

SAP S/4HANA and SAP Analytics (Focus on SAP Analytics Cloud): Where to Do What?

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About the Speakers

Jürgen Butsmann, SAP SE

- SAP SE, Solution
 Management SAP S/4HANA
- 22 years with SAP, Consulting, CoE, Solution Management
- Would rather use all the stages @SAPPHIRE to play music with my Big Band...



Key Outcomes/Objectives

- Understand value proposition, positioning and use cases of the analytical solutions in the context of SAP S/4HANA
- 2. Get an overview of architecture, tools and integration points
- 3. Be able to discuss the solution properly and make good decisions

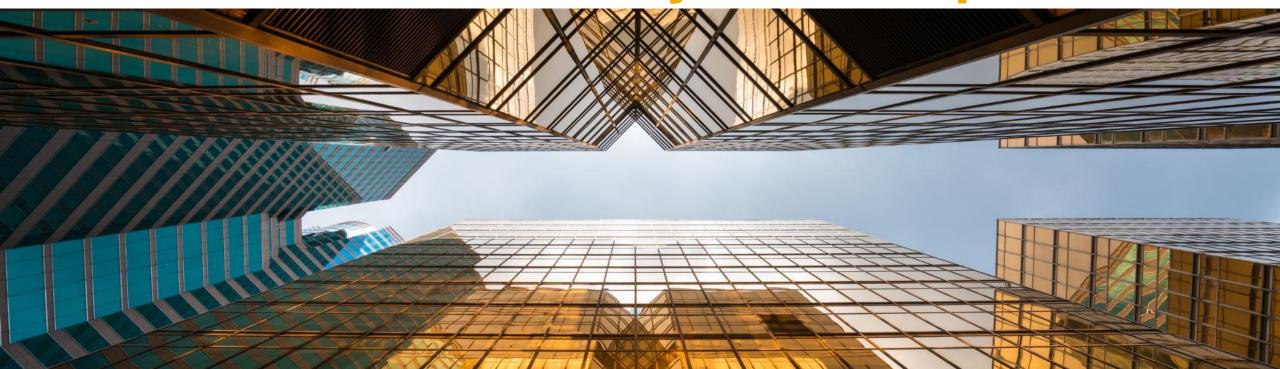


Agenda

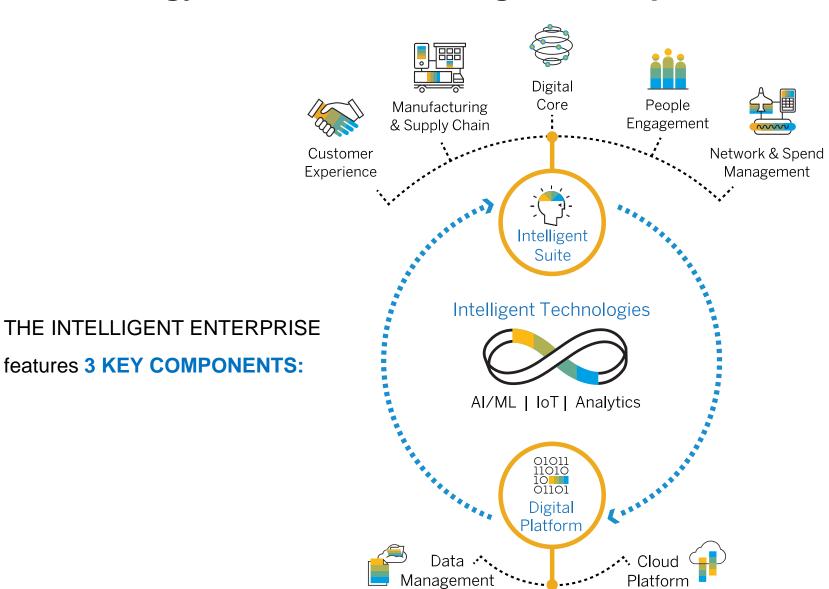
- The context: The intelligent ERP, the digital core SAP S/4HANA and the analytical setup
- What is embedded analytics in SAP S/4HANA?
- Do you still need an additional visualization tool? An EDW? Why SAP Analytics Cloud? Why SAP BW/4HANA?
- How do the solutions integrate?
- What to consider on your route to Analytics with SAP S/4HANA?
- Summary



The context: The intelligent ERP, the digital core SAP S/4HANA and the analytical setup



SAP Strategy – Deliver the Intelligent Enterprise

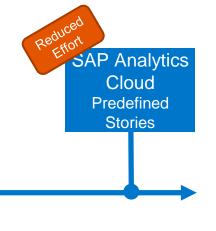


Value summary: Lower your TCO with a unique transaction-to-insight process









- Predefined data extraction content built to reflect the SAP S/4HANA data structure
- Optimized data load with extensive delta handling capabilities to minimize data transport

"Where is the business data I need for insight, and how is it structured?"

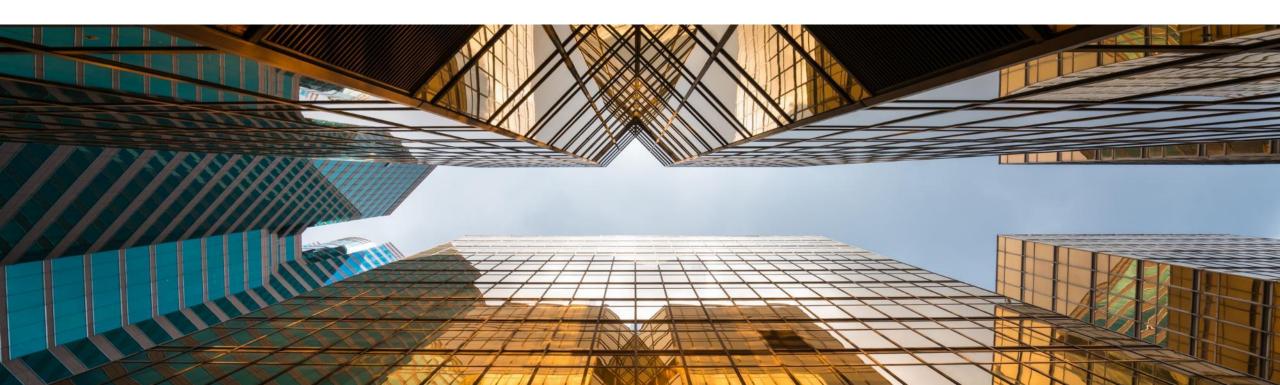
- Data Warehouse application delivering complex features as pre-built functionality
- End-2-end data warehouse model built on SAP S/4HANA structures and meta data

- Predefined
 SAP Analytics Cloud
 stories for business
 users
- No data redundancies with live access to SAP BW/4HANA

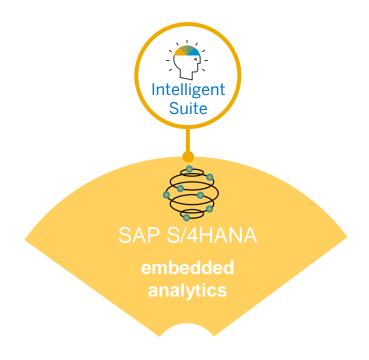
"How can I easily combine data from this and other sources to depict my business?"

"What does my business look like and what actions can I take to improve it?"

What is embedded analytics in SAP S/4HANA?



What is SAP S/4HANA embedded analytics



SAP S/4HANA embedded analytics =

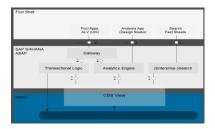
Analytics in the context of SAP ERP + SAP HANA + Intelligent Technologies

SAP S/4HANA Digital Core - the Guiding Principles - Value





Modern Architecture for Instant Insight



Simple data structures
Speed on primary data
Single source of truth



Intuitive User Experience



Role-Based
Any device
Embedded Analytics
Cockpits with exception based worklists



Intelligent ERP Next Generation Business Processes



Automation

Machine Learning

Prediction & Simulation

SAP S/4HANA Digital Core - Examples





Modern Architecture for Instant Insight



Easy modeling on simple data models

- Real-time data availability
- Easy drill down
- Best possible performance
- Custom data model extensions (in SAP Fiori)



Intuitive User Experience

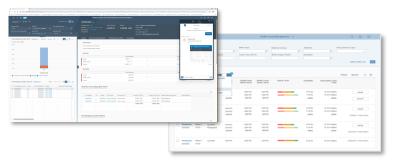


Enablement of fact-driven process handling

- Combined screens with transactional and analytical information
- Proper prioritization in transactional process steps
- Decision support where it is needed (inside the transactional screen)



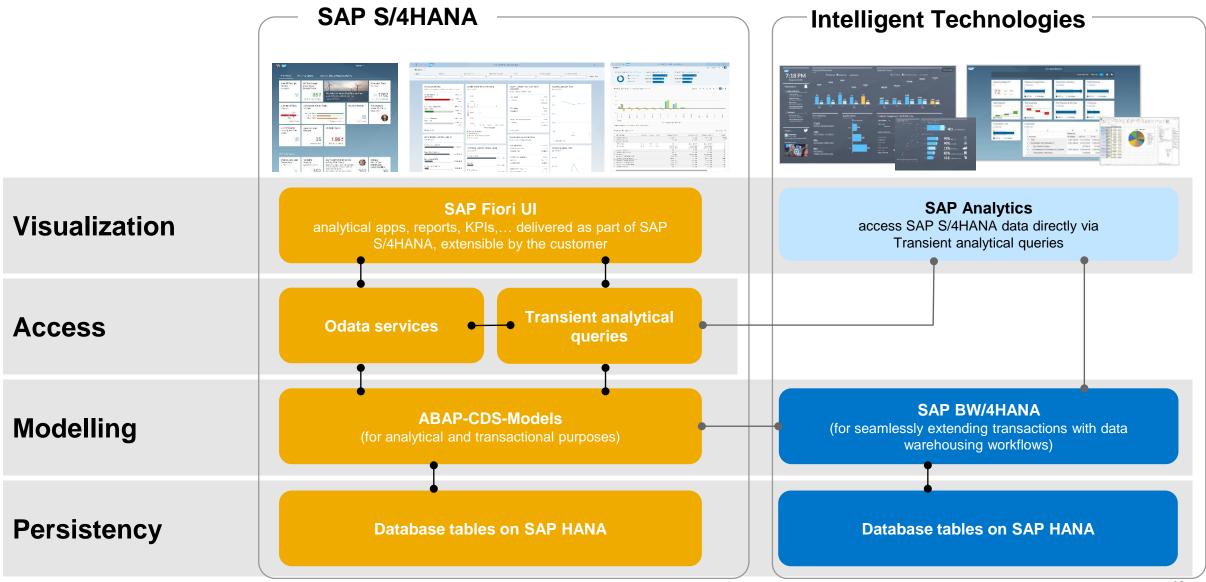
Intelligent ERP Next Generation Business Processes



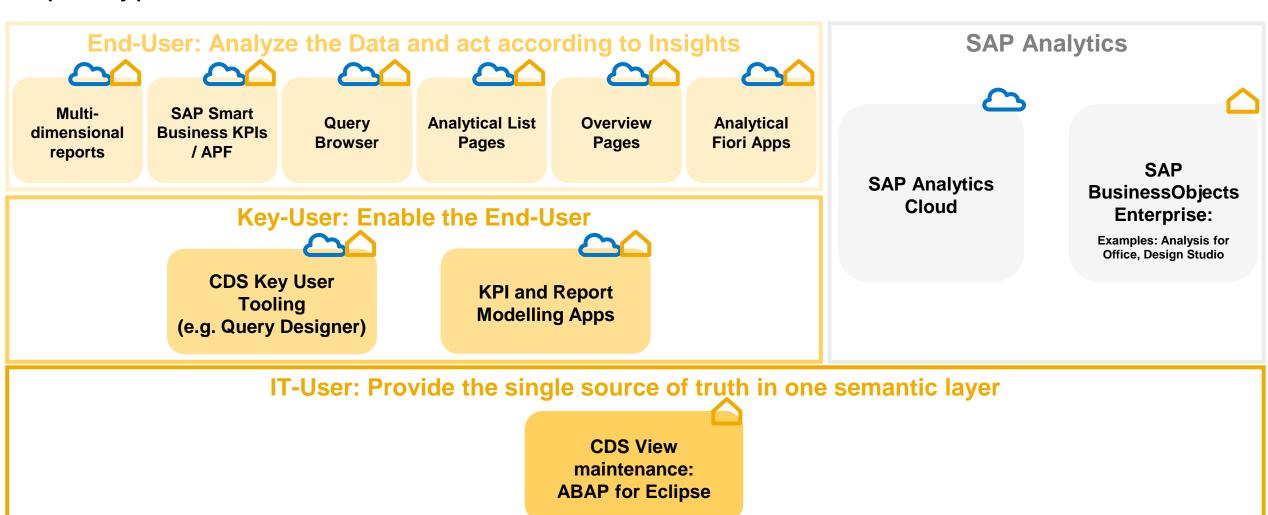
Integrate intelligent technologies in processes

- Integration of Predictive and ML data inside analytical data models
- Embedded decision support
- Allow process automation where needed

Analytics with SAP S/4HANA – high level architecture



SAP S/4HANA embedded analytics – Overview of current Offering per Type of User



S

Demo

SAP S/4HANA – Standard Finance (GL) reporting

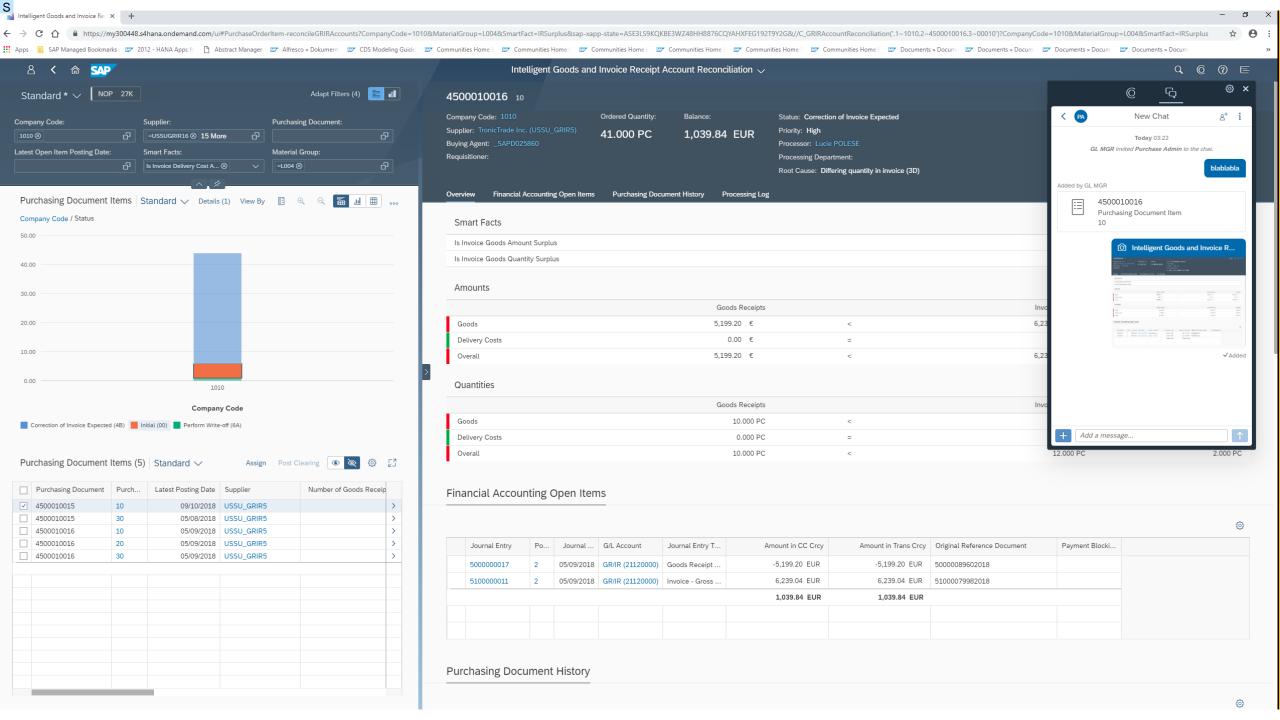
SAP S/4HANA Cloud free system demo

- Standard reporting
- View Browser
- Multidimensional reporting client



SAP S/4HANA – GR/IR Monitor

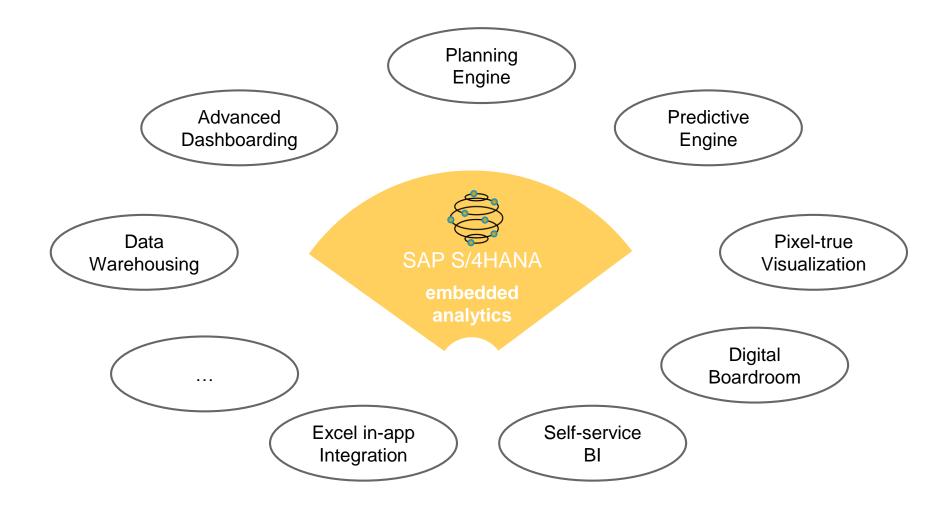
SAP S/4HANA embedded analytics in practice



Do you still need an additional visualization tool? An EDW? Why SAP Analytics Cloud? Why SAP BW/4HANA?



What is possible and what is <u>not</u>, using SAP S/4HANA embedded analytics?



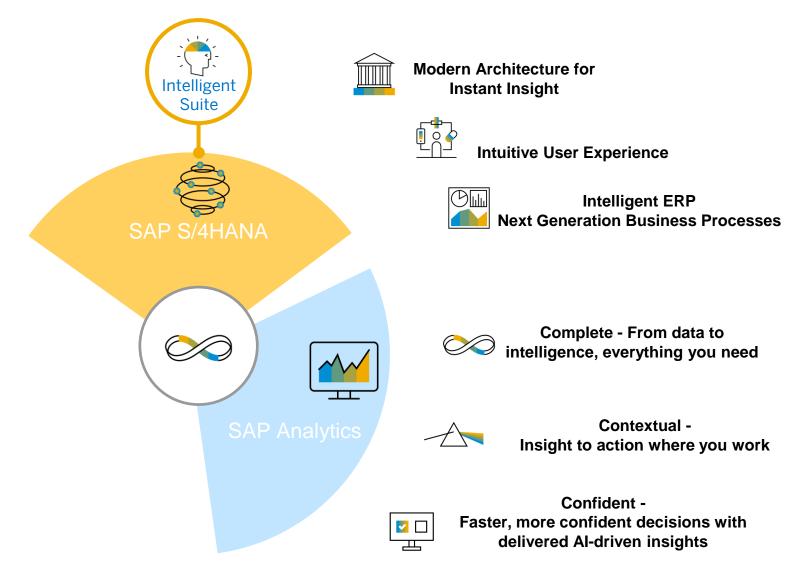


"With SAP S/4HANA and SAP S/4HANA embedded analytics, do I still need an additional visualization tool?"

"Yes!"

Analytics in the context of SAP S/4HANA

The complete portfolio



SAP Analytics Cloud – Make Intelligent Decisions





Complete - from data to intelligence



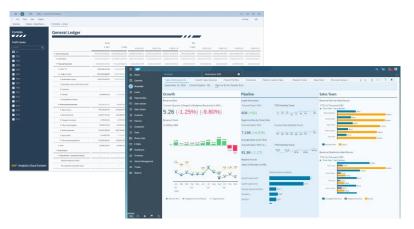
One simple cloud

Common data model

Harmonized analytics



Contextual insight to action



Embedded into enterprise apps

Social collaboration

Live connection





Smart Insights and Predict

Search to Insight

Smart Discovery

SAP Analytics Cloud – Make Intelligent Decisions





Complete - from data to intelligence

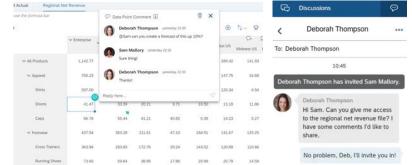


All in one platform built for SaaS

- Get everything you need from data to decisions
- Analyze, plan, and predict all in one place
- Scale to meet the needs of diverse users and all types of decisions (strategic, operational, and tactical)



Contextual insight to action



Planning, analysis, and execution in one UX

- Plan, analyze, and collaborate in one
 UX/system for instant insight to action
- Increase engagement, accountability, and accuracy with collaboration embedded in context
- Access to on-prem data & apps without having to replicate in the cloud



Confident decisions with delivered Al-driven insights



Augmented analytics for business users

- Augment manual insights with embedded intelligence that explains results
- Ask questions in natural language to get the answers you seek
- Detect causes and take the next best action using automated ML
- Predict potential outcomes with the push of a button

SAP Analytics Cloud + SAP S/4HANA = High-performing Analytics



BI, Predictive & Planning based on SAP S/4HANA business logic in Real-Time – data changes and modifications reflected instantly



Unique deep integration with Live Connection to CDS Views, Business Content (models, stories, dashboards), Fiori tile integration, Jump-to-transaction



Leverage existing SAP S/4HANA
Security & Authorizations
Plug & Play without any backend modifications



by adding your own calculations (formulas,

Enrich SAP S/4HANA data

exception aggregations) and delegate processing to SAP S/4HANA



Use the **Analytics Hub** to bring all your information together and accelerate **adoption** of analytics in your business user community



Explore SAP Digital
Boardroom for a real-time
view of your critical business
metrics in one place, supporting
steering excellence of your
Intelligent Enterprise



"With SAP S/4HANA and SAP S/4HANA embedded analytics, do I still need my BW?"

"Yes!"

SAP BW/4HANA complements SAP S/4HANA

SAP S/4HANA is not an EDW

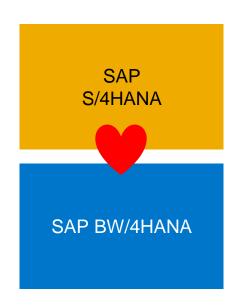
- SAP S/4HANA is the next generation intelligent ERP and part of an Intelligent Enterprise sized, tuned, and maintained for optimal performance as transactional system
- A modern simplified architecture, the new user experience (SAP Fiori) and integrated intelligent technologies such as
 Machine Learning allow for new business processes and even automation
- SAP S/4HANA embedded analytics focuses on fact-driven process handling and embedded decision support inside of transactions - embedded BW only for support of transactional workflows

SAP BW/4HANA is an EDW

- Allows harmonization of all enterprise data (ERP + non-SAP, governance, corporate memory, big data, ...)
- Delivers complete data warehouse tools (rich integrated toolset for data warehousing)
- Provides deep integration with SAP Analytics and SAP data management (SAP Data Hub, SAP HANA SQL DW, ...)

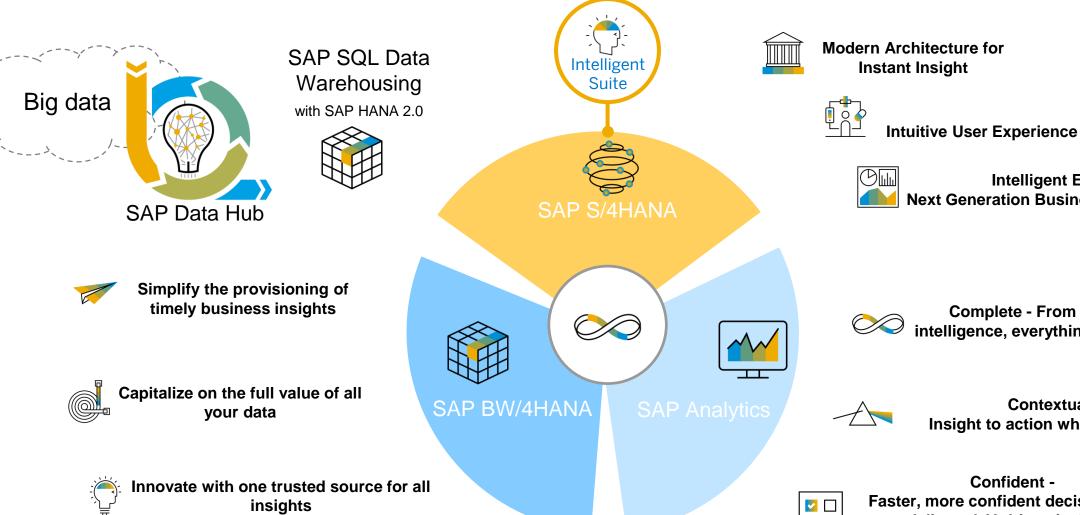
Why is SAP BW/4HANA the perfect EDW for SAP S/4HANA?

- Extends seamlessly the business case of SAP S/4HANA including the integration with SAP Data Hub for Big Data and Internet of Things (IoT) use cases
- Availability of specific business content for SAP S/4HANA
- Allows best integration capabilities based on common architecture and terminology (e.g. analytical engine, currencies, user maintenance, ABAP, transports, governance, ...)



Analytics in the context of SAP S/4HANA

The complete portfolio



Intelligent ERP **Next Generation Business Processes**

Complete - From data to intelligence, everything you need

Contextual -Insight to action where you work

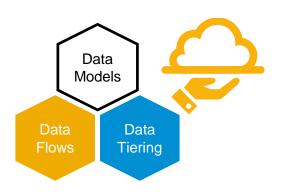


Faster, more confident decisions with delivered Al-driven insights

SAP BW/4HANA - the Guiding Principles







Transform data practices to gain efficiency and agility

Deploy live immediate insights at scale

Get up and running quickly and easily in the cloud



Capitalize on the full value of all your data



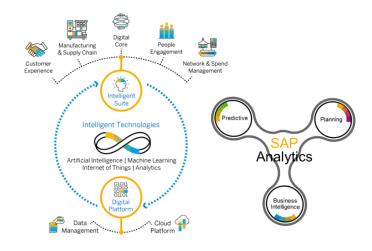
Enable 360° insights across SAP and non-SAP LOB applications

Drive digitization of the business with a true Big Data Warehouse

Leverage modern digital business platform solutions from SAP



Innovate with one trusted source for all insights



Maximize business adoption with modern analytics

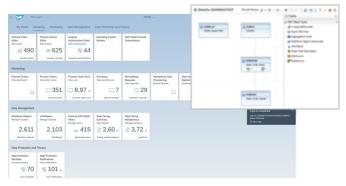
Deliver analytical applications tailored to your unique business requirements

Establish the corporate memory for the Intelligent Enterprise

SAP BW/4HANA - the Guiding Principles



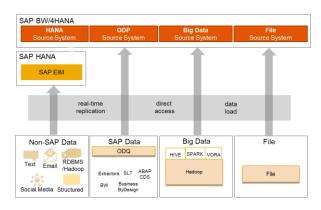




Impactful reduction of modeling and source objects; choice of field- or InfoObject-based modeling, no data replication between layers needed Data tiering for allocating best storage for hot, warm, cold data by partition Data processing pushed to SAP HANA from the application server Deploy on HEC, AWS, Azure, and GCP



Capitalize on the full value of all your data

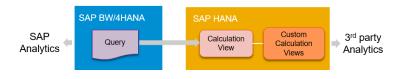


Leverages SAP HANA EIM to provide new data provisioning opportunities, like virtual data access, real-time replication, or optimized data load

Dedicated big data connector to leverage Big Data landscapes for data onboarding and ingestion for various types of data and files Deep integration with SAP Data Hub, including SAP Vora, as orchestration and refinery application to address end to end processes with SAP HANA and SAP BW/4HANA



Innovate with one trusted source for all insights

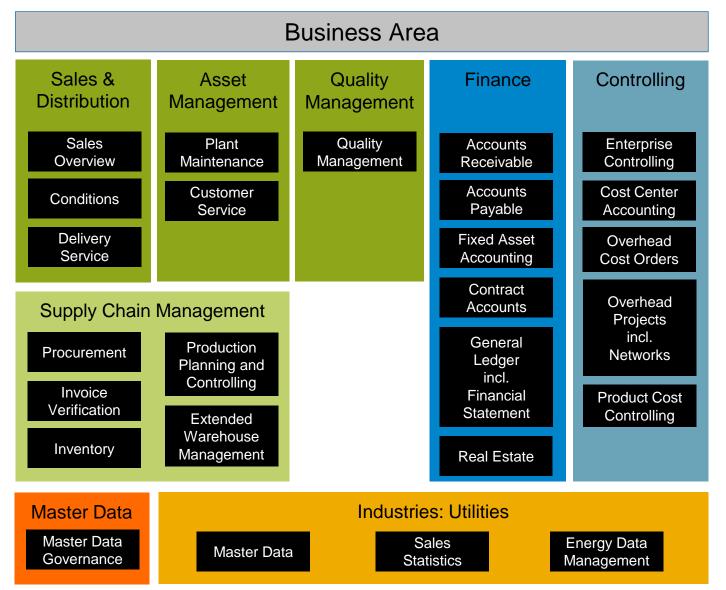




Unique native data access for real-time analytics without replication into the cloud; one platform for enterprise planning & consolidation, Predictive Analytics

Extend managed DW and native SQL approach for the full power of HANA with mixed scenario and analytical apps
Establish the corporate memory for the Intelligent Enterprise by leveraging the Cloud Platform Integration API framework

SAP BW/4HANA Business Content: Overview as of SP07

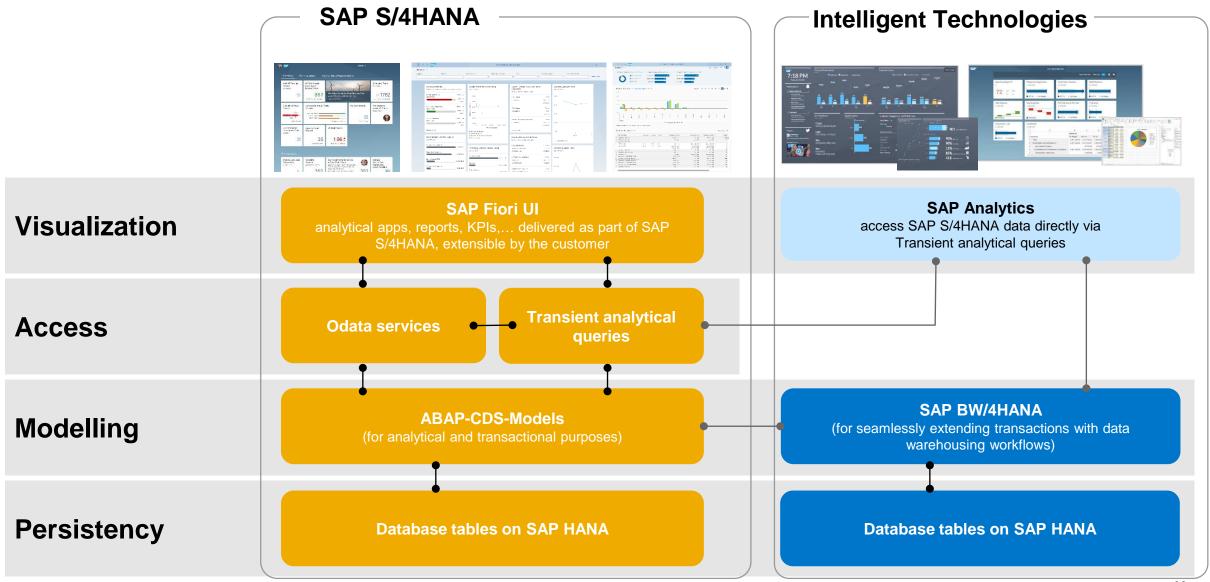


- Supports SAP S/4HANA and SAP ECC systems
- Uses new SAP BW/4HANA features
- Follows the LSA++ architecture
- Delivered content offers more flexibility in data acquisition and reporting
- Provides higher level of detail
 (line items, ...)
- Quarterly delivery pace

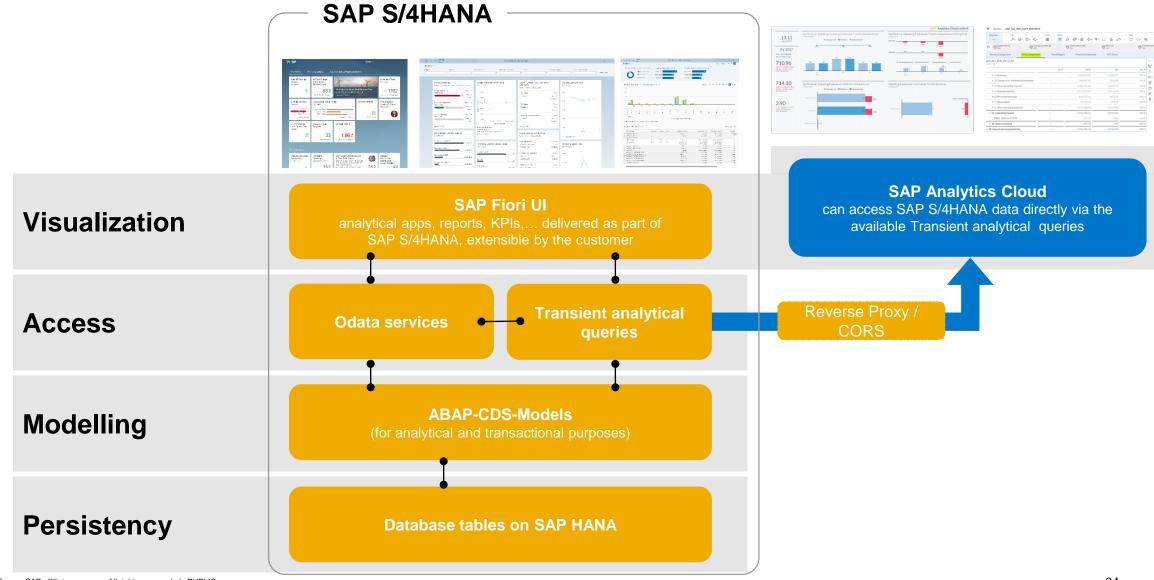
How do the solutions integrate?



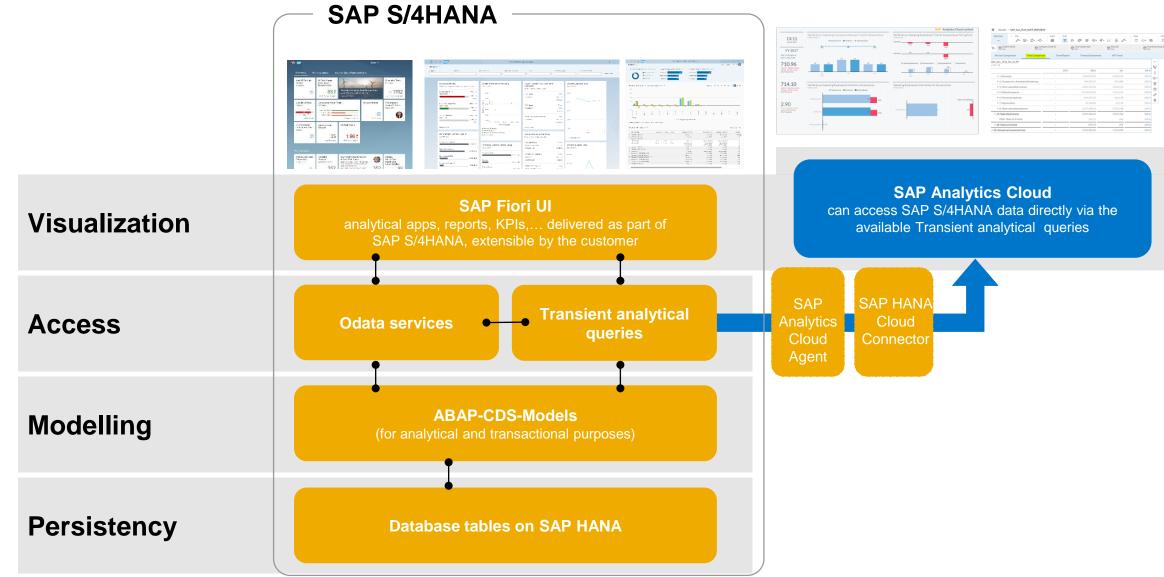
Analytics with SAP S/4HANA – high level architecture



SAP Analytics Cloud Live Data Access – High Level Architecture

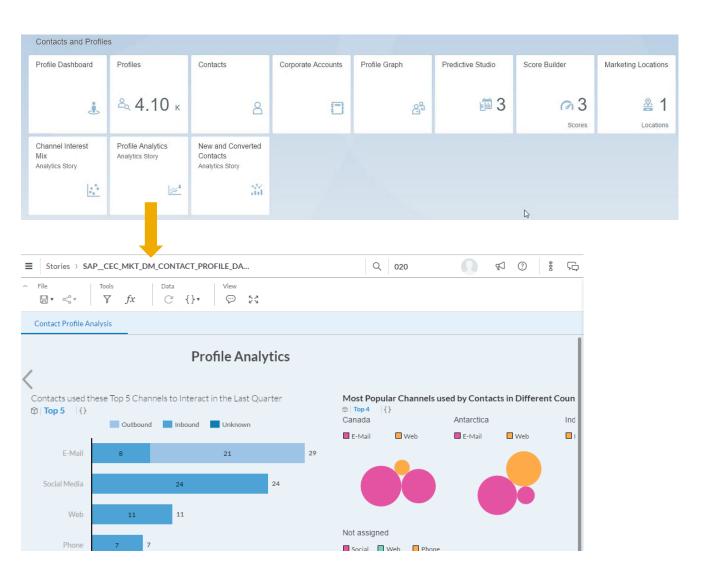


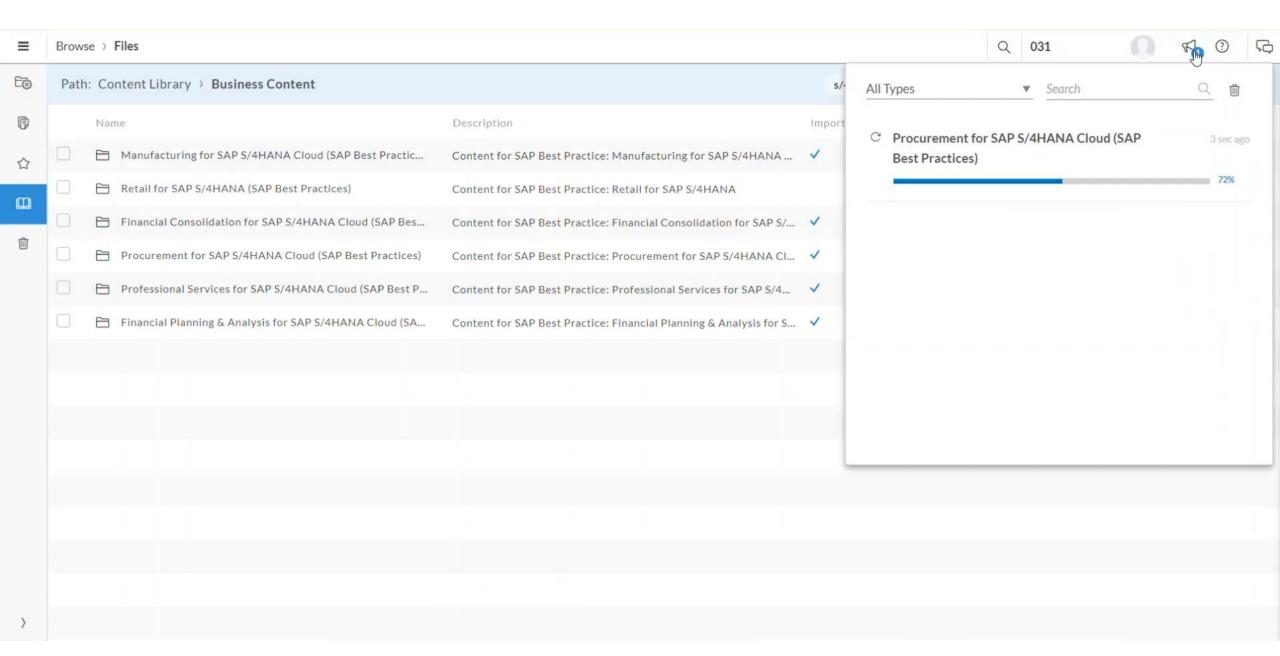
SAP Analytics Cloud Data Import – High Level Architecture



Integration with SAP Fiori Launchpad

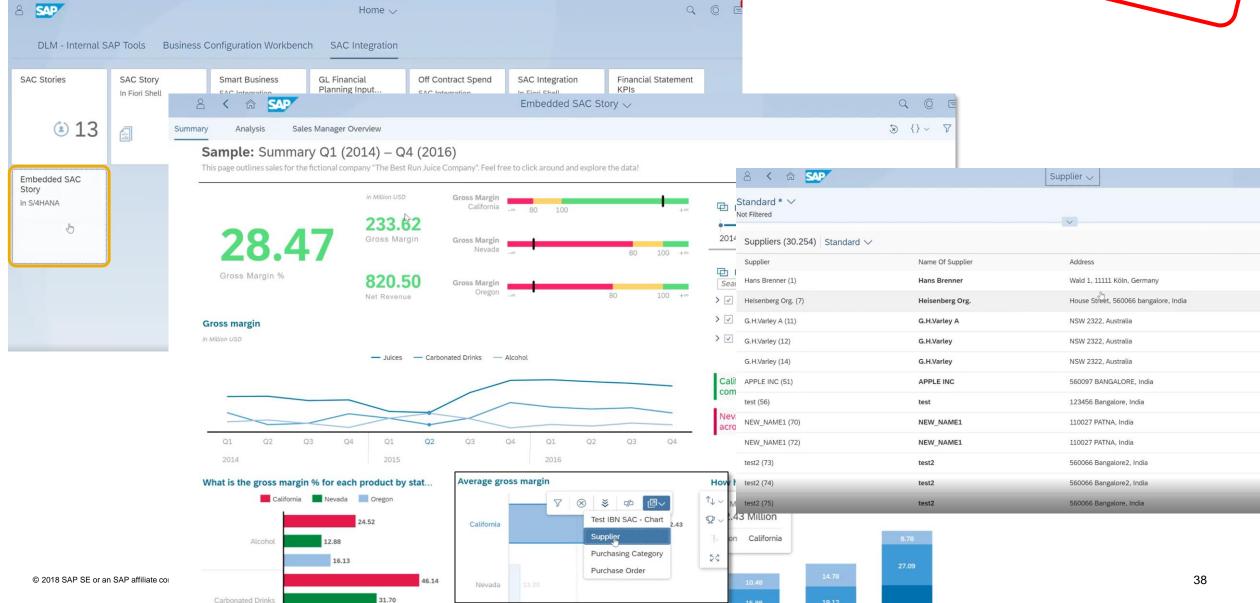
- Open SAP Analytics Cloud Stories from Fiori Launchpad
- Easily create custom Fiori tiles to launch a Story using OAUTH-enabled Story Catalog Service
- Integrate available pre-defined SAP Analytics Cloud Best Practices content with configured Fiori tiles



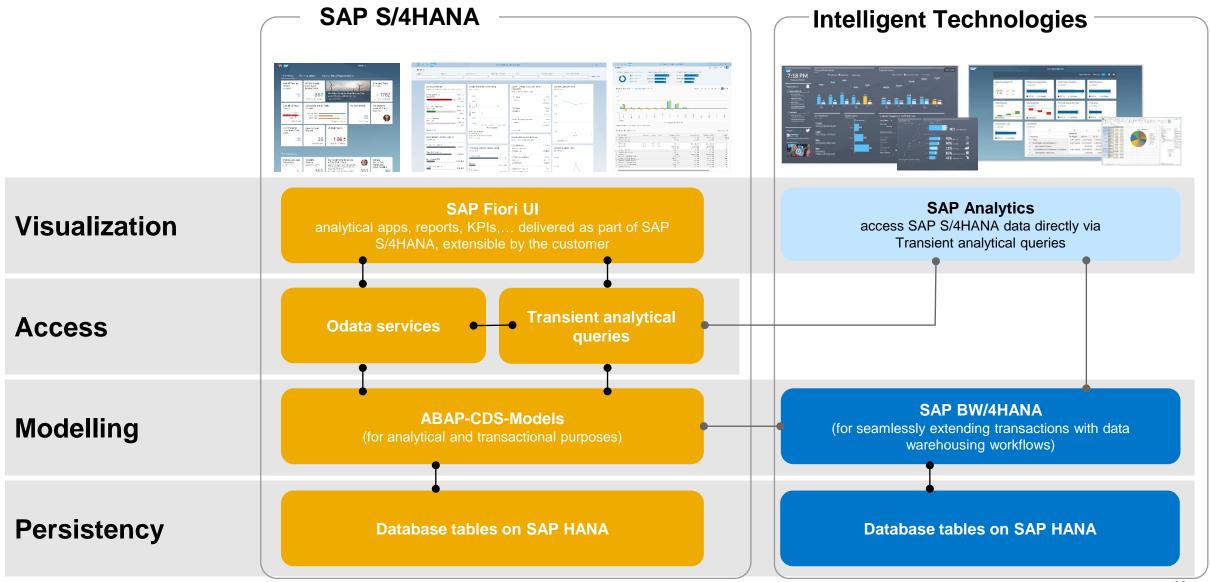


SAP Analytics Cloud is embedded in SAP S/4HANA!*





Analytics with SAP S/4HANA – high level architecture



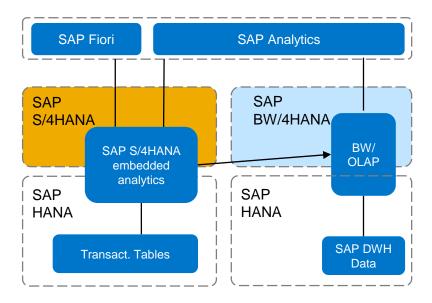
SAP BW/4HANA and SAP S/4HANA

Leveraging **SAP BW/4HANA** you can **natively integrate** the embedded analytics models and data in SAP S/4HANA with those of an EDW, e.g. to compare real-time actuals with historical snapshots, planning results (from BPC), or external data.

Please refer to the respective <u>integration blog</u> and <u>How-to-Guide</u> on <u>www.sap.com</u> for further details.

Examples for best-in-class integration are:

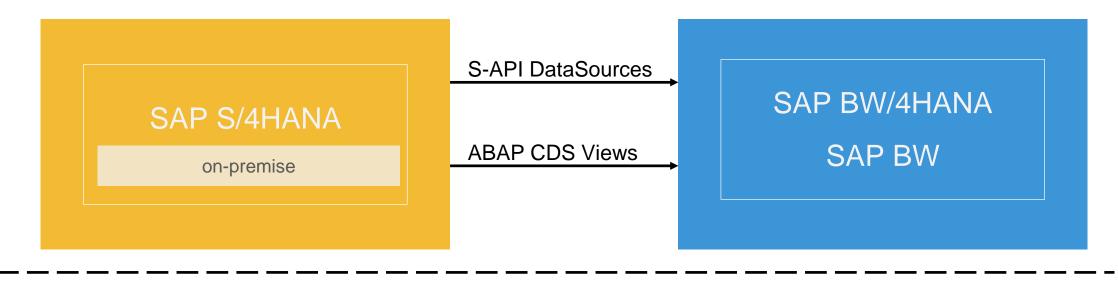
- Out-of-the-box connectivity
 - Visualize SAP S/4HANA data in SAP BW/4HANA without data structure creation in SAP BW/4HANA
 - Standard Extractors (ABAP CDS and ABAP via S-API), as well as open extensibility
- Fast time-to-value Data Mashups using SAP BW/4HANA-native objects (composite providers etc.)
- Strong data historization capabilities (e.g. easy tracking of slowly changing dimensions)
- Best integrated planning use cases based on all necessary existing and harmonized data



Embedded BW:

- SAP does **not** recommend using Embedded BW for data warehouse (EDW) use cases!
- For details, see <u>SAP Community blog</u> and <u>SAP note</u> <u>1661202</u>, (e.g. Upgrades and patches, Resource allocation and capacity planning, Workload Management, Backup & Recovery, Lifecycle management, High Availability & Disaster Recovery, Security etc.)
- Best practice: The amount of data persisted in the Embedded BW should not exceed 20% of the overall data volume of the system.
- Embedded BW is not an SAP BW/4HANA
- More information here.

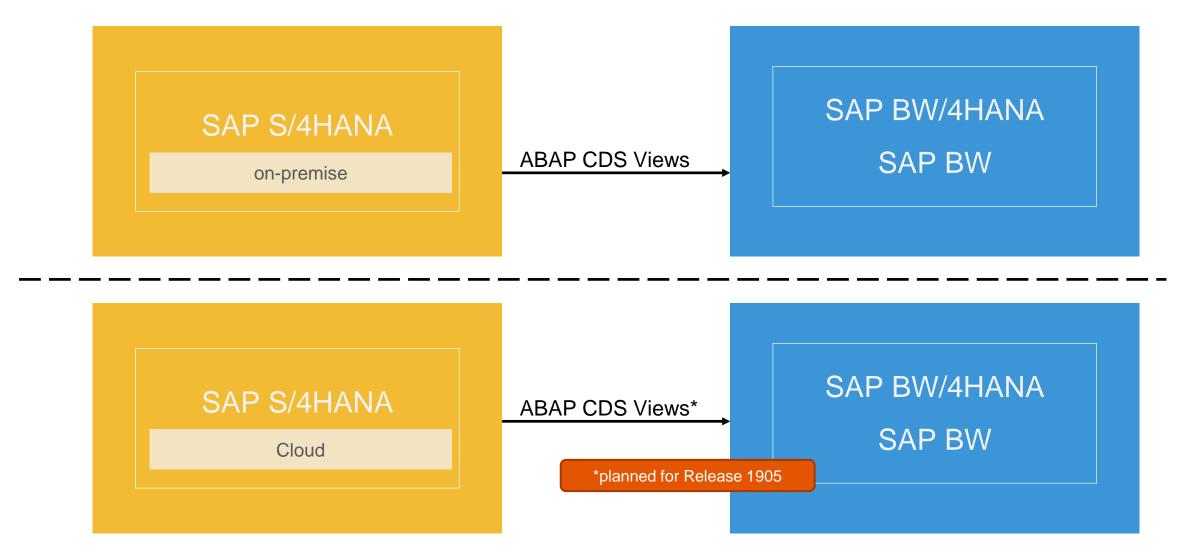
CDS-based Extraction to SAP Business Warehouse





- For limitations on S-API DataSources (Extractors) in S/4HANA see <u>SAP Note 2500202</u>
- How to use ABAP CDS for Data Provisioning in BW
- For release of extractors for ODP see SAP Note 2232584 'Release SAP Extractors for Operational Data Provisioning' (> 95% are released)

CDS-based Data Federation with SAP Business Warehouse



Direct access to SQL views (generated by ABAP CDS) not recommended! See note 2511210 for further details.

What to consider on your route to Analytics with SAP S/4HANA?



Planning the migration from SAP ECC with SAP BW to SAP S/4HANA with BW/4HANA

Check SAP BW Status Quo Check
Status quo
Bl/Analytics

What to do where?

Check SAP S/4HANA

Rebuild and Extend

*Prerequisite: SAP BW/4HANA Sandbox existing

Planning the migration from SAP ECC with SAP BW to SAP S/4HANA with BW/4HANA

Check/test existing and used BW setup and extractors

What is still working (functional fit and/or SAP supported content)*?

Which frontends have been created using the BEx?

Do housekeeping! What is still necessary?

Establish the status quo of BI/Analytics
Have data sources changed?

Does Big Data play a role?

Do housekeeping! What is still

Separate analytical requirements (along the business processes) between the operational system, the Bl/Analytics layer and the EDW.

Explore how a target architecture would look like ideally using SAP S/4HANA, SAP BW/4HANA, and SAP Analytics BI/PA/Planning.

For pure operational analytical requirements:

Check existing content, applications and capabilities in SAP S/4HANA embedded analytics. See what you can do out-of-the-box.

For all analytical requirements, check Business Content in SAP Analytics and SAP BW/4HANA.

Plan detailed steps to implement all remaining analytical requirements (e.g. by extending SAP S/4HANA, or by exceptional usage of SAP Analytics Cloud and SAP BW/4HANA for operational reporting) - your choices need to be based on project realities (e.g. individual preferences, strategy, efforts, available functionality)

*Prerequisite: SAP BW/4HANA Sandbox existing

Now: what to do where?

SAP BW/4HANA – Core EDW functions

- Data replication (for Snapshots, Performance enhancements)
- Enterprise-wide data harmonization
- Data governance
- Data federation/mashing (EDW)
- LSA modeling
- SAP and non-SAP data
- Planning
- Archiving (for delta comparison)

SAP Analytics Cloud

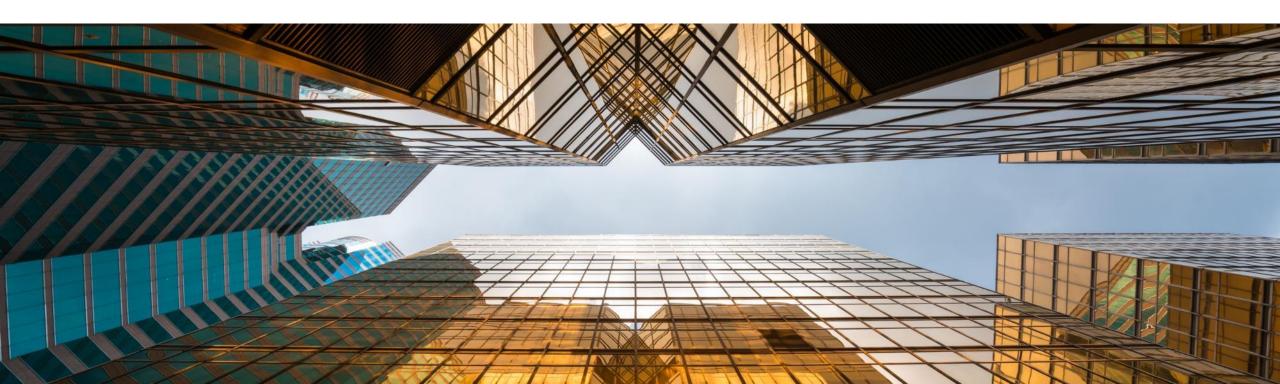
- Best visualization
- Focus on cloud-based source systems (e.g. SAP S/4HANA Cloud, MTE)
- Data federation/mashing (without EDW harmonization)
- SAP and non-SAP data
- Planning
- Self Service BI

SAP S/4HANA embedded analytics

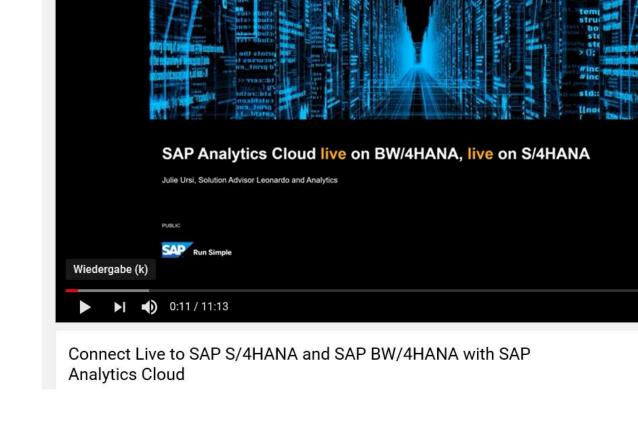
- Operational data
- Real-time data access
- Transactional decision support
- KPI-driven process handling



Summary



Demo (Full Integration)



Q

https://www.youtube.co m/watch?v=nuc29Zy4U 6Y&feature=youtu.be

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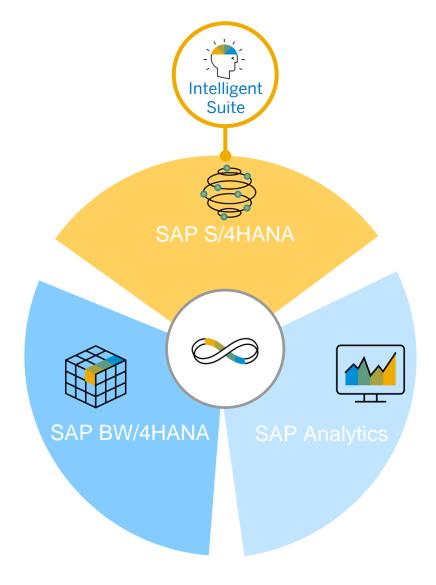
Analytics in the context of SAP S/4HANA

The complete portfolio



SAP SQL Data Warehousing with SAP HANA 2.0







SAP S/4HANA

Blogs

What is SAP S/4HANA embedded analytics? How does it add value? http://bit.ly/2cPkeqF

How do I get started with embedded analytics?

http://scn.sap.com/community/s4hana/blog/2016/05/27/getting-startedwith-s4-hana-embedded-analytics

How does the SAP S/4HANA embedded analytics architecture look like? http://scn.sap.com/community/s4hana/blog/2016/09/27/journeyof-datafrom-tables-to-tiles--a-sneak-peek-into-the-s4-hana-embeddedanalytics-architecture

SAP S/4HANA Extensibility

https://blogs.sap.com/2017/03/01/scn-s4hana-extensibility-scenariodiagrams/

Embedding Predictive Analytics into SAP S/4HANA Cloud https://blogs.sap.com/2017/05/16/embedding-predictive-analytics-into- sap-s4hana/

SAP S/4HANA and SAP BW/4HANA positioning https://blogs.sap.com/2017/08/15/sap-s4hana-and-sap-bw4hana-what- to-do-where/

openSAP

Extending SAP S/4HANA Cloud and SAP S/4HANA

Youtube

SAP S/4HANA Cloud

Analysis Path Framework

Fiori Apps Library

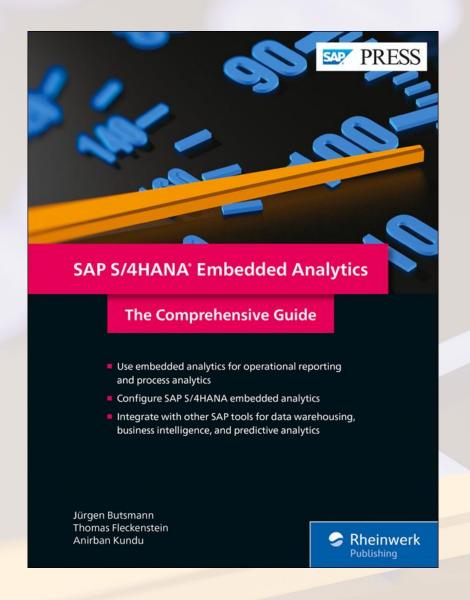
https://fioriappslibrary.hana.ondemand.com/sap/fix/externalViewer/

Documentation

SAP S/4HANA

SAP S/4HANA Cloud





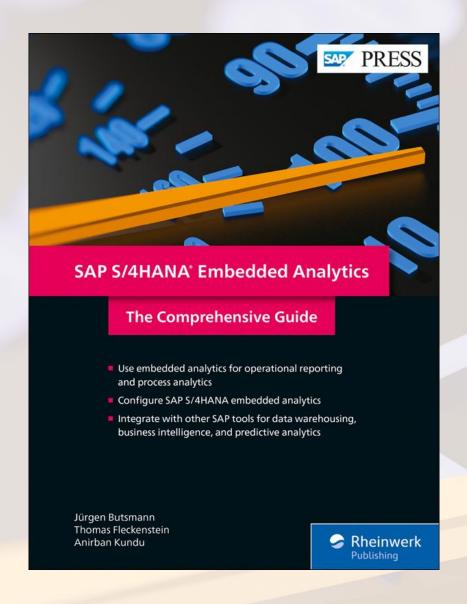
Customize and use SAP S/4HANA embedded analytics!

- ➤ Configure SAP S/4HANA embedded analytics for your landscape
- Use embedded analytics for operational reporting and process analytics
- ➤ Integrate with other SAP tools for data warehousing, business intelligence, and predictive analytics

Purchase the print or e-book at sap-press.com/4690

SAP S/4HANA Embedded Analytics: The Comprehensive Guide Written by: Jürgen Butsmann, Thomas Fleckenstein, Anirban Kundu 430 pages | 09/2018 | E-book: \$69.99 | Print: \$79.95 | Bundle: \$89.99





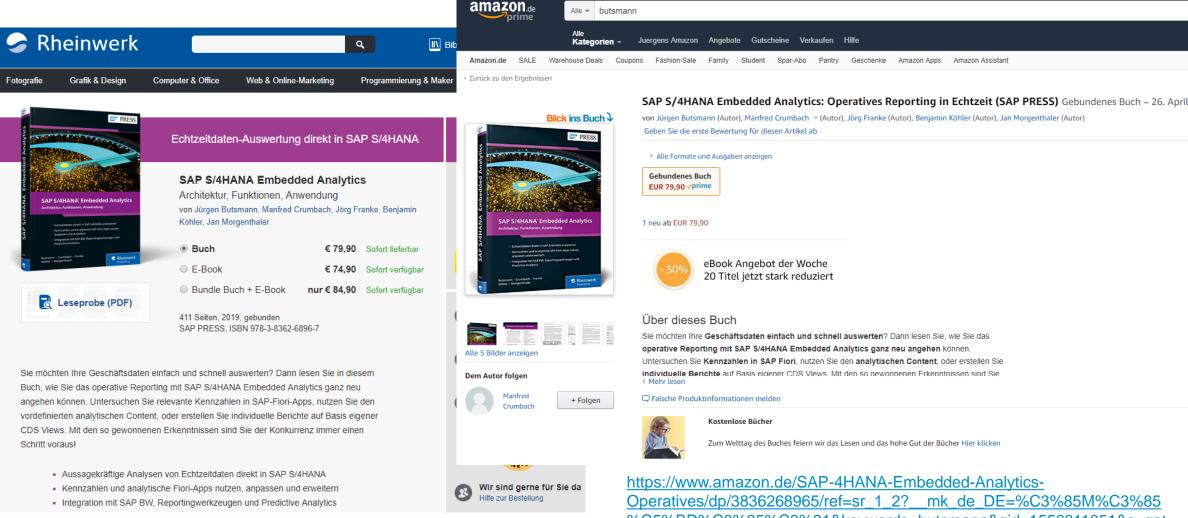
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SAP S/4HANA Embedded Analytics: The Comprehensive Guide
Written by: Jürgen Butsmann, Thomas Fleckenstein, Anirban Kundu
430 pages | 09/2018 | E-book: \$69.99 | Print: \$79.95 | Bundle: \$89.99

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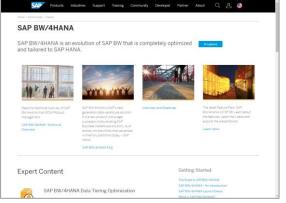


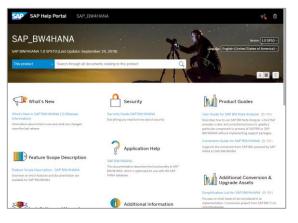
https://www.rheinwerk-verlag.de/sap-s4hana-embedded-analytics_4853/



SAP BW/4HANA









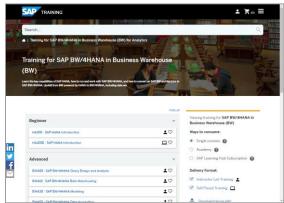
Home Page https://sap.com/bw4hana

Community / Product Page https://sap.com/bw4hana10

Documentation

https://help.sap.com/bw4hana20

Product Roadmap https://sap.com/roadmaps





Training & Certification

https://training.sap.com/



Free Learning @ openSAP, Free Trial

Get Help

FAQ, Q&A, Community Wiki, Support, Availability

Read & Learn More

SAP Blogs, Community Blogs, Learning Journey

Transition from SAP BW

Blog, SAP Activate Roadmap, SAP Readiness Check

Related Solutions

SAP HANA, SAP Data Hub, SAP Analytics Cloud



Watch

Demos & Tutorials, YouTube Channel, SAP HANA Academy

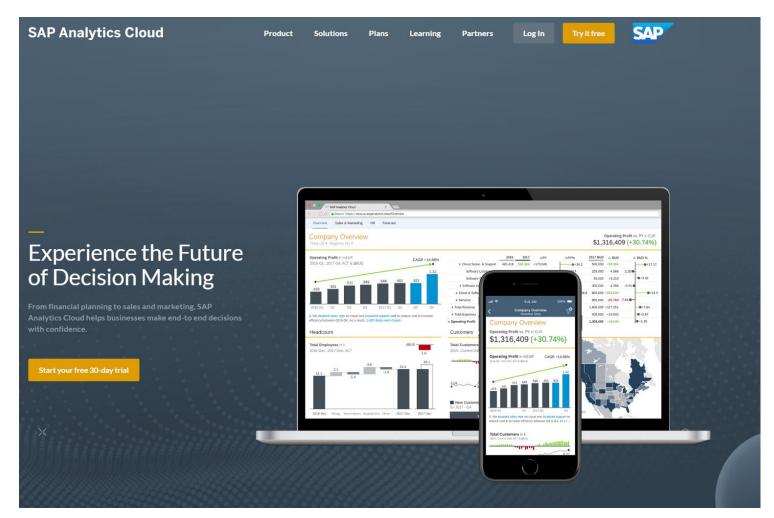


Share & Follow #BW4HANA, #TheFutureofDW





SAP Analytics Cloud



https://www.sapanalytics.cloud/

Thank you!

Contact information:

Jürgen Butsmann Solution Management SAP S/4HANA SAP SE Juergen.Butsmann@sap.com



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Presentation Materials

Access the slides from 2019 ASUG Annual Conference here:

http://info.asug.com/2019-ac-slides



Q&A

For questions after this session, contact us at Juergen.Butsmann@sap.com.



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