

The future of

SAP Data Warehousing

SAP Data Warehouse Strategy

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SAP

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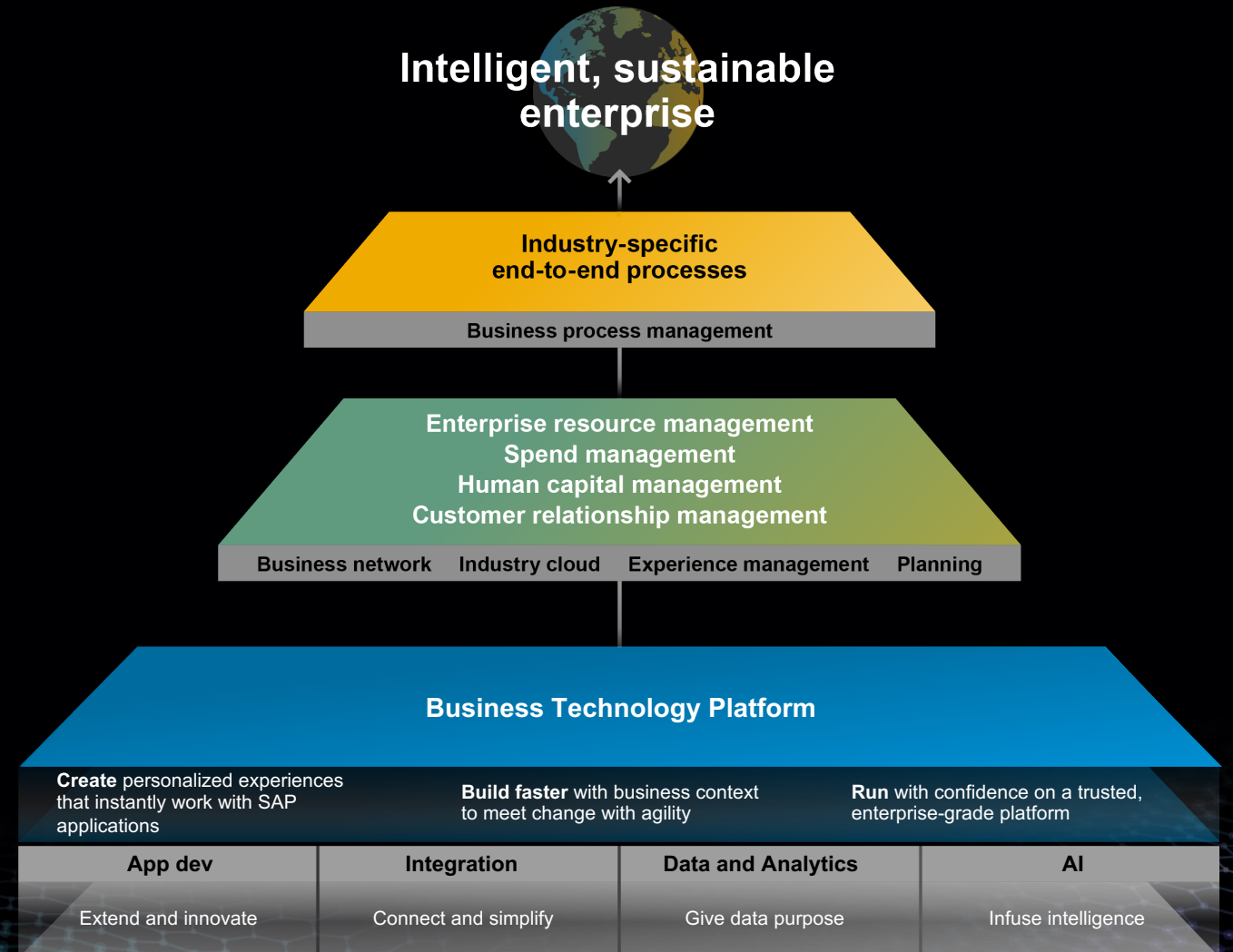
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The Big Picture: Towards the Intelligent, Sustainable Enterprise

Data & Analytics are at the heart of the new, sustainable enterprise

- Organizations are **striving to be more intelligent and sustainable**
- Focus is on serving the needs of customers, employees, and society
- Digital transformation including **Data & Analytics** is critical to this change.... but what does that mean?

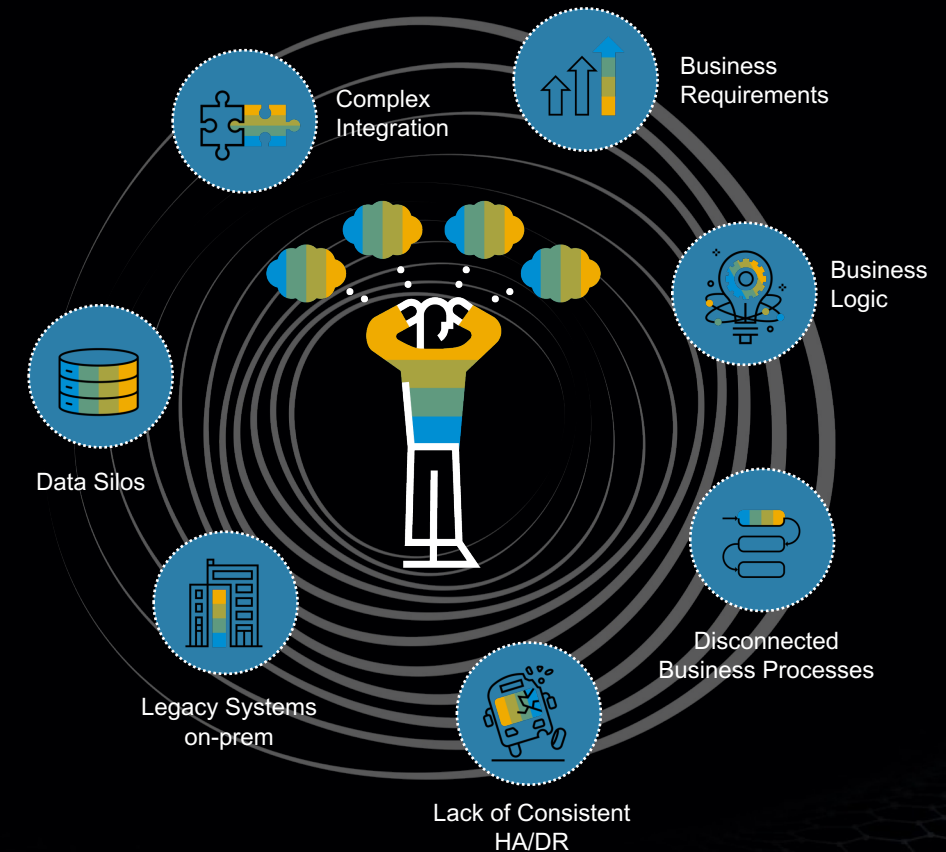


Data is a Crucial Part and an Important Challenge

A successful Data & Analytics strategy ties in with the core business applications

Close alignment with core business applications needed as...

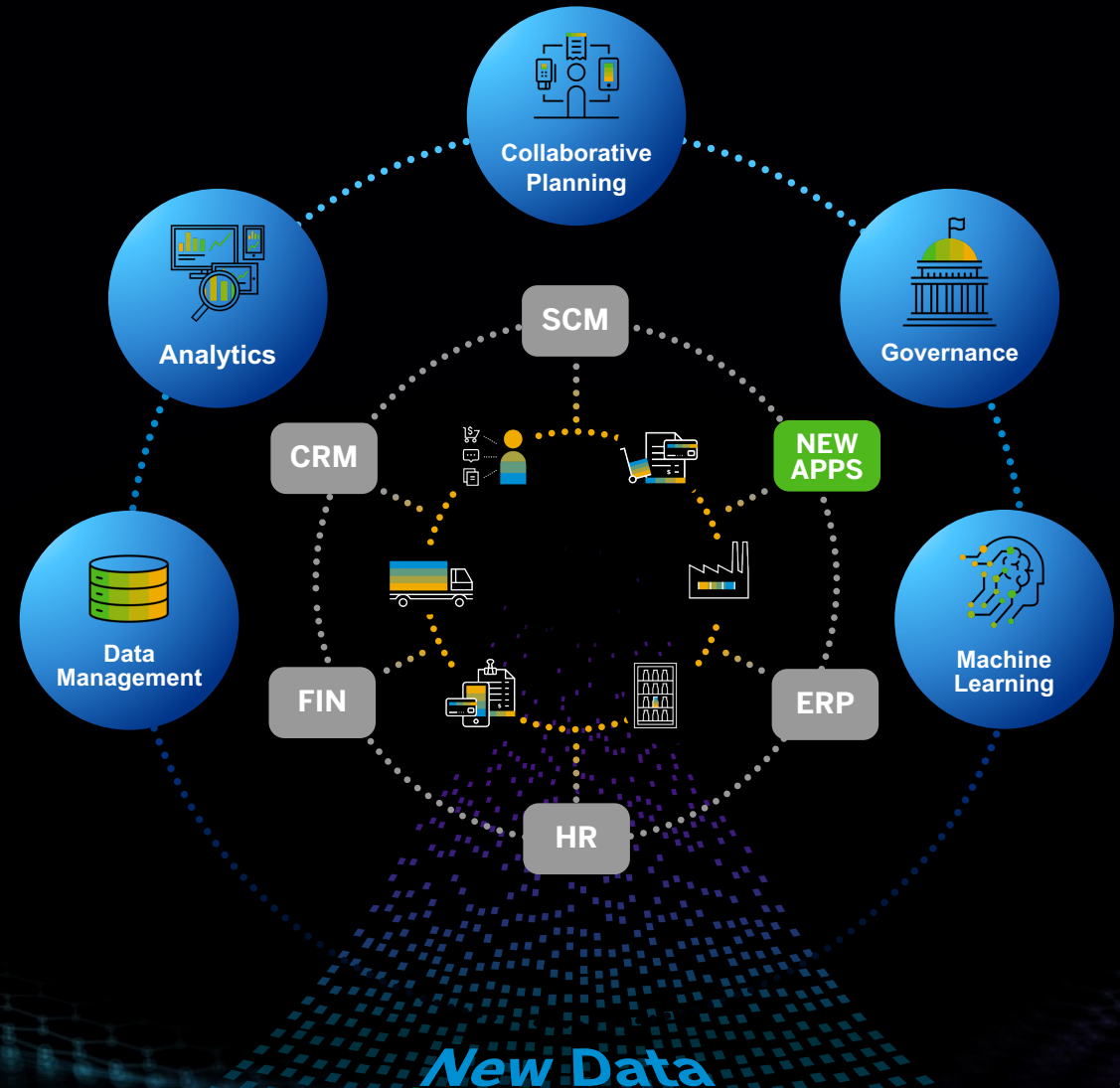
- Solution silos and a complex integration landscape introduce risk
- Recreating business logic requires extensive time and effort
- It is crucial to deliver “business data” for business users
- Separation of application and analytical data shall be avoided



Our Paradigm: Bring Technology to Data

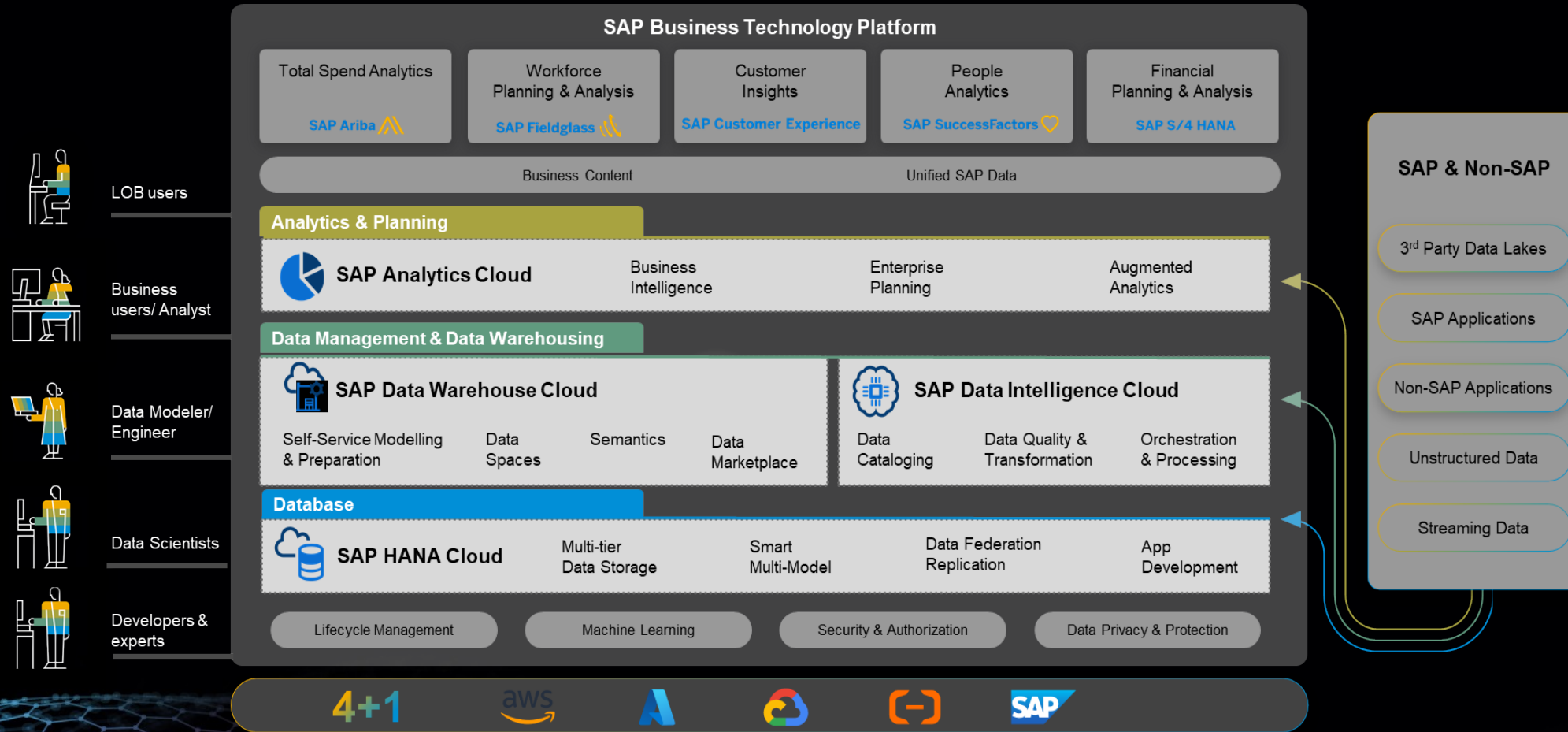
Easily extend core business applications to drive analytics & planning across the enterprise

- **Bring new data** from SAP and other sources into the context-rich environment of existing systems
- **Retain the full business perspective of SAP data** while being open to easily connect other applications and tools
- Enable **collaborative insights and planning** across the enterprise



Our Strategic Pillars to advance SAP Data and Analytics Solutions

Addressing the data-to-value challenge with a holistic approach



How SAP Data Warehouse Cloud can help



**SAP Data Warehouse Cloud goes beyond classical
Data Warehousing and brings IT and Business
together**



SAP Data Warehouse Cloud

Use Cases



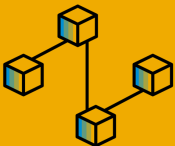
Self-Service Data Modeling & Analytics

Empower business users **with self-service, top-down** driven **analytics** in an **IT governed environment via spaces**. Instant access to business applications via **pre-built adapters to integrate any type of data** from any source, SAP and non-SAP data sources, on-prem and in the cloud.



Enabling Data Democratization

Accelerate time-to-insight via **rapid onboarding of resources**. Lower adoption barrier with a **business semantic layer** abstracting data layer from underlying physical data sources. Leverage data catalog and pre-built **business content** (industry-data models, KPIs) and deliver **enterprise-wide collaboration** via space concept to support **end-to-end decision-making**.



End-to-End Data Warehousing

Leverage existing SQL skills, SAPIDEs, open source and/or in-built tooling for data integration, governance, harmonization and Big Data historization to provide a **consolidated view across the enterprise**. Extract **maximum investment from existing on-prem investments via hybrid-scenarios** e.g. SAP HANA for SQL DW, SAP S/4HANA, SAP BW/4HANA etc.

A woman with long dark hair in a ponytail is running towards the right. She is silhouetted against a bright sunset sky. The background shows a cityscape with buildings and a body of water, all bathed in the warm, golden light of the setting sun. The text "Easily enrich organizations' data and allow for secure sharing" is overlaid in the center of the image.

**Easily enrich organizations' data and allow for
secure sharing**

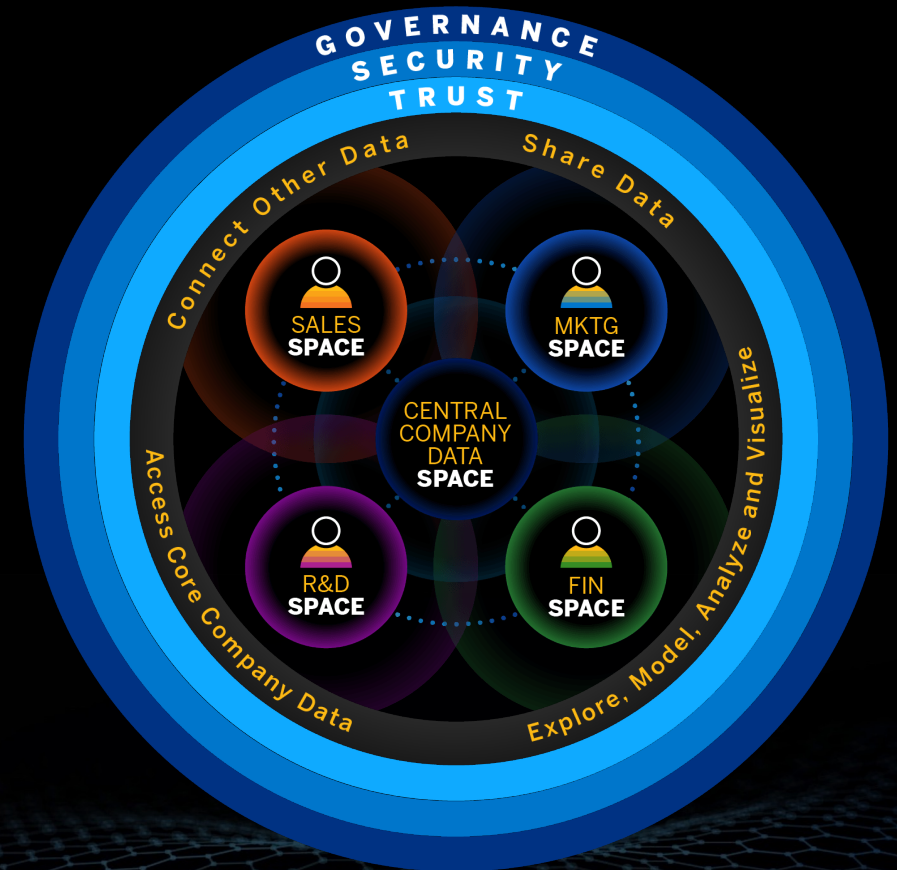
Easily Enrich Organizations' Data and Allow for Secure Sharing

Spaces concept in SAP Data Warehouse Cloud enable agile yet governed collaboration

Typical Environment



SAP Data Warehouse Cloud



Data Integration with SAP Data Warehouse Cloud

Seamless transition between virtual and persistent data access

REMOTE TABLES

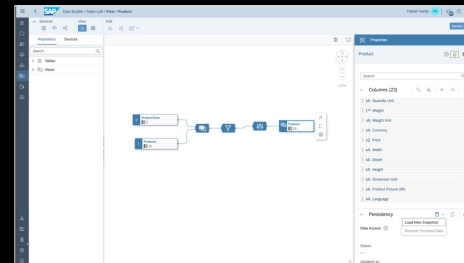
Virtual Access



Persisted

Real-time virtual data access

- Leave data in the source system and access remotely when needed
- No upfront data movement
- Federation is supported across various sources and hyperscalers

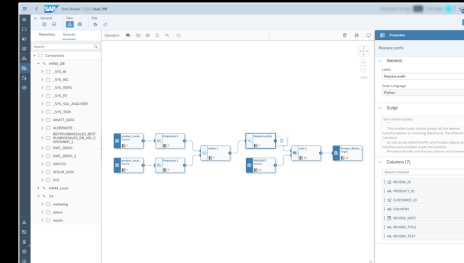


Single table replication

- Real-time table replication for up-to-date data
- Materialize views and update snapshots using automated, scheduled data loads
- Schedule in task chains

CLASSIC DATA INTEGRATION

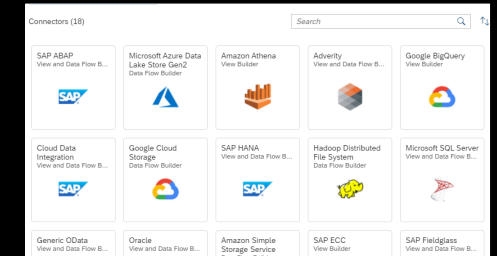
Data Flow



ETL beyond view modeling

- Combine structured and semi structured data while defining ETL processes
- Advanced transformation capabilities leveraging Python 3
- Schedule in task chains

External Tools



Integrate with all data sources

Allow external data movement tools like SAP Data Services, SAP Data Intelligence, SAP Open Connectors, SnapLogic, Precog, Adverity, etc. to bring data into SAP Data Warehouse Cloud using SQL interfaces

Data Integration with SAP Data Warehouse Cloud

Operate and Manage all integration activities from one central place

Data Integration Monitor

Remote Tables (12)	Name	Data Source	Refresh Frequency	Status	Last Update	Next Run	Load in Memory (MB)	Load Size (MB)
SAP L0000	Business Partners	Business Partners	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2
SAP L0001	Customer	Customer	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2
SAP L0002	Product	Product	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2
SAP L0003	Material	Material	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2
SAP L0004	Plant	Plant	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2
SAP L0005	Customer Address	Customer Address	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2
SAP L0006	Product Address	Product Address	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2
SAP L0007	Material Address	Material Address	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2
SAP L0008	Plant Address	Plant Address	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2
SAP L0009	Customer Address	Customer Address	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2
SAP L0010	Product Address	Product Address	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2
SAP L0011	Material Address	Material Address	Real Time	Active	Feb 1, 2023 10:00	...	0.00	2

Central Monitoring for all kind of integration

- Ability to manage real-time replication for change-data-capture (CDC) enabled tables
- Switch seamlessly between remote access, real-time replication and snapshots
- Create and manage schedules for data flows, task chains, snapshots on remote tables, and persistent views

Scheduling

Create Schedule for "Product"

Schedules are created in Coordinated Universal Time (UTC). The current UTC time is Oct 19, 2023 14:19.

Frequency: Enter As: Simple Schedule

Repeat: Daily

Every: 1 Days

At (UTC): 00:00

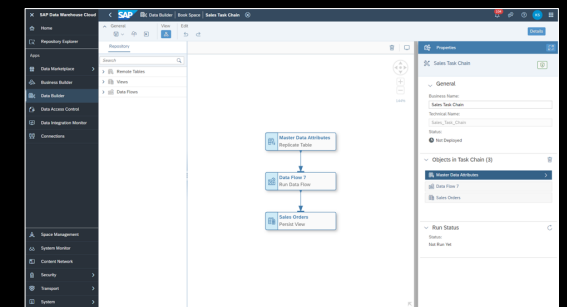
Time Range: Start Date: Oct 19, 2023 End Date: No End Date

Next Run: Oct 20, 2023 00:00 Oct 21, 2023 00:00 Oct 22, 2023 00:00 Oct 23, 2023 00:00 Oct 24, 2023 00:00

Central Monitoring for all kind of integration

- Create and manage schedules for Data Flow, Task Chains, Snapshots, and persistent Views
- Recurrence options: Hourly, Daily, Weekly, Monthly
- Use simple schedule or Cron expressions
- Scheduled tasks are executed asynchronously and recurrently in the background according to the defined schedule

Task Chains

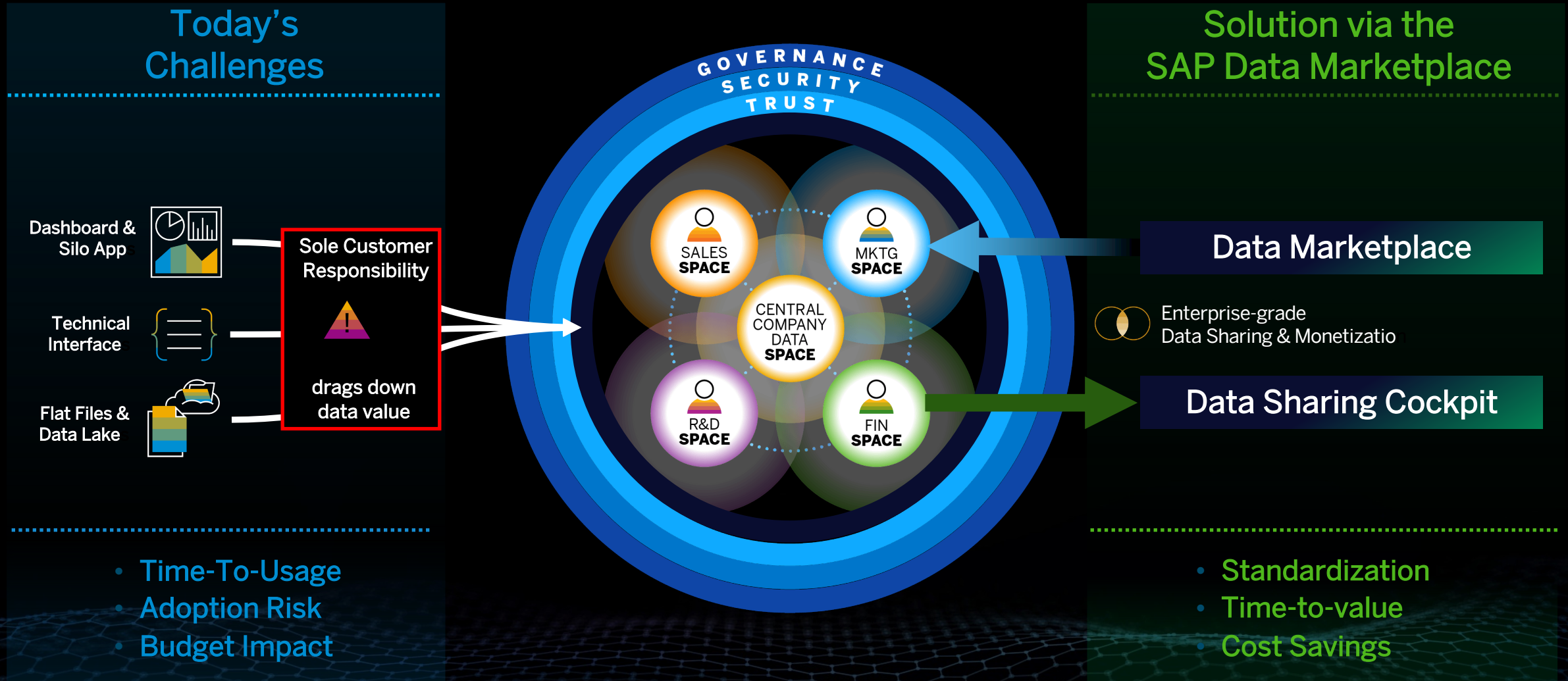


Central Monitoring for all kind of integration

- Group multiple tasks into a Task Chain and run them manually once, or periodically through a schedule
- Tasks chain scheduling may include execution of Remote Table Replication, View Persistence, and Data Flow runs
- Serial processing of tasks based on success of previous and all tasks

SAP Data Marketplace

From Data Warehouse to a Data Marketplace for data exchange and data monetization



Enable Integration of External Data Products & Sharing

Data Marketplace live since January – to be extended towards private & internal Marketplaces

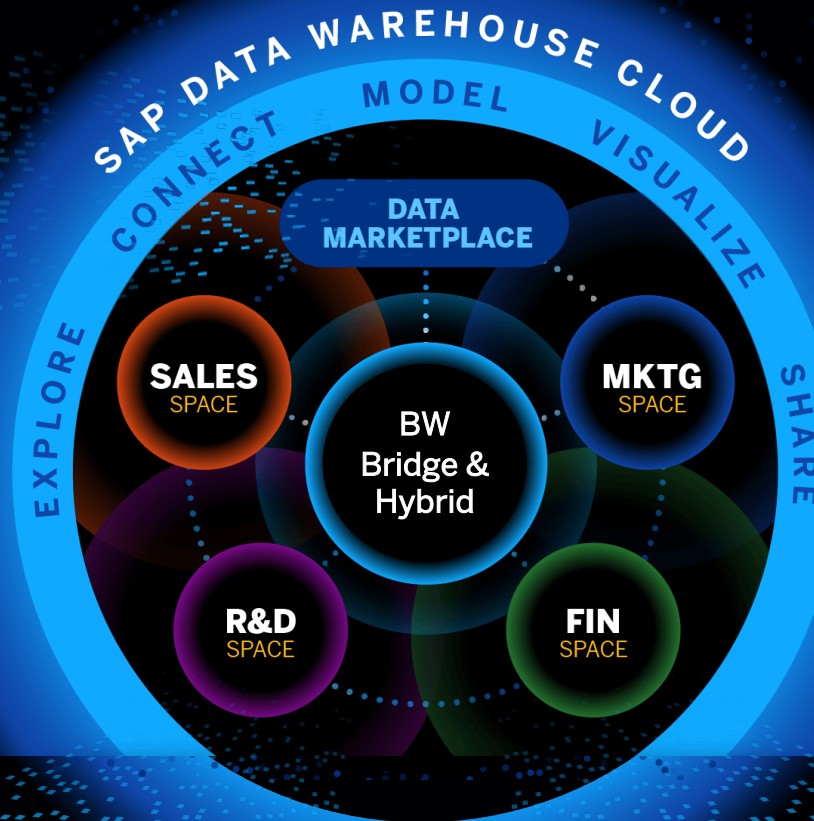
Business Partners
Public Data Providers

External data

Commercial Data Providers

100+ Data Providers
2000+ Data Products

150+ Data Products around Sustainability



Consume

Instantly explore, test, sample, and license relevant external and internal data products from a central catalog



Combine

Easily connect, model, visualize, and share external and internal data using self-service, intuitive tools in your SAP Data Warehouse Cloud space



Control

Empower business user to easily manage data access, monitor usage, and automatically enforce license compliance

A woman is shown in silhouette, standing in profile and looking out of a large window. The scene is bathed in the warm, golden light of a sunset or sunrise, with the sun visible as a bright orb on the horizon outside. The window reflects the interior, showing faint outlines of what might be a desk or other office furniture. The overall mood is contemplative and forward-looking.

**Integrate existing enterprise data
and investments**

SAP Data Warehousing Portfolio Overview



On-premises

SAP BW/4HANA



Private Cloud

SAP BW/4HANA Cloud,
private edition



Public Cloud

SAP Data Warehouse Cloud

Accelerating Outcomes without Complexity

Hybrid deployment option allowing for an easy extension of SAP BW and SAP BW/4HANA

Status Quo

SAP BW or SAP
BW/4HANA

Analytics Layer

Staging Layer incl. ABAP
Extensions

Any DB SAP HANA

Extractors

SAP Cloud/on-Premise &
Any Sources

To be Architecture

SAP BW or SAP
BW/4HANA

Analytics Layer

Staging Layer incl. ABAP
Extensions

Any DB SAP HANA

Extractors

SAP Cloud/on-Premise &
Any Sources

SAP Data Warehouse
Cloud

Data/Business Layer

Spaces

Extractors

APIs

SAP Cloud/on-Premise &
Any Sources

Federation and
Reuse of
Metadata

Hybrid.

Combining SAP BW or SAP BW/4HANA with SAP Data Warehouse Cloud

Accelerating Outcomes without Complexity

SAP BW Bridge supporting transition of SAP BW & SAP BW/4HANA to SAP Data Warehouse Cloud



Reuse for business continuity

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



Connect with confidence

Integrate on-premises SAP Business Suite data with familiar connectivity and semantic richness – retaining instant access while expanding your analytics depth

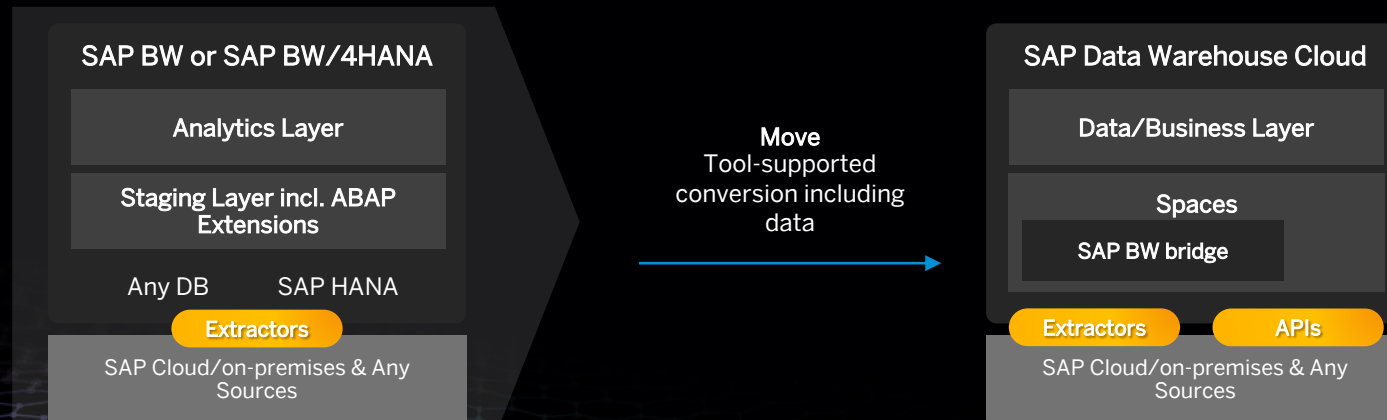


Innovate with cloud agility

Empower your business to rapidly innovate on SAP BW data with an open, unified data & analytics cloud service – scaling innovation and efficiency in the cloud

SAP BW bridge

Replace SAP BW or SAP BW/4HANA with SAP Data Warehouse Cloud

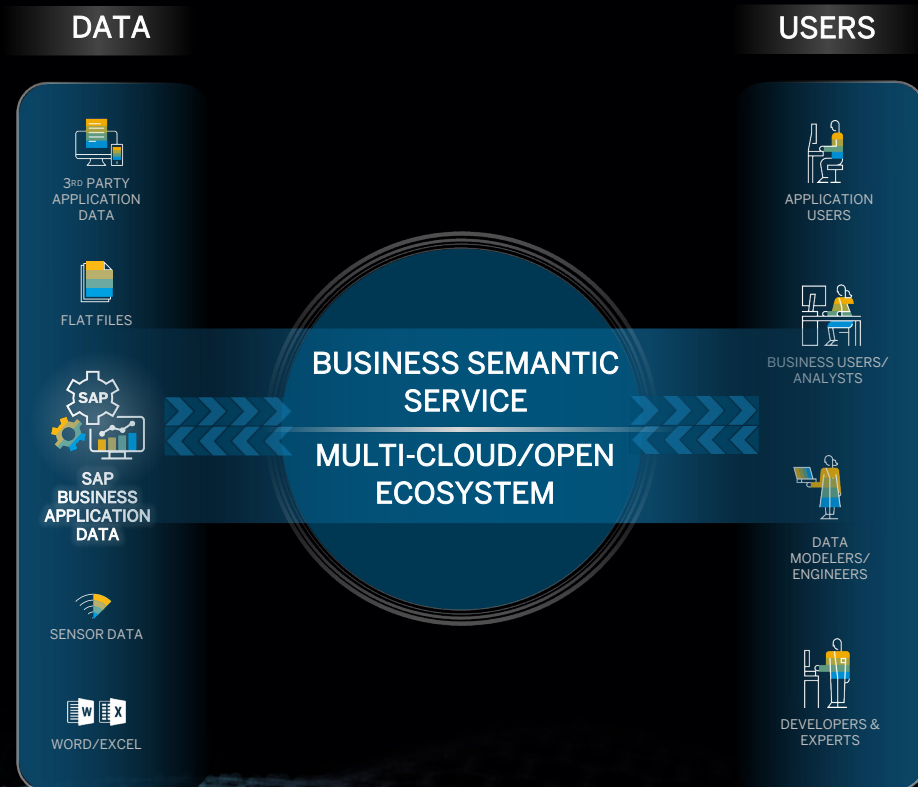


A woman with dark hair, wearing a grey blazer, is shown in profile, looking upwards towards a bright blue sky with scattered white clouds. The text is overlaid on the left side of the image.

**Enable a central semantical layer to
work with data in business terms**

Establish a Central Semantical Layer to Work with Data in Business Terms

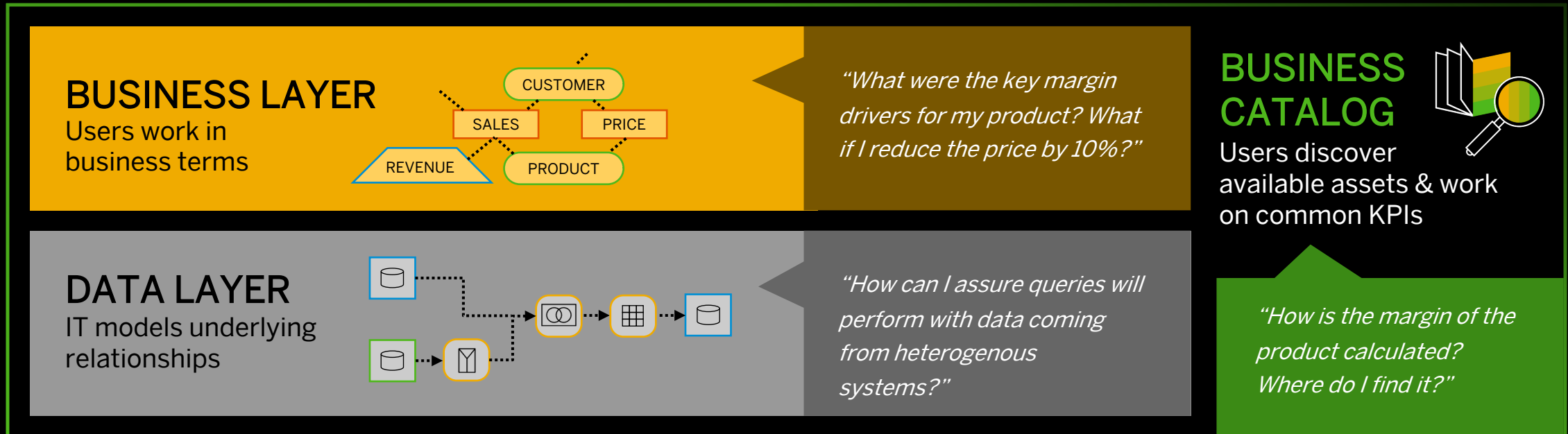
SAP data and analytics solutions



- Preserve the context of SAP data including business descriptions, metadata, and relationships
- Allow for easy integration of other applications and data sources in centrally governed zone of trust
- Accelerate self-service culture inside and beyond business functions

Data Modeling with SAP Data Warehouse Cloud

Collaborate on data and metadata in the appropriate terminology



- Business entities and relationships with business language
- Model standardization and re-use for efficiency
- Independence for business users from IT

Data Modeling with SAP Data Warehouse Cloud

Collaborate on data and metadata in the appropriate terminology

Business Analyst
(no-code/low-code)

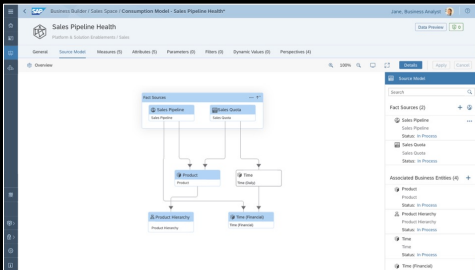


Developer
Power User

BUILT-IN EDITORS
modeling for all users

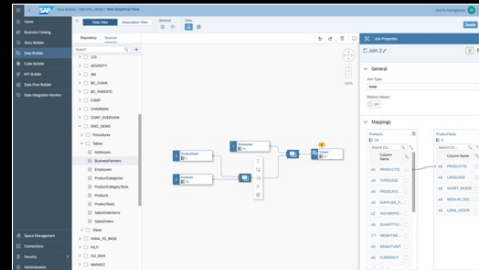
EXTERNAL EDITORS
integrated SQL Data Warehousing

Business Modeling



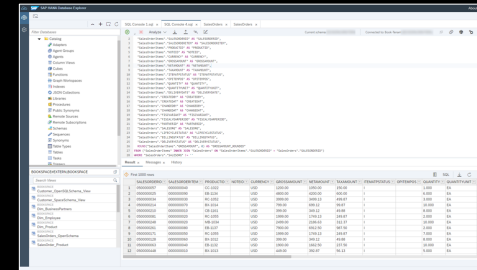
- Allow for a greater degree of self-service
- Non-disruptive environment for business scenarios – independent from the data integration layer

Graphical & Scripted



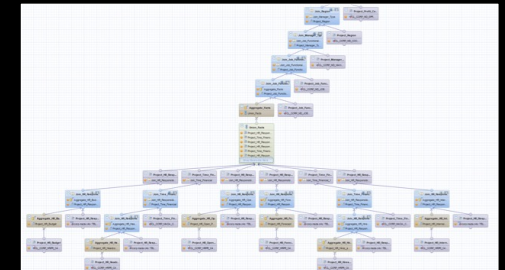
- Collection of no-code/low-code editors to support Graphical Modeling
- Model E/R-models, Tables, Views, SQL & SQL-Script Views
- Focuses on most commonly used modeling operators

Open SQL Schema




- Option to use SQL DDL & DML leveraging e.g. SQL Views, Tables, Procedures, etc.
- Leveraging existing SQL-tooling & skillset
- SAP Database Explorer

SAP HANA Deployment Infrastructure



- SAP HANA Cloud Modeling capabilities leveraging Calculation View, Flowgraph, Synonym, etc.
- Simply re-use HANA based Modeling within SAP Data Warehouse Cloud

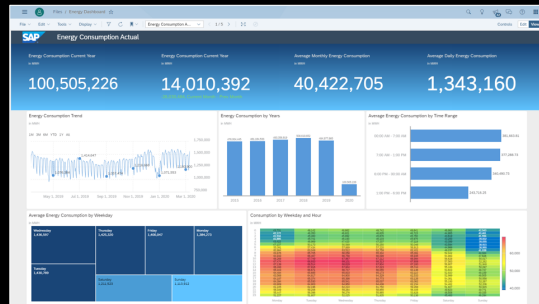
A woman is running in profile, facing right, against a bright sunset background. Her hair is in a ponytail and is blowing in the wind. She is wearing a dark tank top. The background shows a cityscape with buildings and a body of water, all bathed in the warm, golden light of the setting sun. The sky is a mix of orange and blue.

Drive time-to-value via Accessibility & Content

Drive time-to-value via Accessibility & Content

Make information accessible wherever required

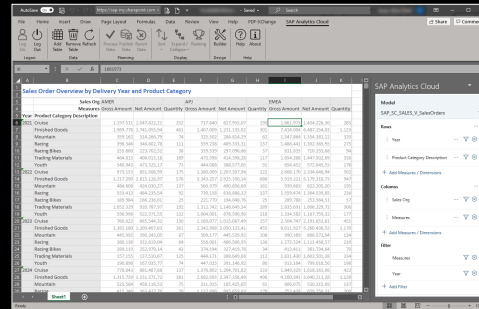
SAP Analytics Cloud



One seamless user experience

- Direct consumption of models in SAP Analytics Cloud (live connection)
- Any number of SAP Data Warehouse Cloud systems can be connected to any number of SAP Analytics Cloud systems

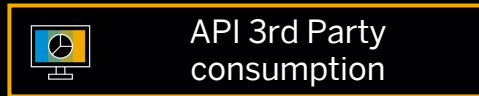
MS Office Integration



Live Connection to MS Excel

- SAP Analytics Cloud, add-in for Microsoft Office 365 (live connection) online or desktop version
- SAP Data Warehouse Cloud with SAP Analysis for Microsoft Office 2.8 SP14+

3rd Party API



3rd Party API for consumption

- Freedom of choice
- Use consumption interface to connect any 3rd party front end tool to your exposed views
- Make your data models accessible for consumption tools & applications

Drive time-to-value via Content & Data

Continuously growing library of business content packages by SAP and Partners

- Leverage pre-built out of the box content packages with data models, transformations, calculations and analyses for a variety of industry- and LoB-specific use cases
- Integrate with external data providers and third-party data sources with out-of-the-box connectors
- Accelerate time to insights by simplifying your implementation

SAP Business Content

Enterprise Analytics for Procurement SAP Ariba	Spend Analytics SAP Ariba	Responsive Supply Network, Sales and Inventory Automotive	Revenue Growth Management Consumer Products	Finance for SAP S/4HANA Cloud
Financial Analytics Dashboard for SAP Analytics Cloud SAP S/4HANA	POS Analytics Retail	Life Science Dashboard SAP SCM	Statistical Process Control SPC	Customer Value Management Telecommunication
Meter to Cash Utilities	SAP Monitoring Content (Data Integration Tasks) DWC	Sample Content Finance, HR, Sales	Sales Analytics for SAP S/4HANA on-prem	Intelligent Real Estate Real Estate
Sustainability Control Tower Cross	Solution Order Analysis SAP S/4HANA Cloud	Business Network Value Analytics Cross Supply Chain		

SAP Generator

Content Generation SAP S/4HANA Cloud

Partner Business Content

Marketing Analytics Adverity	Customer Service Insights Bitech	E-Commerce – Cross Marketplace Insights datazeit	Procurement Cockpit CubeServ	Sales Dashboard IBSolution
Optimizing Order Fulfillment with ML Inspired Intellect	Analytics for Effective Inventory Optimization ISR	SuccessFactors / Attendance Tracker KPC	Product Cost Simulation mib:NDC	Sales Insights (SAP BW & Salesforce) PWC
MOSAIC – Margin-Optimized Sales Intelligence Reply	OPERA – Opportunity Performance Analysis Reply	Lyra Integrated Capacity Planning (EAM & HCM) Rizing	Financial Reporting for SAP Business One s-peers	EWM Insights Westernacher
RapidViews FI-CO Rapid Views	RapidViews SD Rapid Views	RapidViews MM Rapid Views	RapidViews PP Rapid Views	RapidViews QM Rapid Views

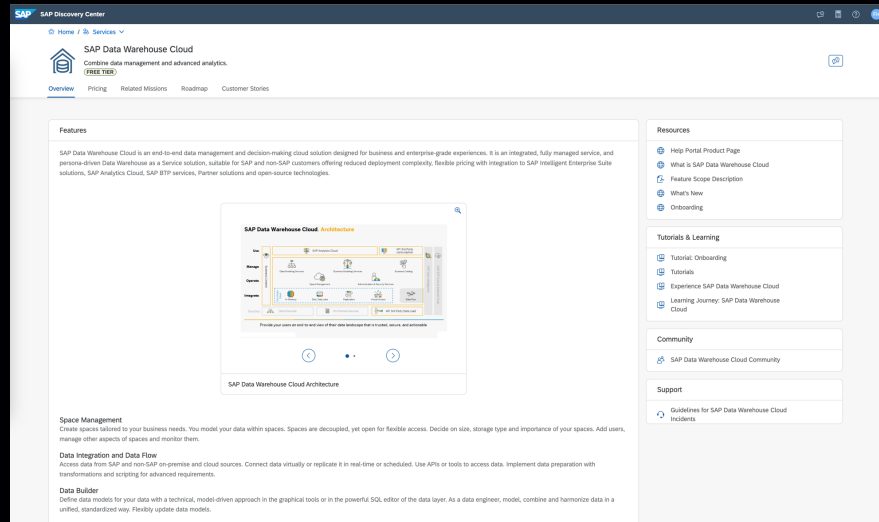
High Traction of SAP Data Warehouse Cloud Adoption

Three main categories of use cases in current customer reference cases

	Business Empowerment	 PORSCHE Empowers Sales with enterprise data with S/4, BW/4, DWC, and SAC	 QUADPACK Accelerates real-time finance analytics with S/4, DWC, and SAC	 Achieves agile decision making with S/4, DWC, SAC, and Digital Boardroom
	SAP Integration	 Simplifies data landscape with S/4, SuccessFactors, Concur, DWC, and SAC BI & Planning	 Builds a resilient Supply Chain with ECC, BW7.5, DWC, and SAC	 Optimizes Supply Chain with ECC, DWC, and SAC
	Time-to-value & Cost Efficiency	 Empowers finance with profitability insights via S/4, DWC, BOBJ, and SAC	 Accelerates analytics across lines of business with S/4 and DWC	 Accelerates decision making with harmonized with S/4, DWC, and SAC

How to book SAP Data Warehouse Cloud

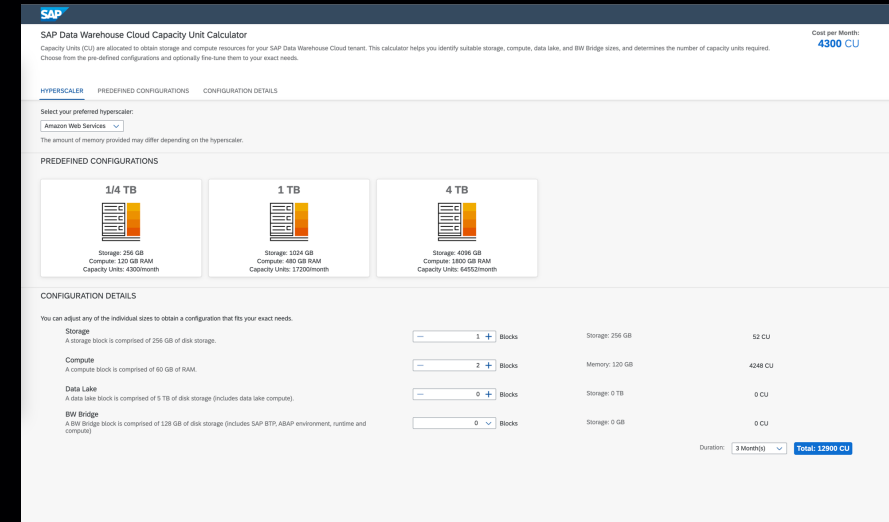
CPEA



- Instant Free Tier access with up to 90 days
- Available to customers with an existing Cloud Platform Enterprise Agreement

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Subscription



- Guided and Free Trial available
- Available to all customers with runtimes from 3 month onwards

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Thank you!

Fabian Hartje

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