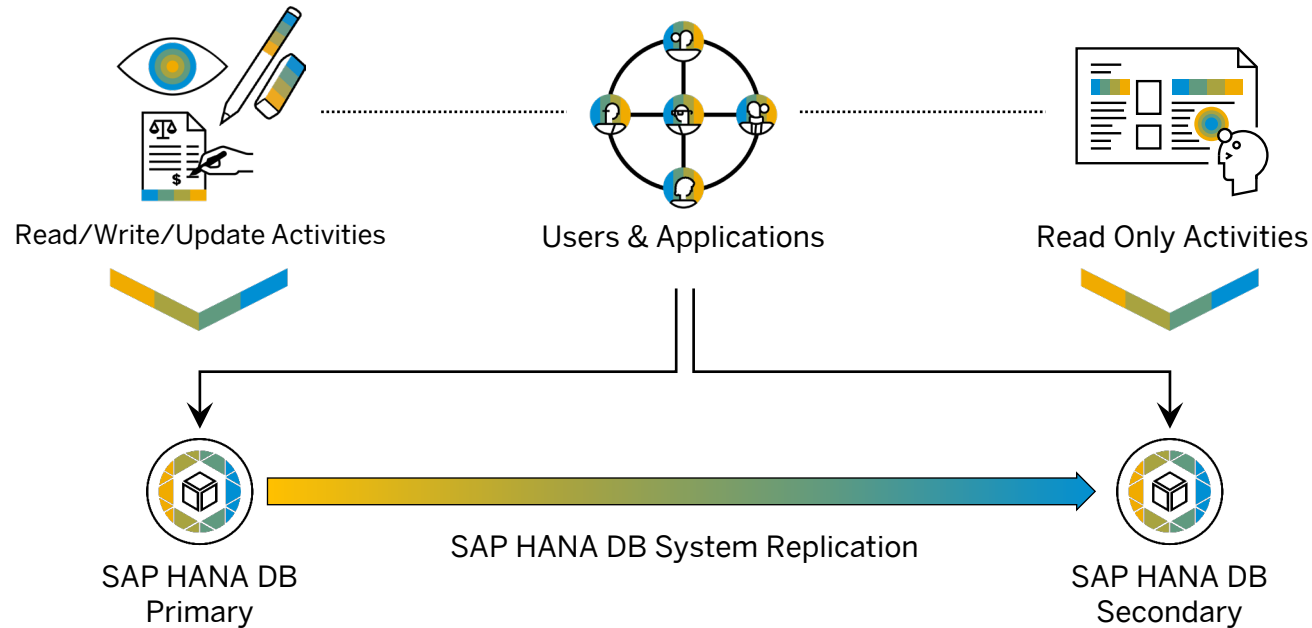
With this app you assign your apps, such as new multidimensional reports or KPIs to the required business catalogs and thus to the user roles.

Embedded SAP Analytics Cloud Stories



Enable seamless integration between SAP S/4HANA and SAP Analytics Cloud: Create SAP Analytics Cloud Stories, and tiles in the SAP Fiori Launchpad

Advanced embedded analytics system performance

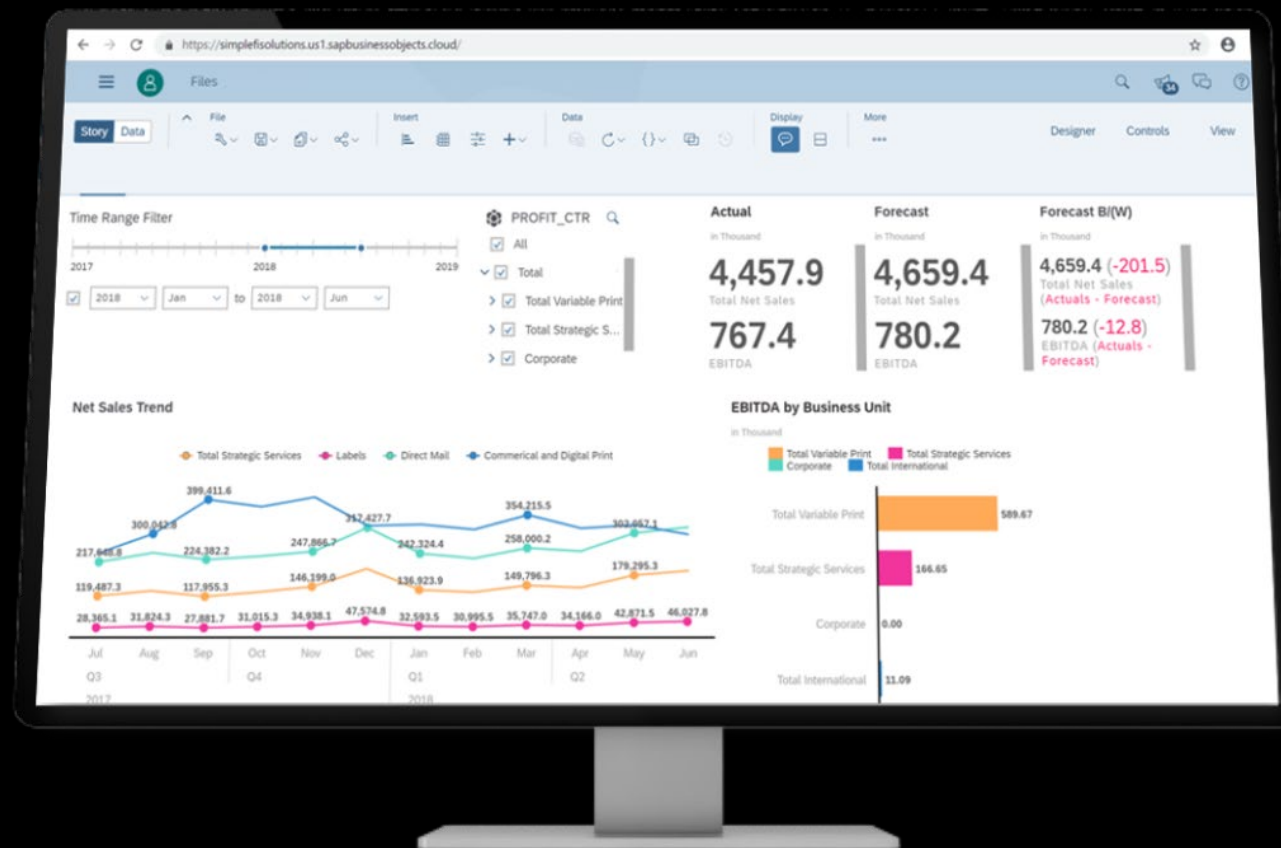


Active/Active (read enabled) reduces the load on the primary system but does not double the capacity—it simply extends read capabilities. In an Active/Active (read enabled) system replication configuration, the SQL ports on the secondary system are open for read access. This makes it possible to use the secondary system for read-intensive tasks and to better balance workloads and improve overall performance of the SAP HANA database.

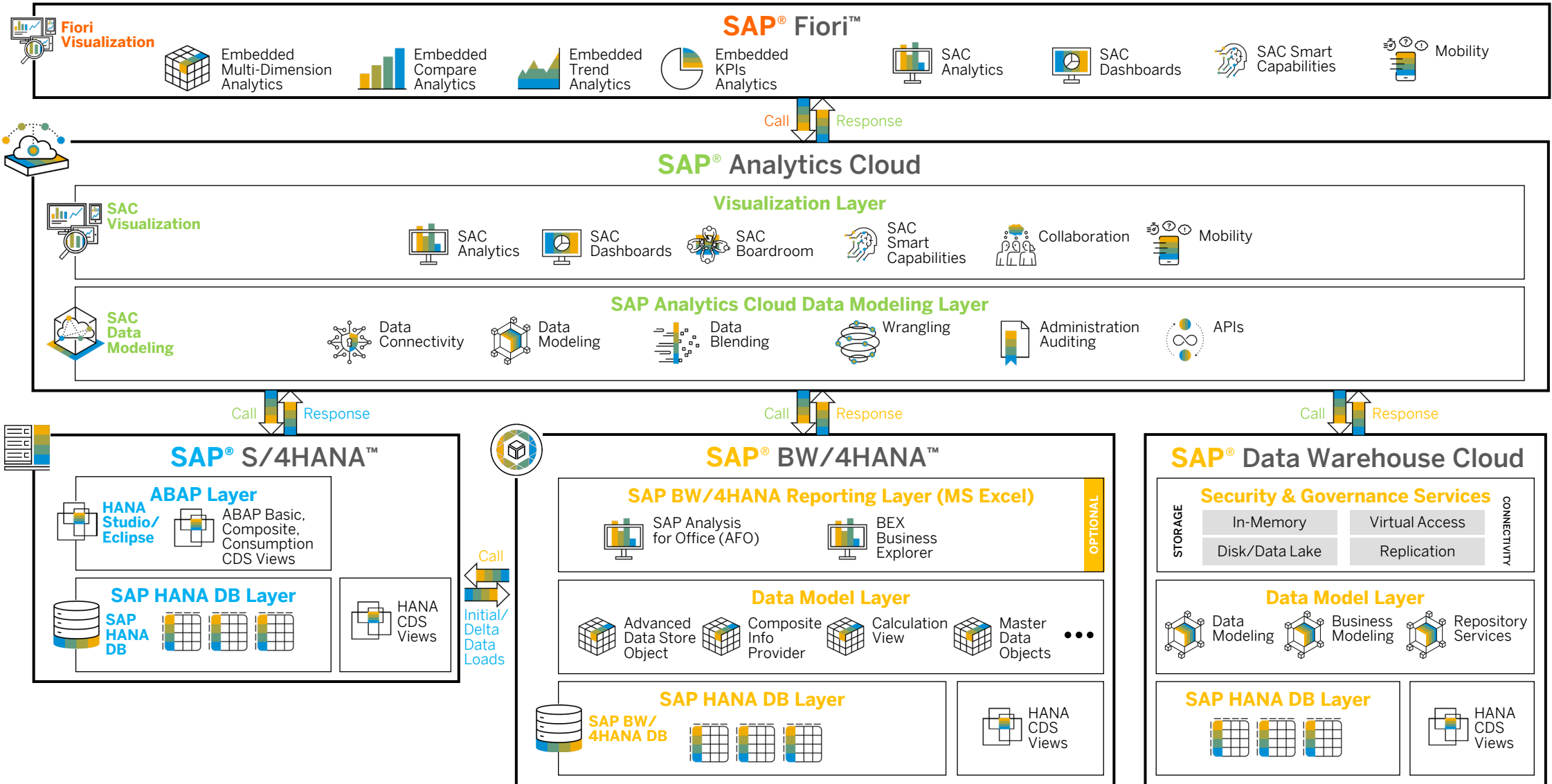
SAP created additional benefit for customers who run SAP S/4HANA on premise to support advanced, volume use of embedded analytics. Many customers commonly run two SAP HANA databases in a replication architecture to support HA/DR where the productive primary SAP HANA database, and an additional 'hot standby' secondary database is in use. The secondary is part of the high availability technical architecture strategy that enables business continuity in case of primary database failure.

Transactional processes in SAP S/4HANA post data on the primary SAP HANA database only. The secondary SAP HANA database retrieves all data which is posted on the primary node by a technique log replay. The purpose of system replication is to store a redundant copy of all data changes near real-time either synchronously (no delay) or asynchronously with a small time delay. With the Active/Active (read enabled) configuration, the data is available in memory for read access, with a small delay. The data delay is typically one second up to 15 seconds, depending on the system workloads.

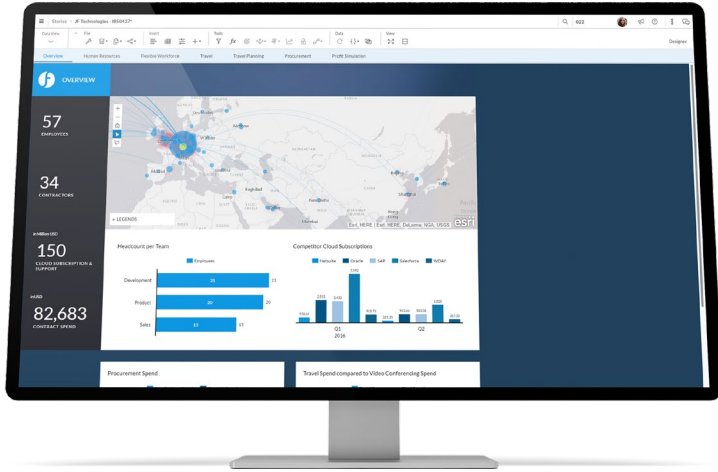
Enterprise Analytics



Enterprise Analytics Architecture



SAP Analytics Cloud – Curate big data and publish reports using **Business Intelligence**



SAP® Analytics Cloud for **business intelligence is transformational**. It allows real-time updates to your plans, collaboration across the organization, advanced analytics, and one-click visualization.

Uncover actionable insights to deliver value across the business. Answer complicated business questions in a few clicks with the real-time analytics capabilities. Integrated with augmented analytics and smart visualization features, organizations can evaluate and predict business outcomes with an all-in-one solution.

Bring it all together by linking data sources in one unified view. Connect, prepare, and leverage data – big and small – from cloud or on-premise applications and sources. Analyze it at any level of detail, with any number of users, and align activities across departments.

Turn insight into action using business intelligence tools to get you to your answer faster. Answer business questions in just a few clicks with the latest innovations in business intelligence in combination with Smart features powered by machine learning technology. Uncover unique insights and take action right at the point of decision.

Communicate like a pro using stunning visualizations to tell your story. Create state-of-the-art visualization with role-based personalization. Engage and convince your key audiences with stunning dashboards while bringing across your message – to the point and backed by data.

SAP Analytics Cloud – Transform the planning function across LoBs using **Enterprise Planning**



Create strategic alignment across all departments, crowdsource plans across the business, and make confident decisions with SAP® Analytics Cloud Enterprise Planning.

Deliver timely plans, budgets, forecasts, and reports with greater speed and accuracy with a full set of enterprise planning features at your fingertips. Make data-driven decisions that trump human bias and encompass end-to-end decisions across the business in real-time with built-in business intelligence and analytics. Model situations immediately by simulating multiple outcomes to see the impact of your business drivers in a sandbox environment. Use private versions to collaborate with teams on what-if analysis.

Crowdsource plans across departments by sharing and discussing plans across the business with built-in collaboration features. Leverage dynamic workflows for increased accountability and discuss on-the-go with the mobile experience. Create seamless planning workflows using the powerful calendar feature to create scheduled tasks, workflows, and allocations to streamline your planning processes. The built-in multi-step planning processes allow you to trigger actions across departments, cost centers and versions.

Use SAP S/4HANA content packages to jumpstart your financial planning and analysis (FP&A) and supply chain transformations. Use live connectivity between financial plans and actuals and automate allocations and multi-step planning processes. Use SAP Integrated Business Planning and SAP S/4HANA content packages to harvest insights from design to operate and extend supply chain planning processes with financial, strategic and operational alignment. Complete the closed loop process by simulating outcomes based on supply chain and financial drivers.

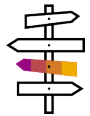
Augmented Analytics are smart capabilities that drive new predictive and cognitive business outcomes



Futuristic predictive and cognitive solutions provide intelligent enterprises next generation capabilities that will unleash new growth opportunities through innovation.

Understand the main business drivers behind your core KPIs, such as revenue, churn, and productivity – powered by Machine Learning. Interact with insights and explore hidden structures and relationships. Find the answer to business questions through intuitive charts and natural language to ask IT experts or data scientists for assistance. Simulate possible outcomes based on your business scenarios.

Predict the outcome of a particular KPI or record value based on historical data. Experiment to see how particular dimension or KPI values will affect business process outcomes. Simulate possible outcomes based on your business scenarios and execute the optimized model based on next generation capabilities. SAP Analytics Cloud delivers smart capabilities across seven key components;



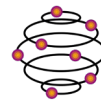
Search To Insight



Smart Discovery



Smart Insights



Smart Predict



R Visualizations

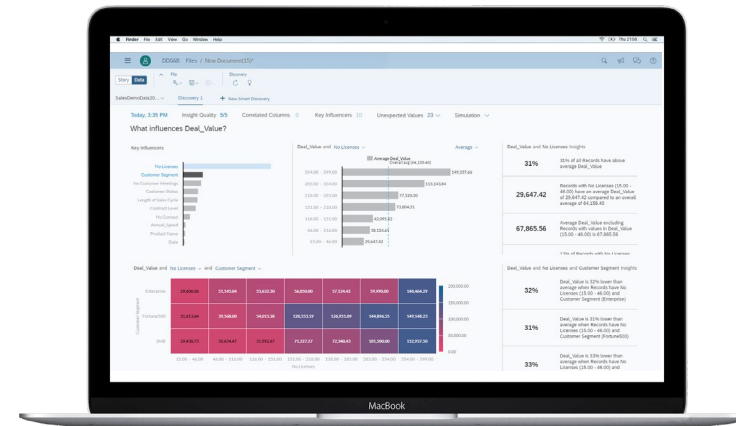
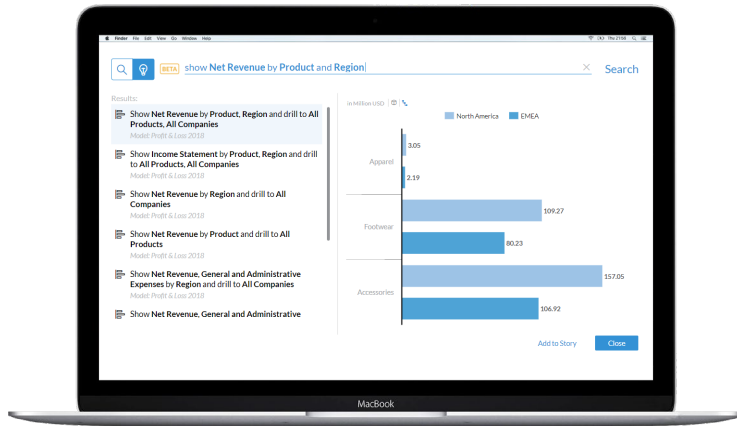


Smart Grouping



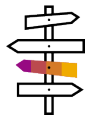
Smart Transformation

Search to Insight is an AI-powered natural language interface Smart Discovery explores and uncovers valuable insights



Search to insight provides a new way to interact with your data to quickly find usable information. This functionality helps you to quickly find usable information through questions in a natural language. It automatically generates charts that provide answers, allowing you to share info or move to the next question. You can ask questions about your data in natural language and get instant answers.

Smart Discovery is a powerful feature of SAC that uses machine learning to analyze and explore data, explain the trends and patterns that influence key figures, and uncovers valuable insights that turn into action. This feature helps save time and effort by running automated machine learning algorithms in the back-end to find correlations between your dataset elements against the target metric. It identifies the key influencers of a selected measure or dimension and is generated automatically to describe the trends and patterns in your data that drive a key figure.



Search To Insight



Smart Discovery

Smart Insights

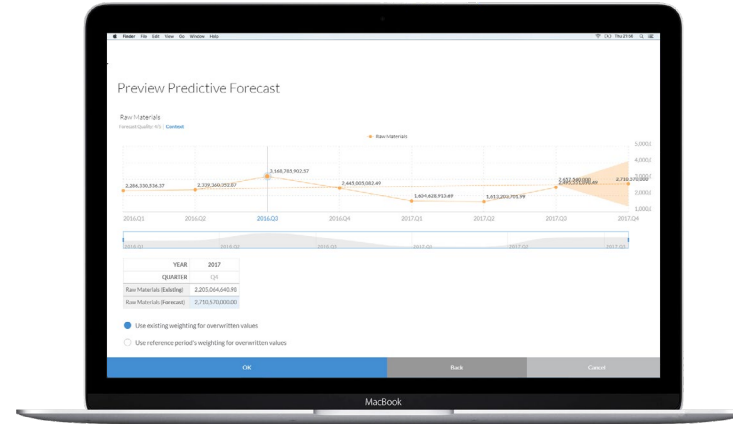
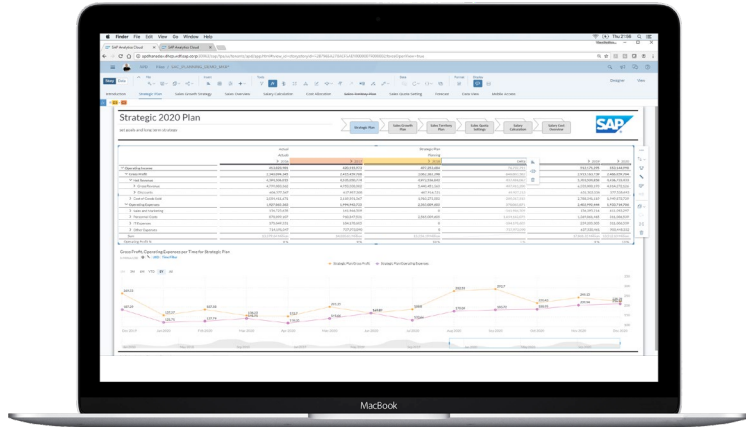
Smart Predict

R Visualizations

Smart Grouping

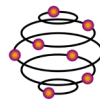
Smart Transformation

Smart Insights examines what is behind data anomalies Smart Predict projects potential future business outcomes



Smart Insights identifies a data point or variance in a dataset and examines what is behind a data anomaly. It can add context and relevance to your data visualization which helps in understanding a business occurrence. Smart Insights uncovers top contributors of a selected value or variance point. Smart Insights uncovers the top contributors of a selected value or variance point. Top Contributors are the dimension members that provide the highest contribution to the data point being analyzed.

SAP Analytic Cloud's Smart Predict feature offers three predictive scenarios. Classification scenarios predict the value of a (target) variable that can only have two values like yes and no or 0 and 1. Regression scenarios predict the numerical value of a target variable depending on variables describing it. Time Series scenarios predict the value of a variable over time taking into account further descriptive variables.



Search To Insight

Smart Discovery

Smart Insights

Smart Predict

R Visualizations

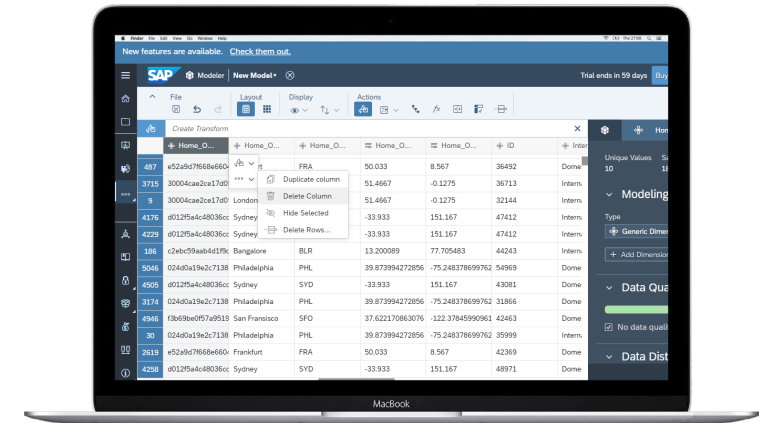
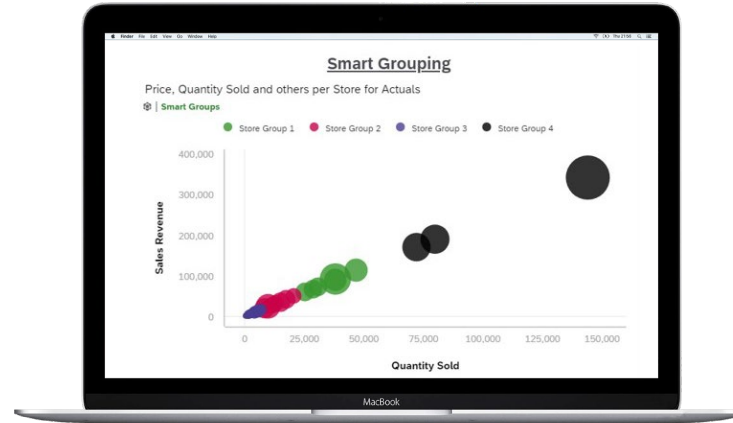
Smart Grouping

Smart Transformation

R Visualizations uncover insights fast, confident decisions

Smart Grouping analyzes and groups data points

Smart Transformation automates data prep, cleansing and staging



R is an open-source programming language that includes packages for advanced visualizations, statistics, machine learning and much more. R Visualization feature allows users to integrate their own R environment into SAC. Analyzing text data can reveal powerful insights in qualitative data, especially when trying to answer the “why” question.

Smart Grouping clusters different values in data aligned to KPIs you are analyzing. This feature uses ML to accurately group values based on relationships in data and predict future outcomes. This feature can be applied to scatter and bubble charts that segregate data points into groups for easier classification. Smart Groupings can be labelled and analyzed to validate human bias against ML, predictive data science models.

Smart Transformations suggests transformations that apply to a particular data set. It lets you geo-enrich your data either by specifying location by region or coordinates, so your data can be displayed in geo maps. Data transformation, or data wrangling is the first stage of modeling. Models can be created from files, connected data, or in the cloud through import data connections.



Search To Insight

Smart Discovery

Smart Insights

Smart Predict

R Visualizations

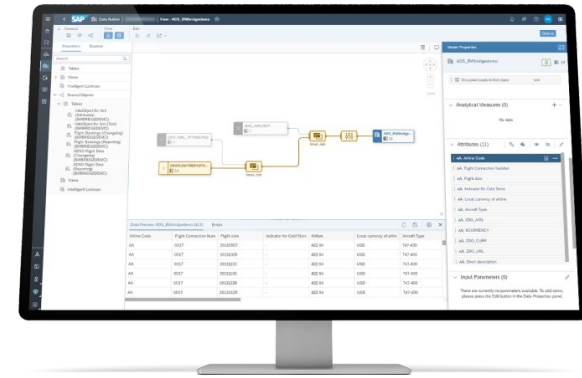
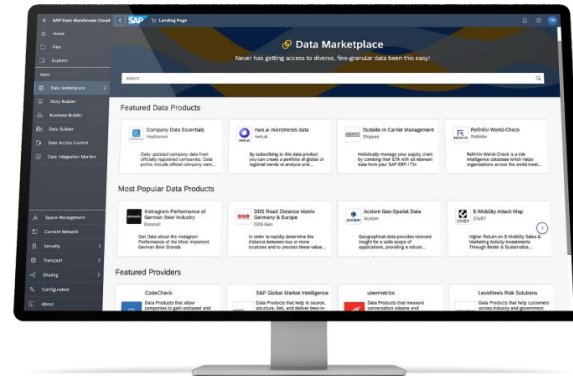
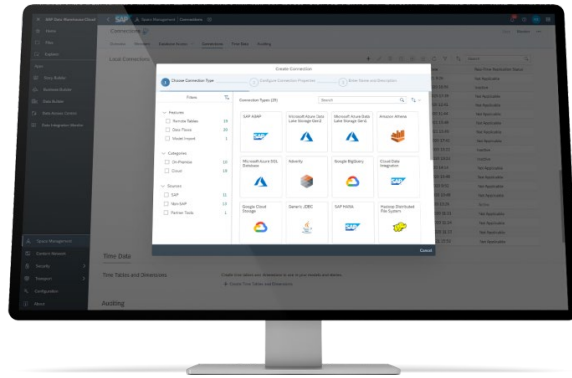
Smart Grouping

Smart Transformation

SAP Data Warehouse Cloud introduction



SAP DWC is an end-to-end data management business tool and persona-driven Data Warehouse as a Service solution. SAP DWC also integrates to SAP ECC and S/4HANA, SAP Analytics Cloud (SAC), partner solutions and open-source technologies.



SAP DWC comes with a breadth of connection capabilities to SAP and non-SAP data sources in the cloud or on-premise. Easily connect data from SAP S/4HANA, SAP Commerce, Sales, Marketing and Service Cloud, and more, to enable a holistic view of all your touchpoints.

With Business Content, you can jumpstart customer analytics projects, automatically connect to your source systems, and populate rich dashboards. Business Content packages are a collection of end-to-end business scenarios that contain connectors, models, and dashboards that help you leverage your data quickly and reduce time to value.

The Data Marketplace allows you to connect with external data. The Data Marketplace allows you to improve your analytics with third-party data. External data is available with your enterprise data to build more robust data models.

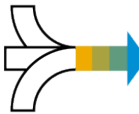
SAP DWC BW Bridge leverages existing BW data models and transformations that allow you to keep your customizations and protect your past investments, without having to rebuild data models.

SAP Data Warehouse Cloud business benefits



Complete End-to-end Solution

Unified data and analytics service providing a complete end-to-end solution with one semantic view designed for business and IT.



Connect to SAP Data with Business Context

Out-of-the box understanding of SAP data with semantic business context from SAP applications.



Connect and Collect Data from all Sources

Data virtualization, replication and orchestration from SAP and third-party solutions across clouds and with on-prem.



Semantic Business Modelling

User empowerment with self-service modeling, governance and IT control. User ability to connect own data, share it securely, and run analytics without affecting other users.



Spaces Management & Data Sharing

Independent virtual work environments to foster collaboration and enable data sharing between IT, business units, and projects to connect global and local data.



Reuse & Extend SAP BW Investments

Leverage SAP BW data structures, transformations, customizations, and skills to quickly extend your SAP BW investments to the public cloud.



Choice and Openness

Multi-cloud support and open interfaces with choice of modeling environments, analysis tools & languages (SQL, Python, Jupyter) from business analysts to data scientists to developers.



Business Content

Pre-built data models, semantic views of SAP ERP data (CDS views & Service APIs), and transformation leveraging SAP's business expertise and ecosystem partners' knowledge.



Integrated Data Marketplace

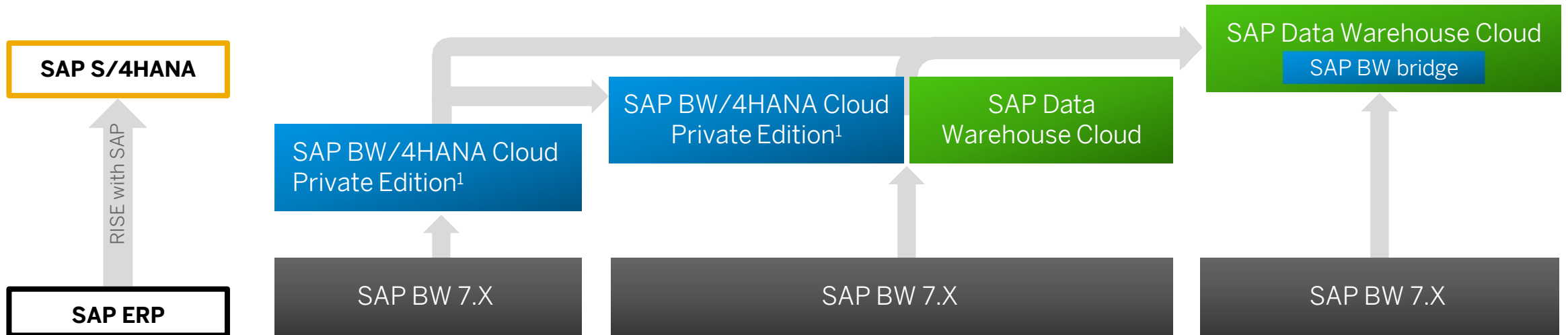
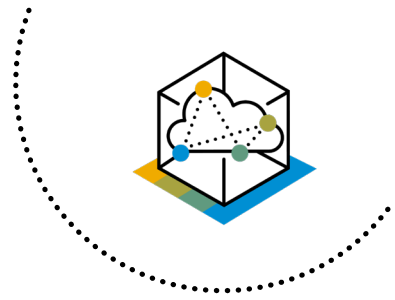
Data Marketplace manages scalable and decentralized cross tenant data exchange for data providers & consumers. Use Intelligent Lookup to match imperfect data sets for enterprise-ready usage.



Future Platform for Planning*

Streamlining planning and analysis with reduced modelling efforts, while operating on a single source of truth for analytics and planning across the organization.

Innovation journeys for SAP BW customers



RISE with SAP
Transform to cloud ERP for your every business need

SAP BW/4HANA Cloud
Safe-guard investments by lifting existing landscape to the cloud – “RISE with SAP”

SAP BW/4HANA & Data Warehouse Cloud
Combine the strengths of SAP BW/4HANA with the innovation, openness, and self-service abilities of SAP Data Warehouse Cloud in a hybrid scenario

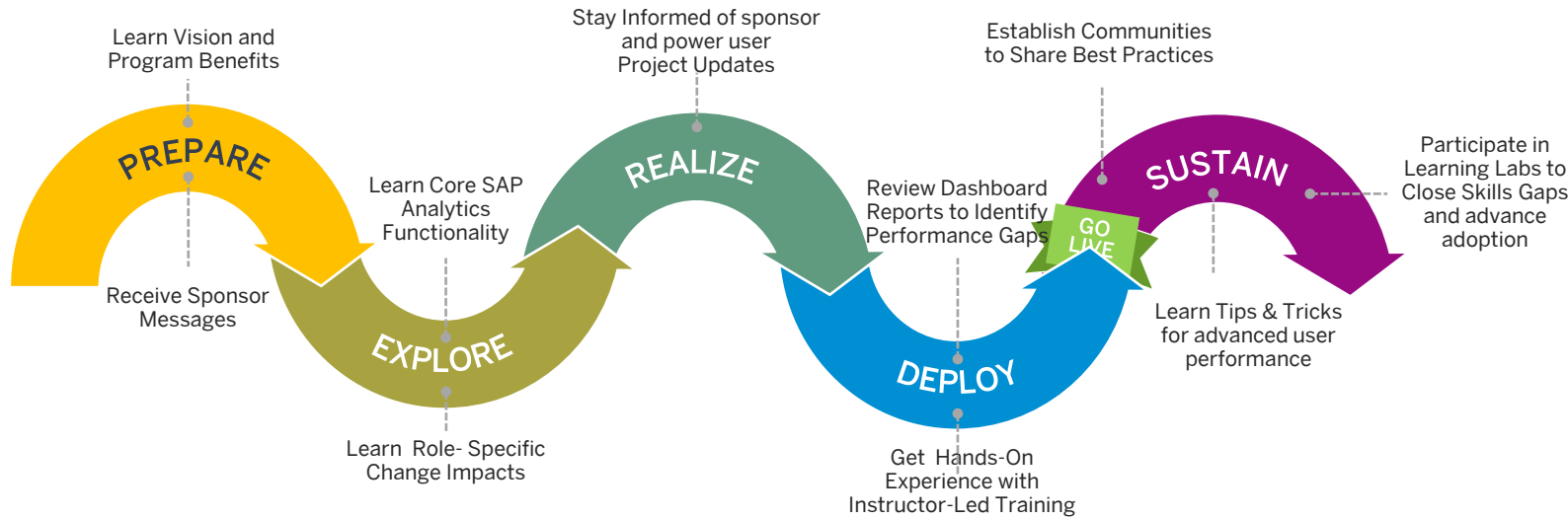
SAP Data Warehouse Cloud (optional SAP BW bridge)
Re-use and integrate SAP BW-based data ingestion and staging (incl. ABAP code) in SAP Data Warehouse Cloud (tool-supported move)

Use right of SAP BW changes with move from on-prem to “RISE with SAP”
SAP cloud ERP subscription license models do not include the use right for an SAP BW stand-alone deployment.^{1,2}

¹ SAP BW/4HANA is fully supported until 2040 and can also be deployed on-premises; SAP BW NetWeaver 7.5 available in private cloud

² SAP cloud ERP includes the embedded BW

Managing the analytics change



The best path to transformation is active engagement across your organization. Savantis' approach to organizational change management (OCM) and user adoption is designed to address all impacted employees. OCM and user adoption are key to every digital transformation project.

1 PREPARE & EXPLORE

- Evaluate functional area reporting requirements being served by SAP and 3rd Party solutions
- Remap and assign functional area reporting requirements across four key SAP delivered solutions; embedded read only, embedded read-write-delete, enterprise level 1 using SAC, enterprise levels 2+ using BW/4HANA or DWC

2 REALIZE

- Enable Fiori
- Professionally design/build UX/UI
- Establish access and data security profiles for business user community
- Establish reporting governance framework and processes for continuous value augmentation

3 TRAIN + DEPLOY

- Identify and train new power/super reporting user to enable, build, and deploy advanced analytics
- Employ the train-the-trainer approach to power/super user enablement
- Train end-user business community on new Fiori-based embedded and enterprise analytics platform
- Deploy prototype solution to business user community and enable ongoing support

4 MEASURE + IMPROVE

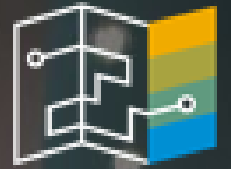
- Measure fit-for-purpose performance of new Fiori-based analytics platform against success criteria for deployed business user community
- Measure and modify system performance as req'd
- Use new reporting change governance framework to continuously improve

Selecting the best-fit reporting solution

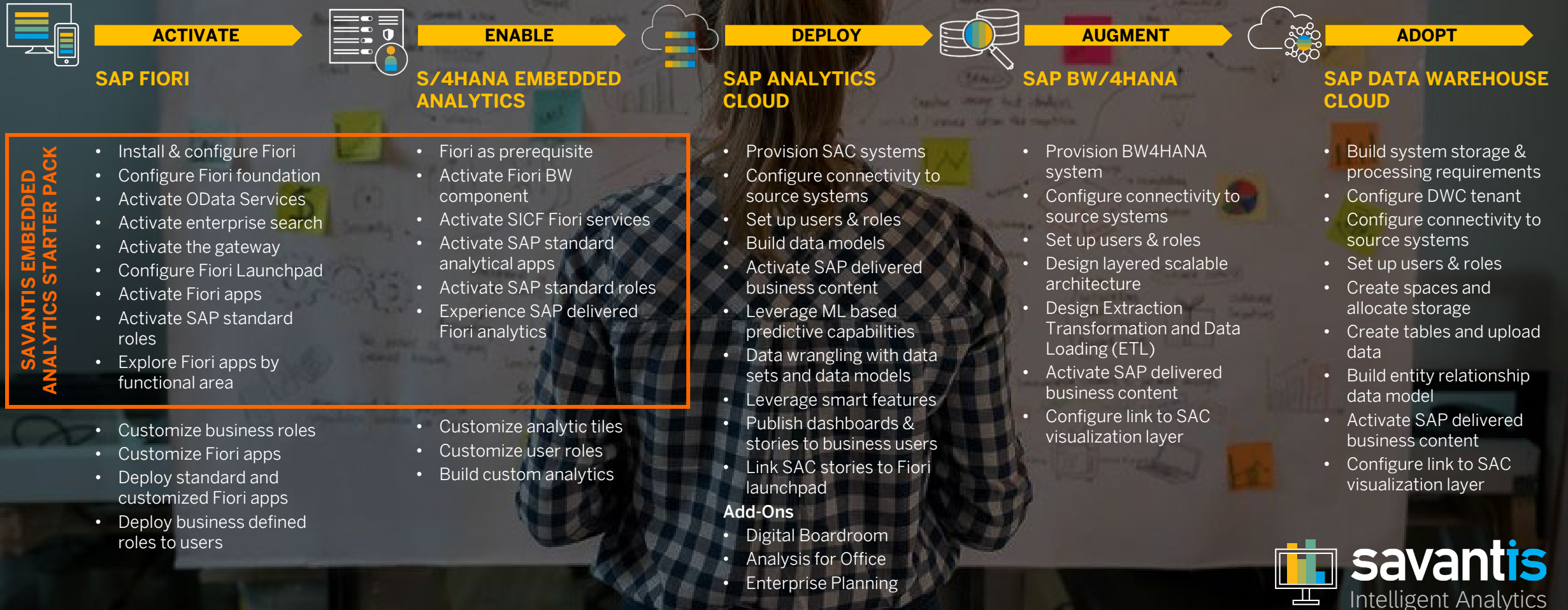


Analytics Criteria		Embedded Analytics	Enterprise Analytics		
		SAP Fiori-based Embedded Analytics	SAP Analytics Cloud	SAP Datawarehouse Cloud	SAP BW/4HANA
Data Sources	Real-time Reporting on Live Data	✓	✓	✓	✓
	3 rd Party data sources		✓	✓	✓
Advanced Analytics	Prebuilt business analytical content	✓	✓	✓	✓
	Analysis for Office excel based add in		✓		✓
	Digital boardroom add-on		✓		
	Planning add-on		✓		✓
	Build custom analytical applications	✓	✓	✓	✓
	Data consolidation and cross application reporting		✓	✓	✓
Reporting Functions	Support of R-Visualization		✓		
	Collaboration support		✓	✓	✓
	Navigation between analytical apps & transactional apps	✓			
	Self service data visualization (no data model required)		✓		
Big Data	Gather, store, and analyze		✓	✓	✓
Augmented Analytics	Support of Machine Learning Analytics	✓ Limited	✓	✓	✓
	Support of Smart Insight		✓		
	Support of Smart Discovery		✓		
	Support of Search to Insight		✓		

SAP Embedded & Enterprise Analytics Quick Start



Savantis' SAP Embedded and Enterprise Analytics Quick Start program helps customers begin their adoption of new generation SAP reporting and analytics. Savantis first helps to redefine the reporting and analytics strategy to maximize the use of S/4HANA and the new in-memory platform to deliver real-time operational reporting using out-of-the-box S/4HANA functions. We then help develop a tailored crawl, walk, run approach to delivering business user communities 'analytical stories' that improve business decisions at the lowest TCO.



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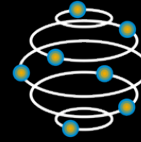
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SAP S/4HANA INTELLIGENT ENTERPRISE

S/4HANA Digital Transformation
S/4HANA Roadmapping + Advisory
S/4HANA New Implementations
S/4HANA Conversions & Selective Data Transitions



SAP SUPPLY CHAIN OPTIMIZATION

SCM Roadmapping + Advisory
SAP Advanced ATP & Extended Warehouse Management
SAP IBP & SNC
SAP IoT and Robotics Integration



SAP OMNICHANNEL CUSTOMER EXPERIENCE

SAP Marketing Cloud
SAP Commerce Cloud
SAP Sales & Service Cloud
SAP Customer Data Cloud



SAP PREDICTIVE & AUGMENTED ANALYTICS

SAP Analytics Roadmapping + Advisory
SAP Analytics Cloud
SAP Data Warehouse Cloud
BW/4HANA

References & Acknowledgements

This document references excerpts from numerous SAP materials including past SAP sponsored ASUG materials, SAP Partner Portal resources, SAP blogs, SAP whitepapers and associated materials found in SAP methods and tools across the vast SAP ecosystem. Savantis wishes to thank all those at SAP, who work tirelessly to improve the SAP experience and serve the SAP customer base for their direct and indirect contributions that have made this document possible. We would also like to acknowledge our customers that have contributed to our base of knowledge that has made it possible for those that follow to walk the beaten path you have paved. And to all those SAP customers embarking on their SAP S/4HANA intelligent enterprise journey, your future awaits using the best products and solutions in the world!



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