



# Northwest Utilities Day 2020

**What's Your Plan for the Future?**

## Enterprise Data Management with SAP

Poonam Upadhyay, SAP

March 7<sup>th</sup>, 2020

PUBLIC

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# Agenda

## SAP HANA Enterprise

- Understand SAP HANA's capabilities as a platform, run-time vs full-use

## SAP Enterprise Data Warehouse Strategy

- Statement of Direction, Recommended Architecture

## On-Premise: SQL Data Warehouse, BW/4HANA

- What to use when, capabilities

## Cloud: SAP Data Warehouse Cloud

- Product features and capabilities, key differentiators

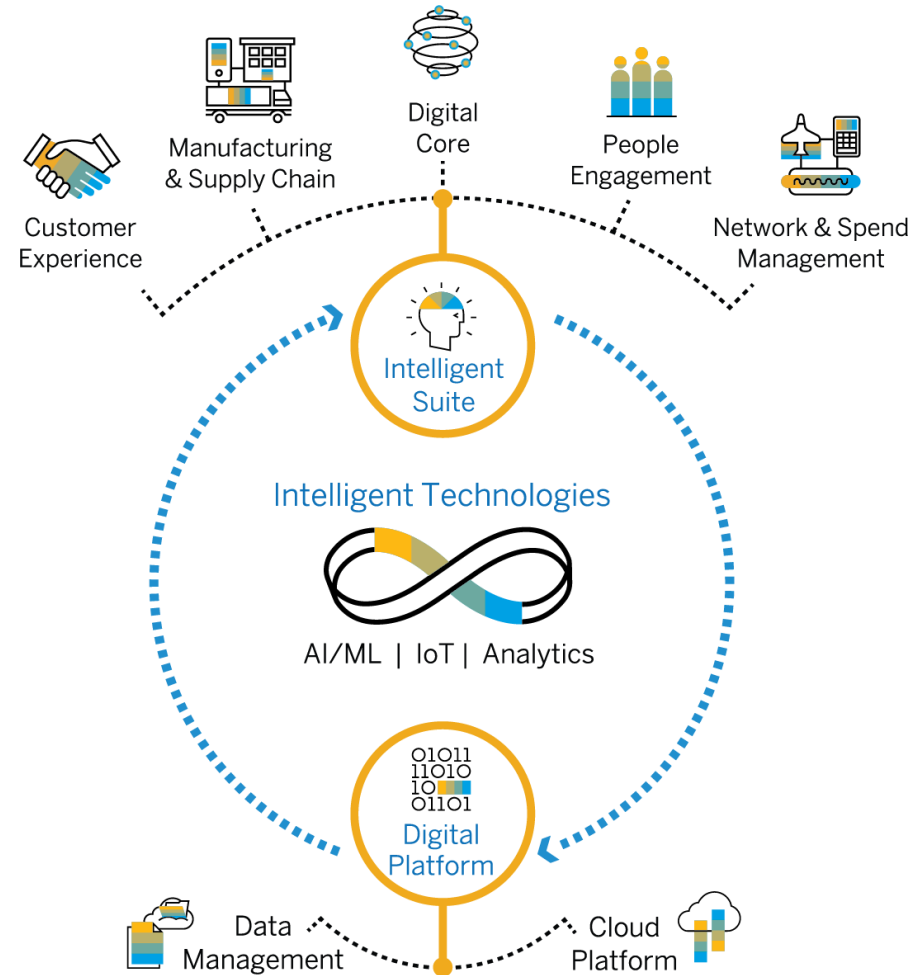
## Reporting: SAP Analytics Cloud

- Value proposition, key differentiators

## Demo

- SAP Analytics Cloud: Utilities Dashboard
- Data Warehouse Cloud: Product walk-through

# The Intelligent Enterprise Framework



THE INTELLIGENT ENTERPRISE  
features **3 KEY COMPONENTS**:

1 Intelligent Suite

2 Intelligent Technologies

3 Digital Platform

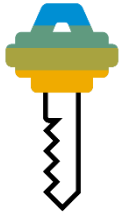


# SAP HANA Enterprise Edition



# Value drivers

For running SAP applications on the enterprise edition of SAP HANA

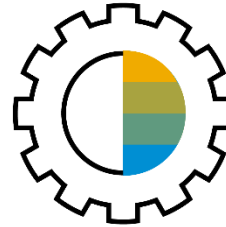


## Data access and integration

Full access to data combined with robust data integration and transformation capabilities

Direct SQL access

Data integration and quality



## Advanced analytical processing

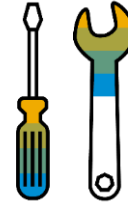
Unrestricted native use of the advanced capabilities of SAP HANA to innovate ahead of the curve

Predictive analytics and machine learning

Graph modeling

Spatial analysis

Text and search



## Development toolkits

Incremental capabilities provided to enable data-centric process innovation

SAP HANA extended application services, advanced model

Operational process intelligence

Enterprise architecture designer

# Restricted access to platform features

Limited technology for digitalization and innovation

Select SAP HANA software license type:

**SAP HANA, runtime edition**

SAP HANA, enterprise edition

## SAP HANA, runtime edition

- The advanced capabilities of the SAP HANA business data platform are only available by and through the licensed SAP application with the only exception being the use of the graphic modeler to build views to be used only for reporting purposes.
- Direct data platform connection is limited to SAP or certified 3<sup>rd</sup>-party business intelligence tools only.
- All data extraction must occur via the application layer.

**SAP HANA, runtime edition, can only be used by applications from SAP.**

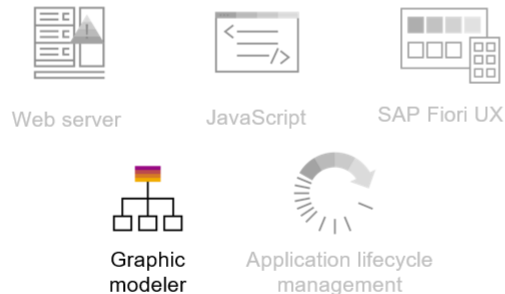
## SAP applications

[including SolEx products]



## SAP HANA platform

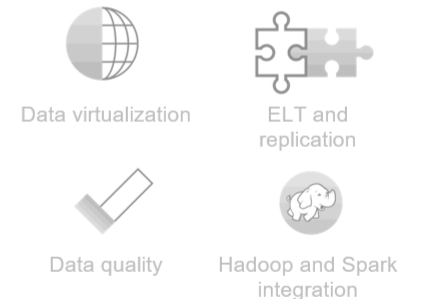
### Application development



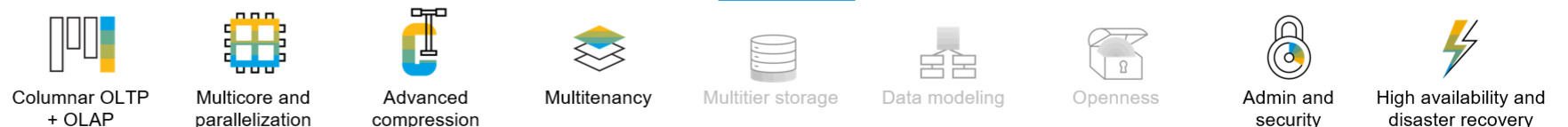
### Advanced analytical processing



### Data integration and quality

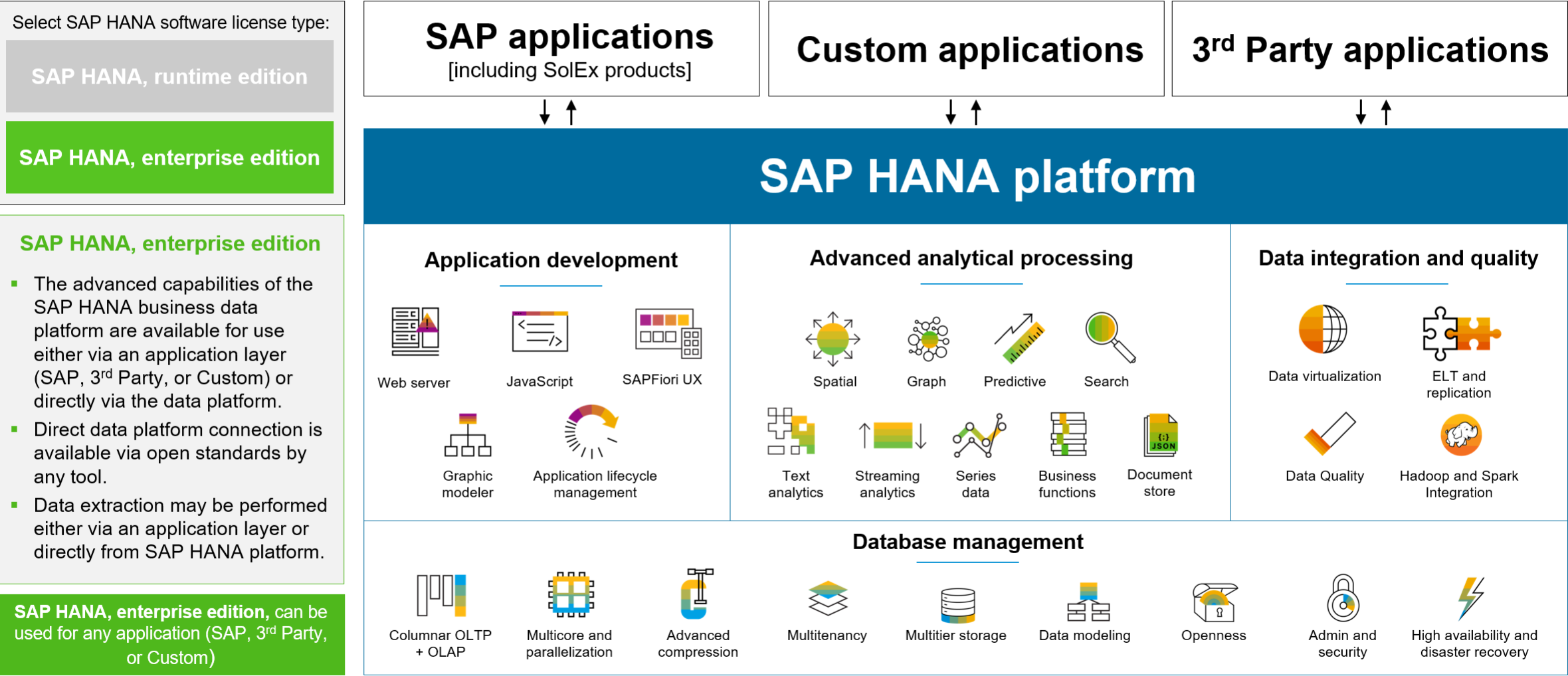


### Database management

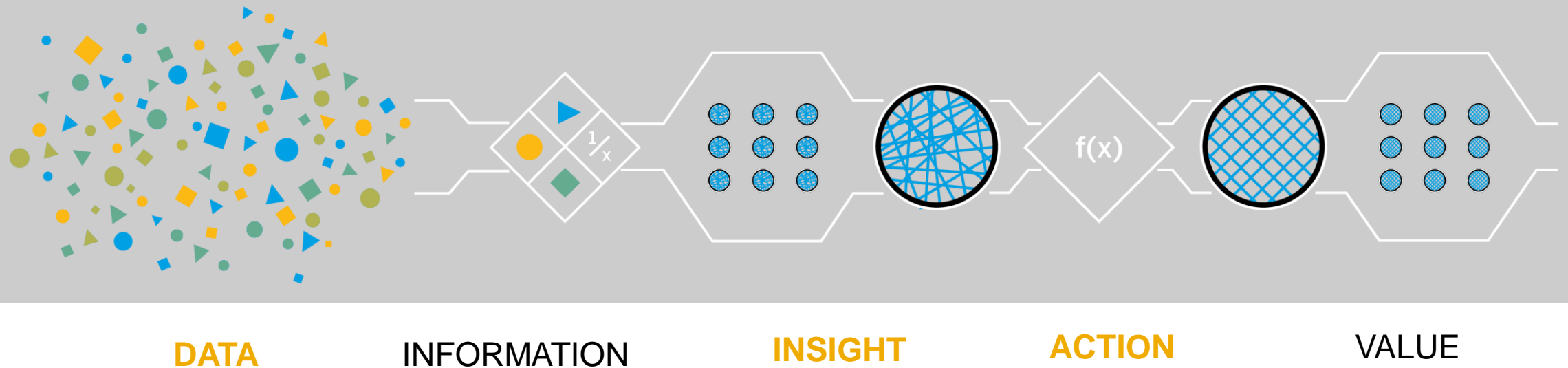


# Unlimited access to all platform features

Versatile technology for digitalization and innovation



# Digital Transformation is a disruption



Organizations that provide people with the **insight** they need to make **better decisions**, and enable them to act, will disrupt and deliver growth and innovation

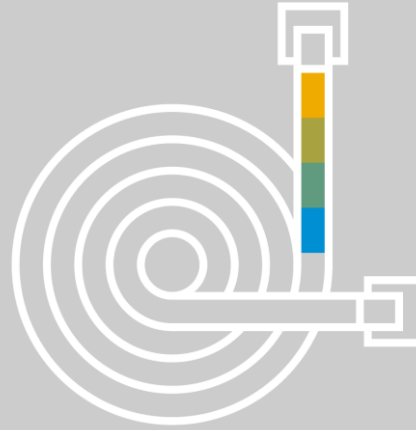


**“Disruptors are insight driven”**

# How to become an **Insight-Driven organization**



Simplify the  
provisioning of timely  
business insights



Capitalize on  
the full value of  
all your data

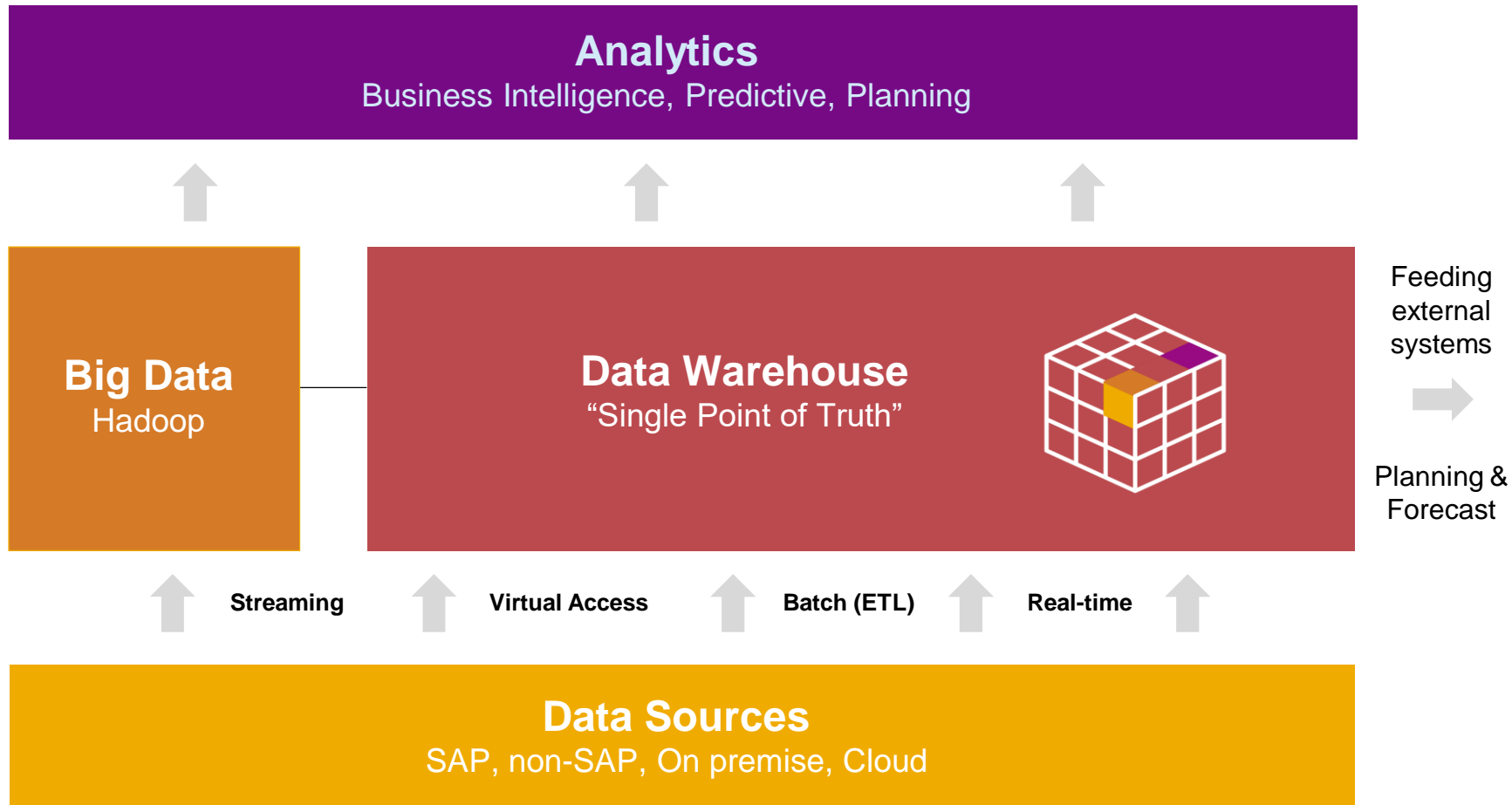


Innovate with one  
trusted source  
for all insights

# Enterprise Data Warehousing **with SAP**

# What is an Enterprise Data Warehouse?

## Functions of the Enterprise Data Warehouse (EDW)



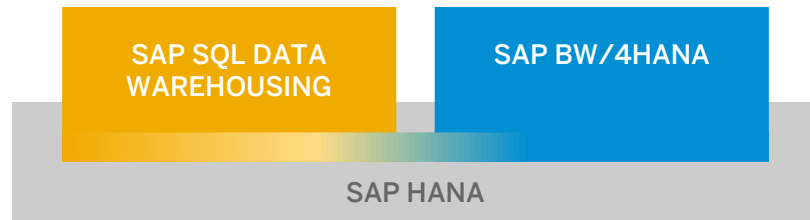
### Characteristics

- Consolidates data across the enterprise
- Standardized data model
- Supports decision making

### Main Tasks

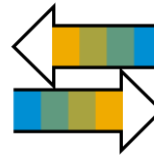
- Define common semantics
- Harmonize data values
- Establish a 'single version of truth'
- Provide a single, comprehensive source of current and historical information
- Keep copy of source data to ensure independency of source and support the unknown

# Enterprise Data Warehousing **with SAP**



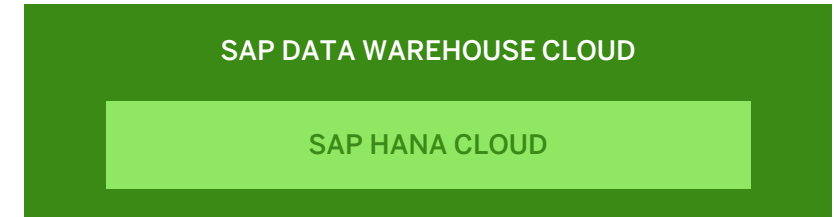
## ON-PREMISES

**SAP BW/4HANA** and **SAP SQL Data Warehousing** are the strategic solutions for data warehousing on-premises.



## HYBRID

SAP Data Warehouse Cloud extends your existing data warehousing investment to support **hybrid cloud**.



## CLOUD

**SAP Data Warehouse Cloud** is the strategic public cloud product offered as a software service managed by SAP.



# **Enterprise Data Warehousing On-Premise**

# SAP Data Warehousing Approaches **On-Premise**

## SAP BW/4HANA

### Application driven approach

For Customers who want:

- A guided & pre-packaged end-to-end approach with built-in best practices
- History of operating SAP BW (ABAP)
- Business Content for SAP data

And have..

- ABAP in-house experience
- A homogenous system and application landscape
- Mainly SAP landscape and/or BW solution on AnyDB

## SAP SQL Data Warehousing

### Custom SQL driven approach

For Customers who want:

- Leverage native HANA capabilities
- Higher degree of freedom to build custom data models
- To replace third-party DW solutions
- Innovative Application Development Tools
- Industry data models

And have..

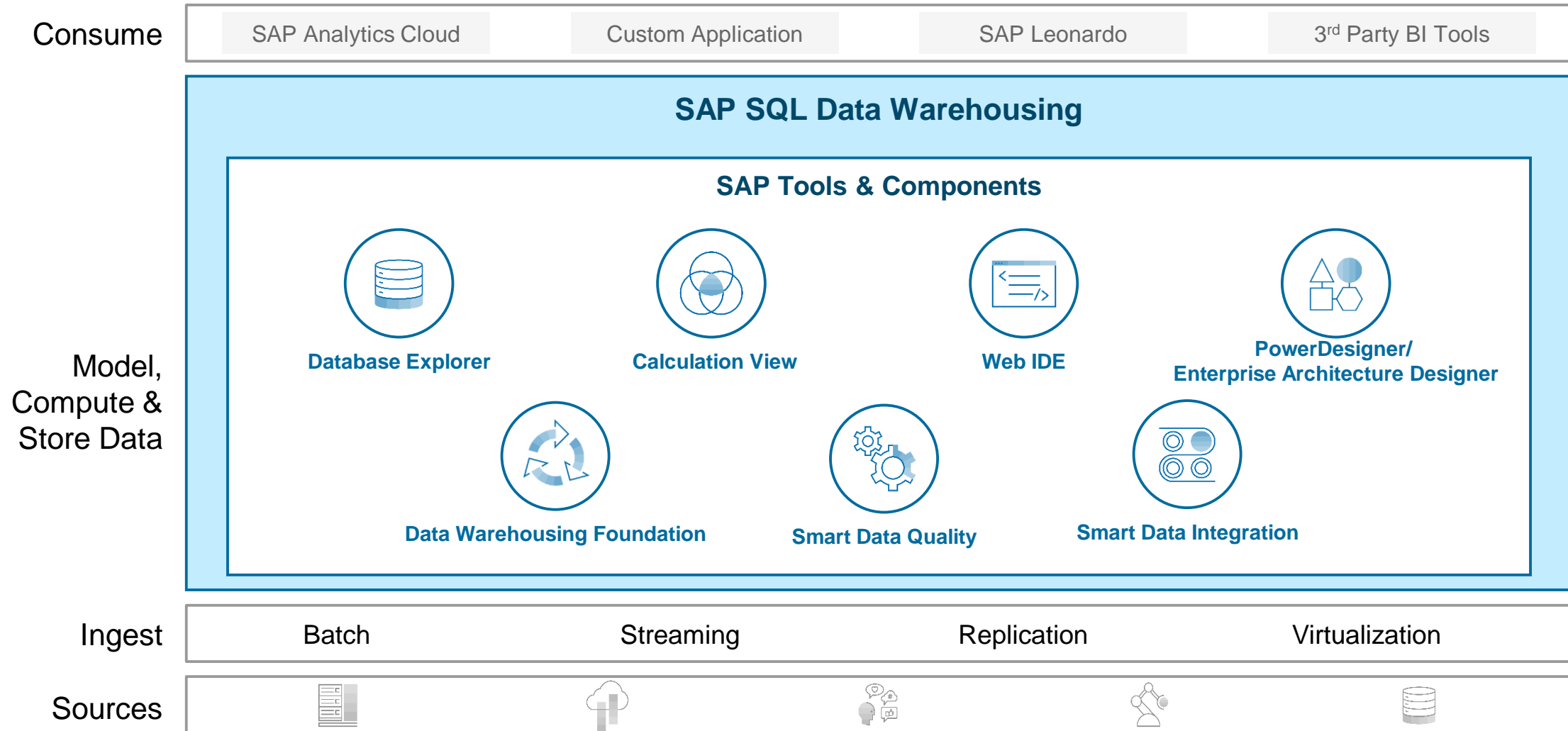
- Existing in-house SQL knowledge
- A SAP landscape and an heterogeneous system and application environment
- Mainly non-SAP source system landscape

# **SAP SQL Data Warehousing with SAP HANA 2.0**



# SAP SQL Data Warehousing

## Tools & Components



# SAP BW/4HANA 2.0





# Modern Challenges for Enterprise Data Warehouses



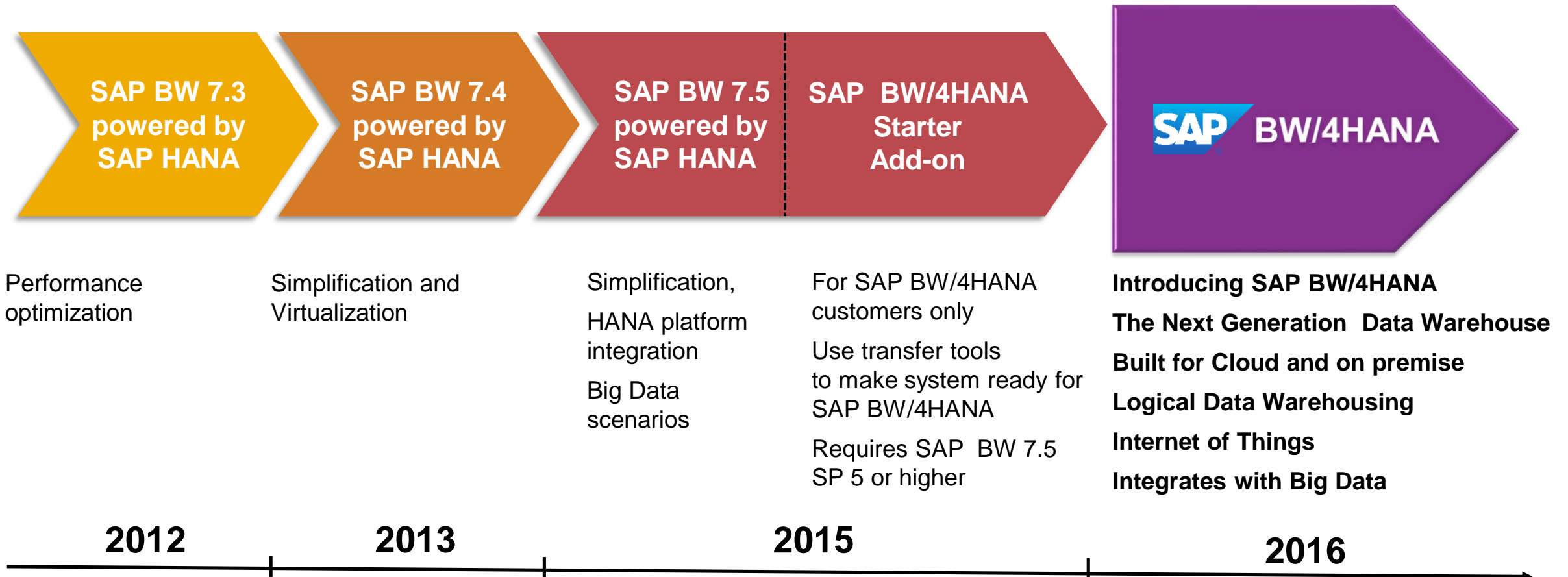
## Data

- **Different Locations** – cloud, data lakes
- **Additional Types** – behavioral data, IoT (Structured and Unstructured)
- **Higher Volumes** – > 40% growth YoY

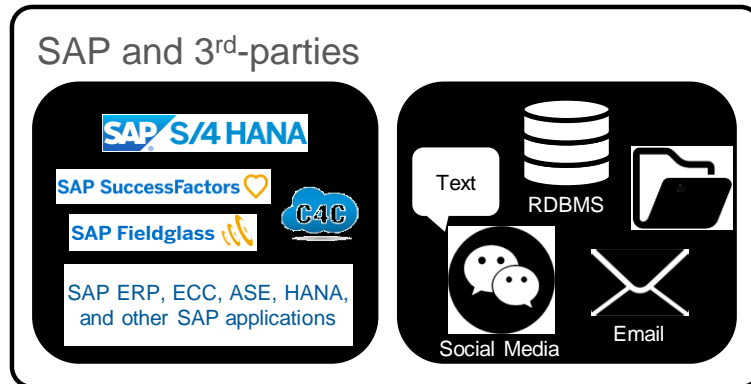
## People

- **Better Performance** – real-time results
- **Greater Scope** – predictive, agile analytics
- **Added Value** – new & unused data (> 85%)

# SAP BW/4HANA – The Next Generation Data Warehouse

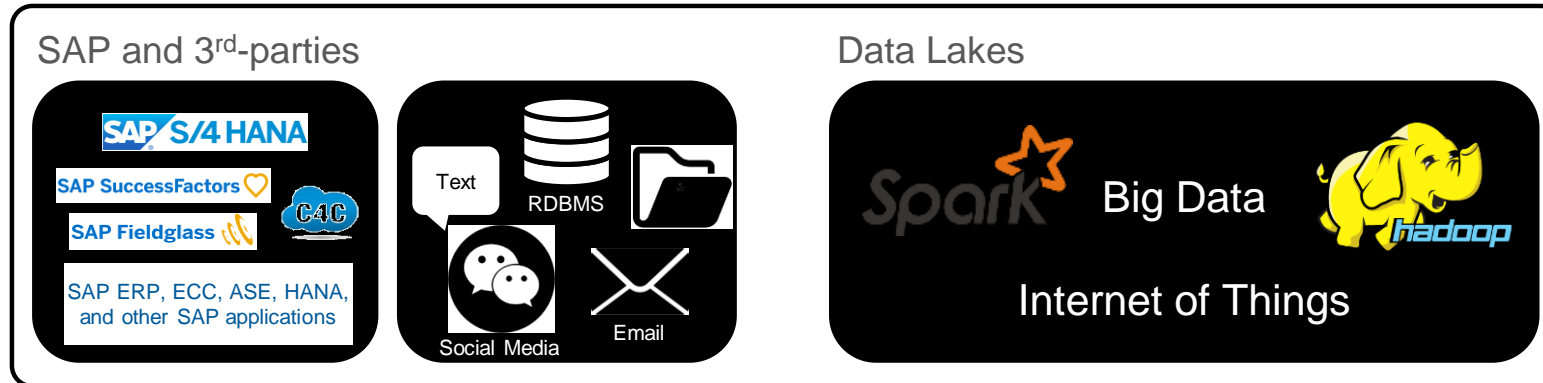
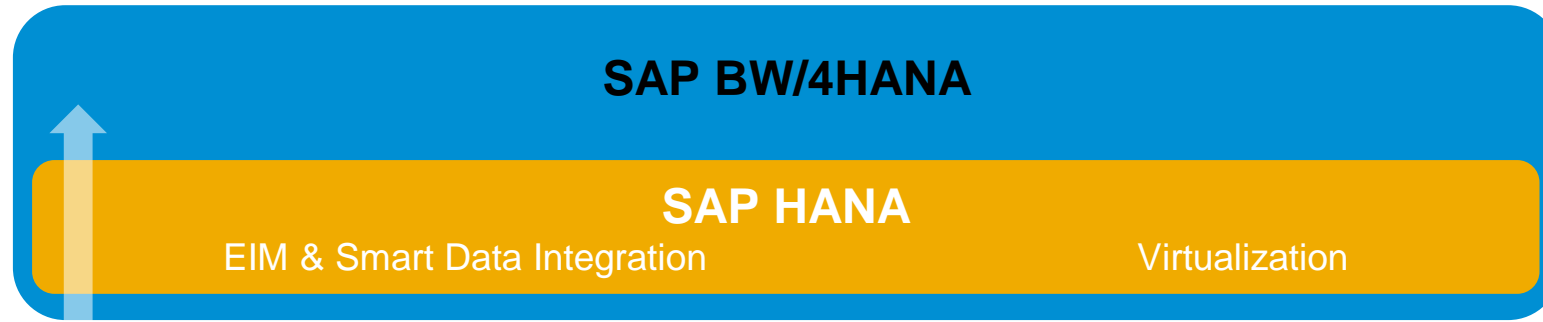


# Capitalize on **the full value of all your data**



Enable 360° insights across  
SAP and 3<sup>rd</sup>-party  
line of business applications

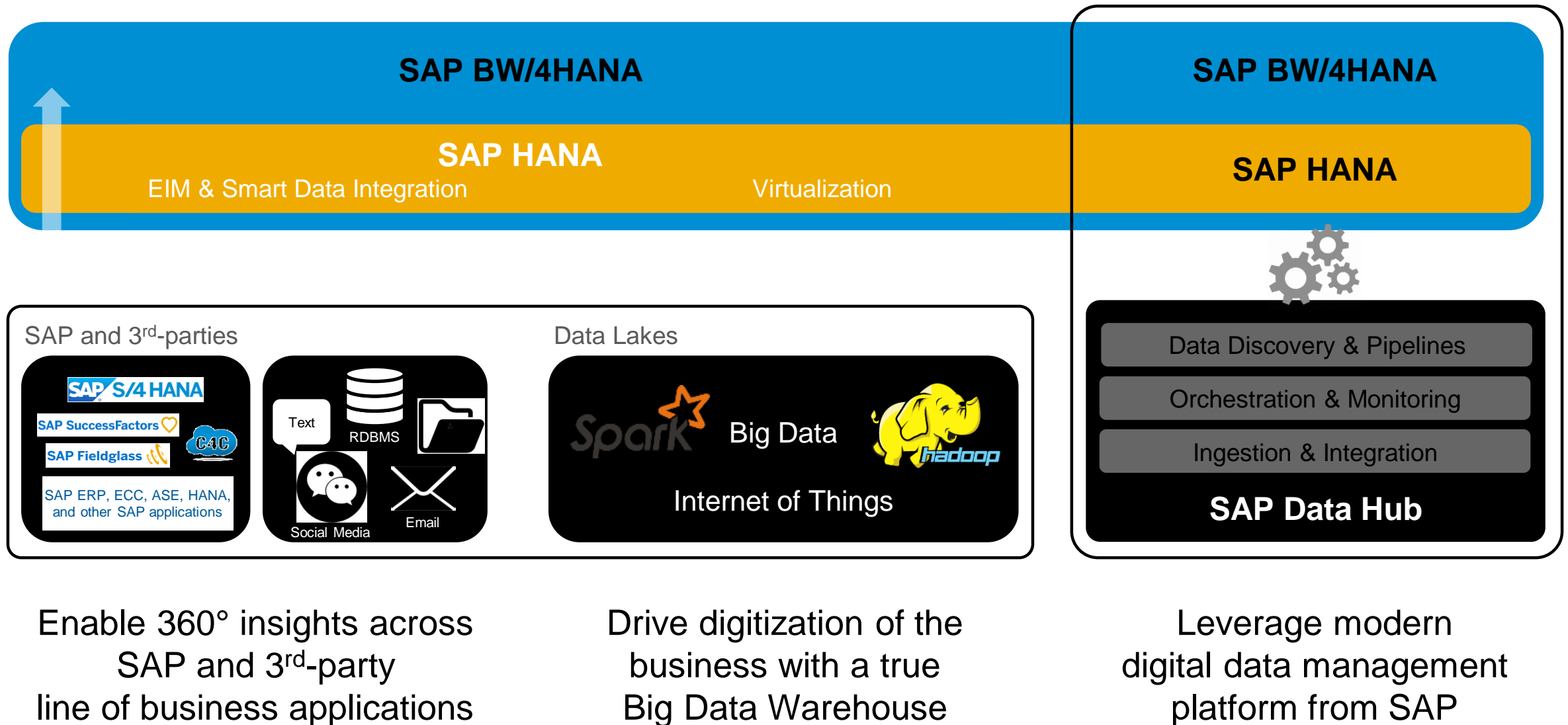
# Capitalize on **the full value of all your data**



Enable 360° insights across  
SAP and 3<sup>rd</sup>-party  
line of business applications

Drive digitization of the  
business with a true  
Big Data Warehouse

# Capitalize on **the full value of all your data**





# How SAP BW/4HANA will **impact your business**

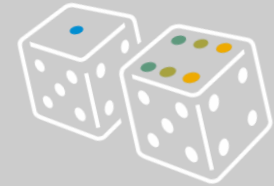
## Lower costs

- Consolidate data silos into one central data source
- Simplify and automate analytics processes



## Reduce risks

- Build a trusted corporate memory
- Enable steering excellence with one single version of the truth
- Enforce compliance to corporate governance and regulatory requirements



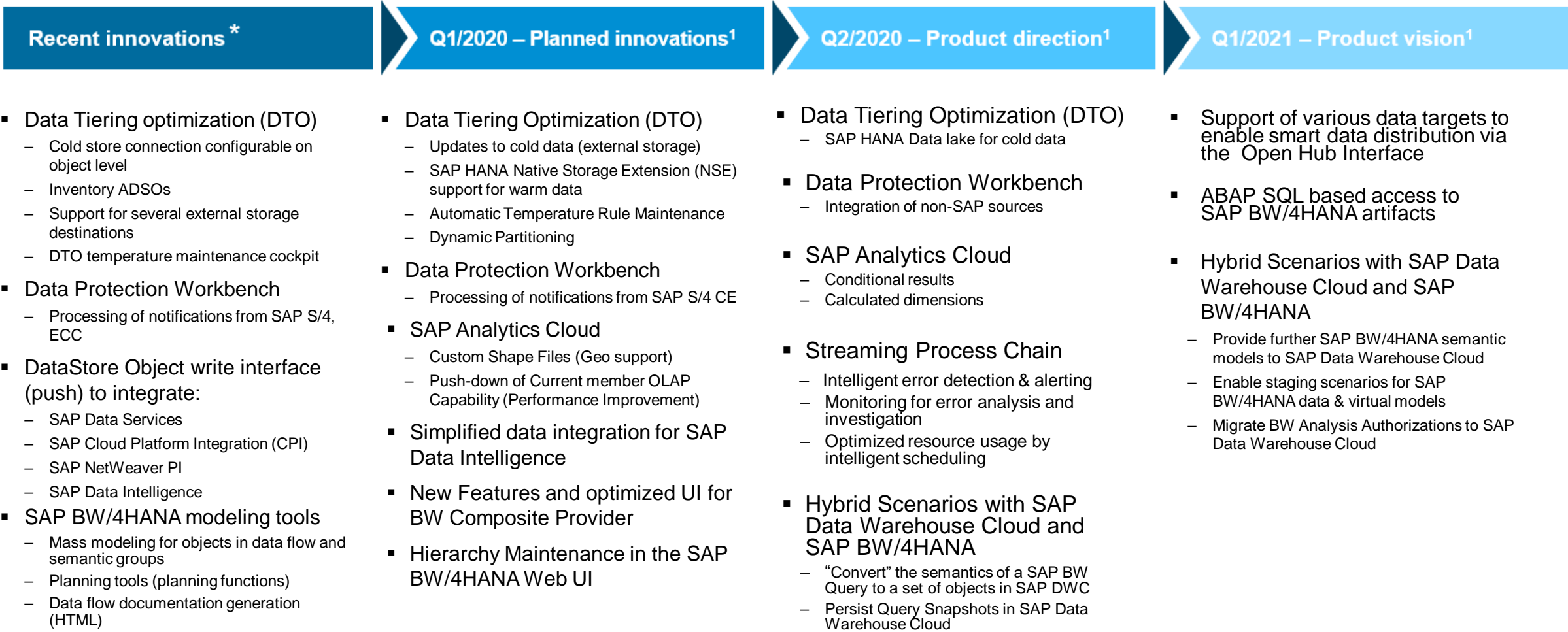
## Drive growth

- Empower LOB users with real-time and predictive analytics at scale
- Enrich information with more business insights from Big Data sources
- Support mergers, acquisitions and joint-ventures with an integration platform
- Drive digitization of the business with an innovation platform



# SAP BW/4HANA

## Product road map overview – Key innovations



\* Release 2.0, Feb. 2019

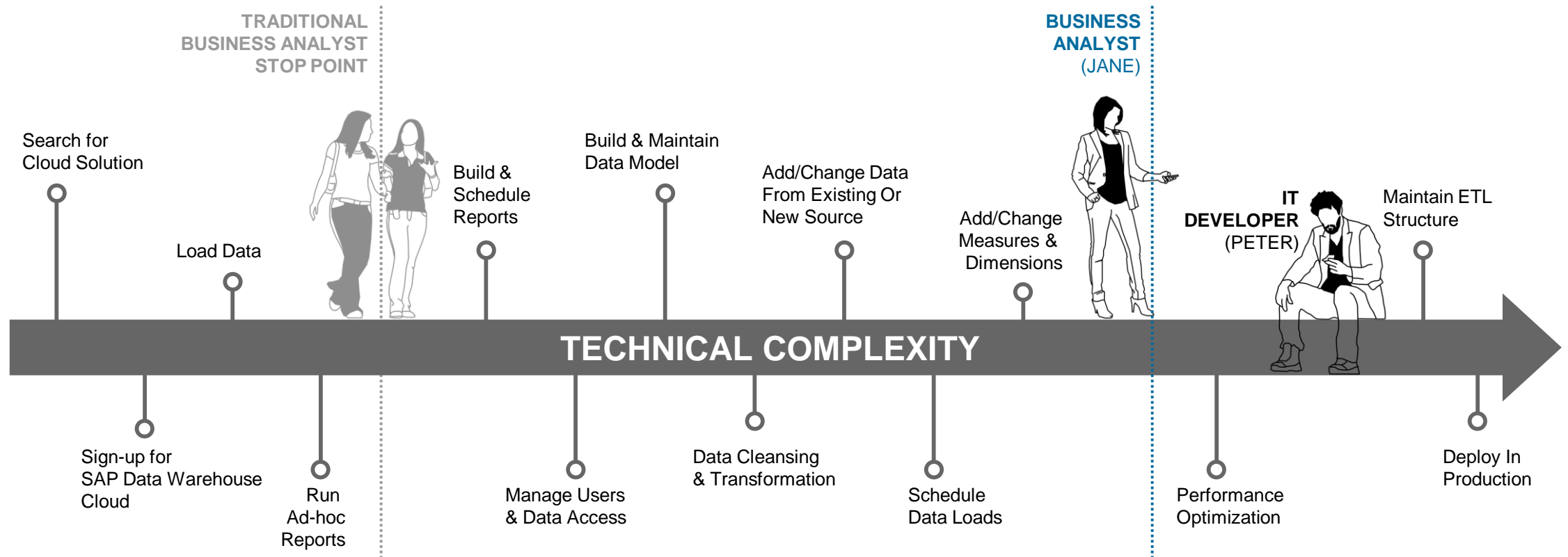
# Enterprise Data Warehousing **Cloud**

# SAP Data Warehouse Cloud

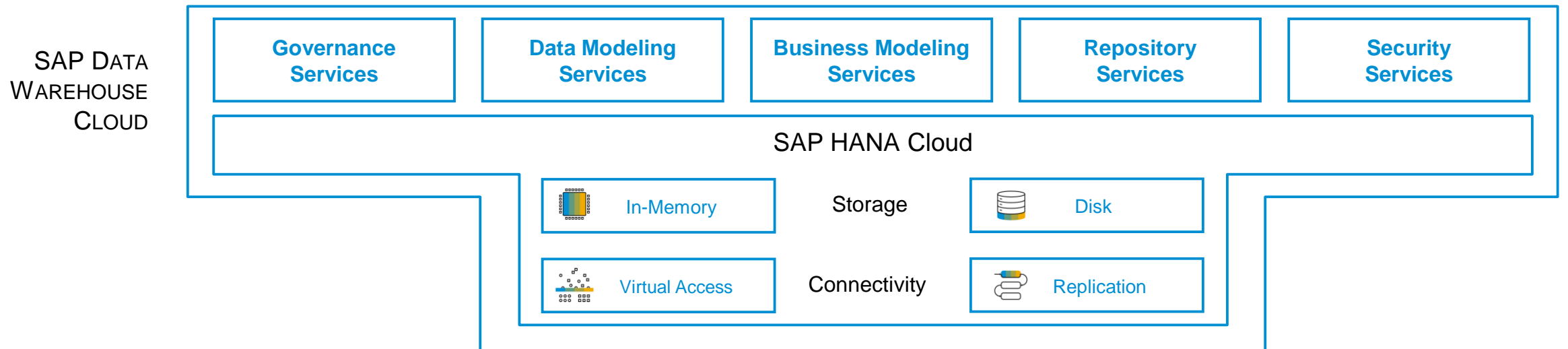


# SAP Data Warehouse Cloud

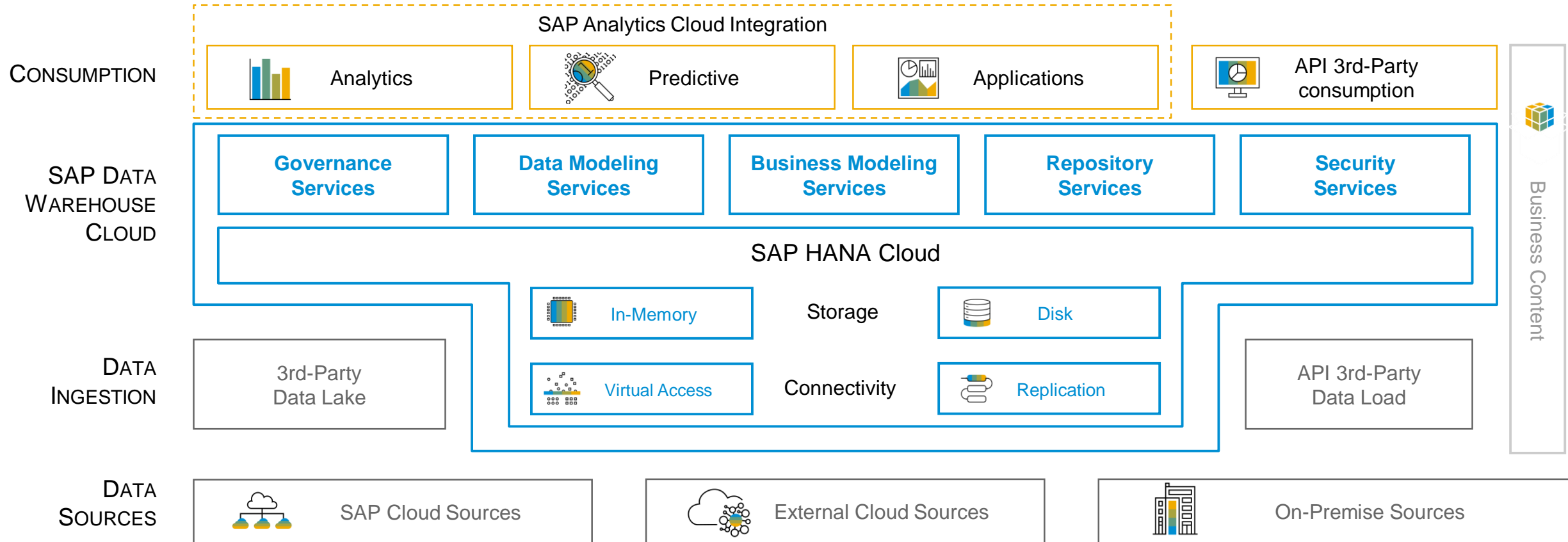
**VISION: Simplify Experience for Data Management Tools**



# SAP Data Warehouse Cloud



# SAP Data Warehouse Cloud



A comprehensive approach to data warehousing for instant data-to-value



# SAP Data Warehouse Cloud

## Key Capabilities



### OPEN

Graphical modeling and SQL scripting  
Open API to SAP and 3<sup>rd</sup> party  
analytics & ETL/ELT tools



### CONTENT

Extensible templates for Line-of-  
Business and Industry Content  
pre-built by SAP & partners



### SIMPLE

Easy to access, easy to use,  
easy to share, managed for you



### FLEXIBLE

Flexible integration into existing cloud  
& on-prem system landscape enabling  
virtual and persistent access to any data



### SECURE

Role based security, governance,  
encryption, auditing, and compliance



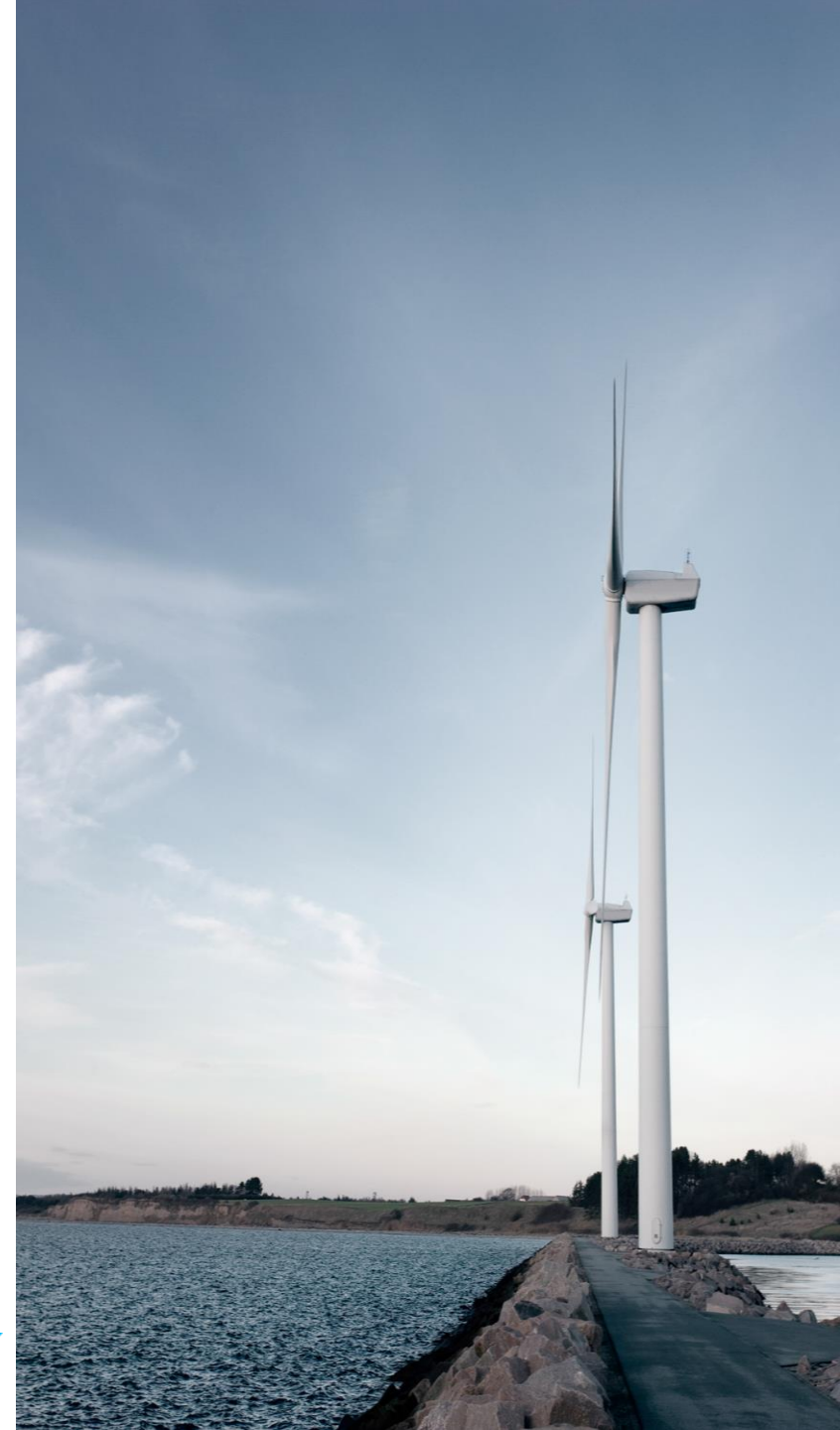
### ELASTIC

Scale spaces up & down based on  
demand and pay for what you use

# Content Pre-built Business Templates

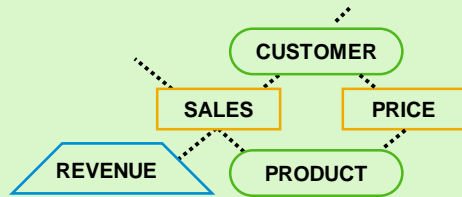
## Templates include:

- Pre-designed schemas
- Pre-populated data from SAP and other applications
- Pre-defined connectors to data sources for live-access and data replication
- Visualization components (reports, dashboards, etc.)
- Instantly consumable in SAP Analytics Cloud
- Customizable to business needs
- Adaptable to your existing data landscape



# Simple Both Business & Data Layers

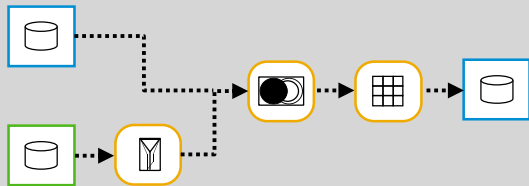
## BUSINESS LAYER



**Users Work in Business Terms**

*“What were the key margin drivers for my product? What if I reduce the price by 10%?”*

## DATA LAYER

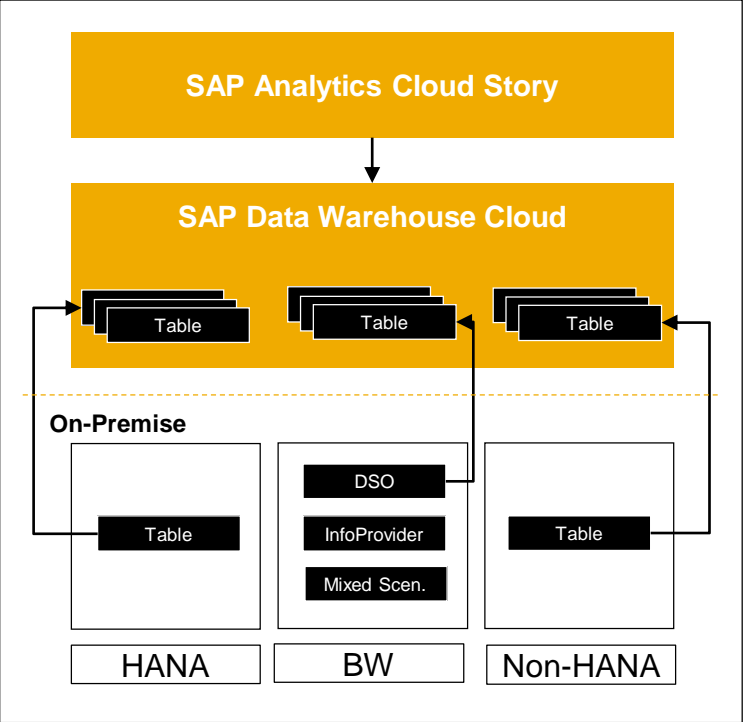


**HANA handles the data model**

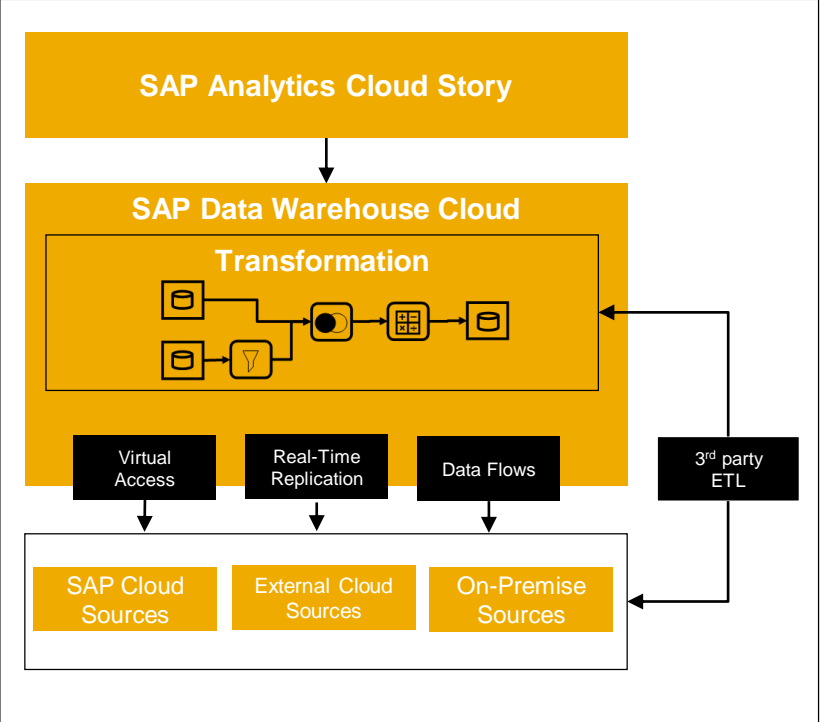
*“How can I assure queries will perform with data coming from heterogenous systems?”*

Allow business experts to **understand data and accelerate end-to-end decision making**

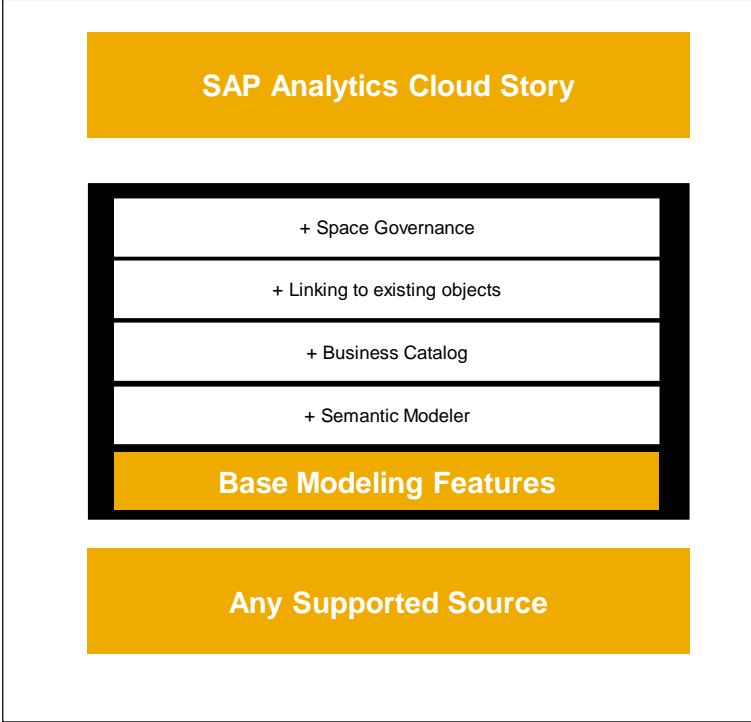
# Flexible Integration Scenarios



Hybrid



Cross Application Analytics



Semantic Modeling

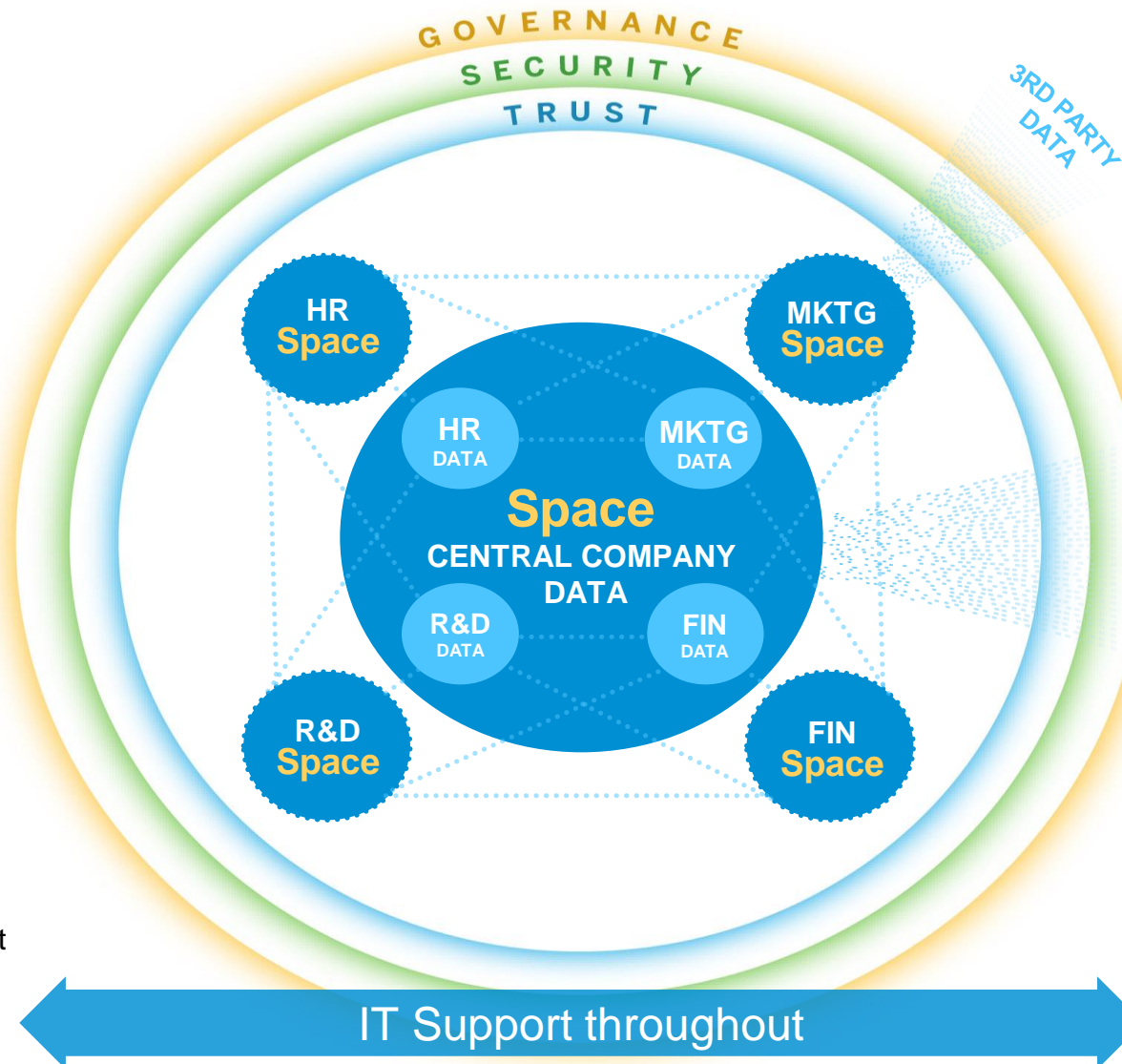
# Elastic Spaces

## Spaces are virtual

- Constantly Up-to-date
- Managed Subset
- Linked
- Secure

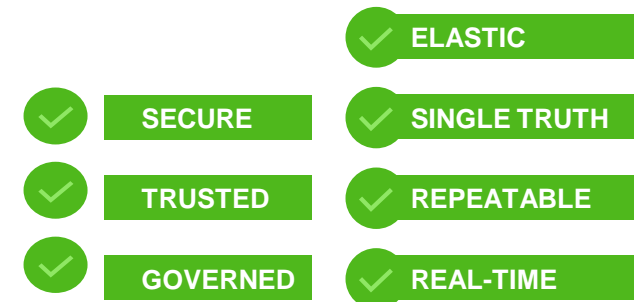


Users interact and share data inside virtual spaces within zone of security, governance, and trust



## Spaces empower users

- Sandbox environment
- Connect to data in central Space with new or 3<sup>rd</sup> party data
- Analyze, plan, predict
- Create Stories



# SAP Enterprise Data Warehousing

## Key take aways

- SAP provides a comprehensive offering for data warehousing on premises as well as in the cloud
- These approaches are tightly integrated and can be combined flexibly
- Extend your on-premises system into the cloud with hybrid scenarios and implement new cloud-native use cases



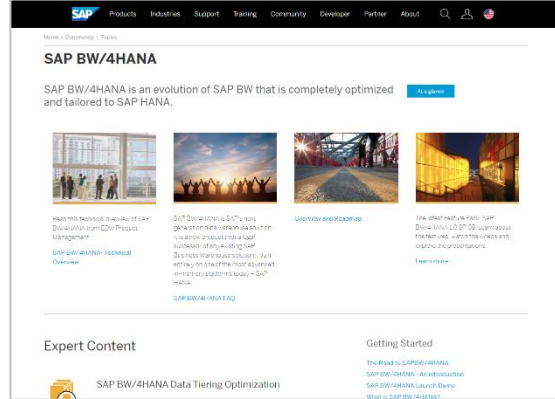


# More Information about **SAP BW/4HANA**



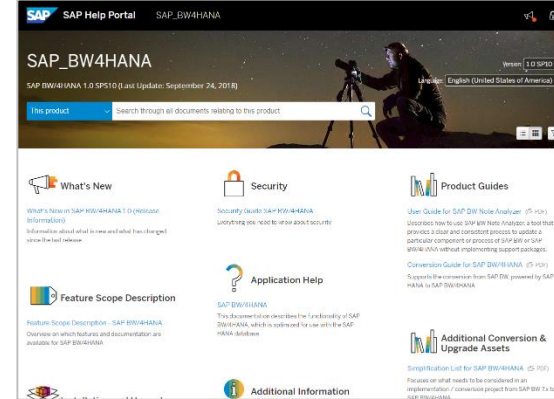
## Home Page

<https://sap.com/bw4hana>



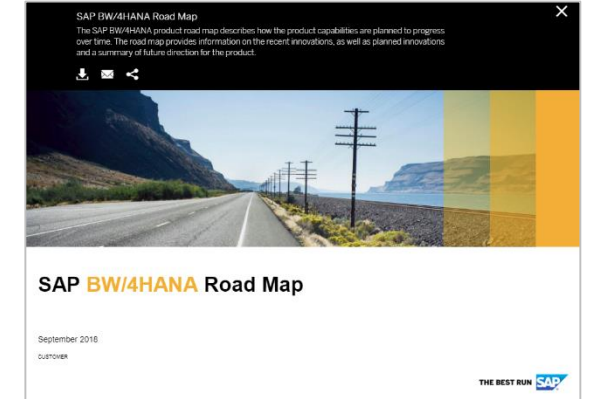
## Community/Product Page

<https://sap.com/bw4hana10>



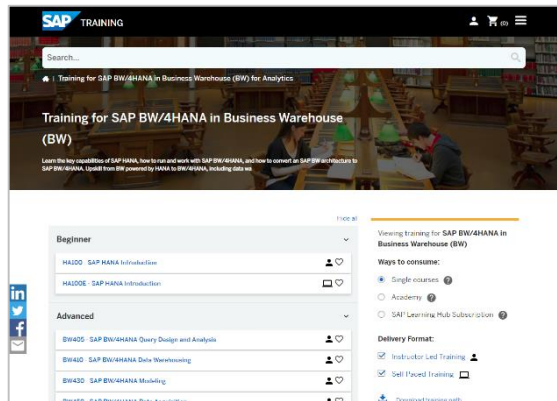
## Documentation

<https://help.sap.com/bw4hana20>



## Product Roadmap

<https://sap.com/roadmaps>



## Training & Certification

<https://training.sap.com/>

### Get Started

[Free Learning @ openSAP](#), [Free Trial](#)

### Get Help

[FAQ](#), [Q&A](#), [Community Wiki](#), [Support](#), [Services](#), [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](#)

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### Watch

[Demos & Tutorials](#),  
[YouTube Channel](#),  
[SAP HANA Academy](#)

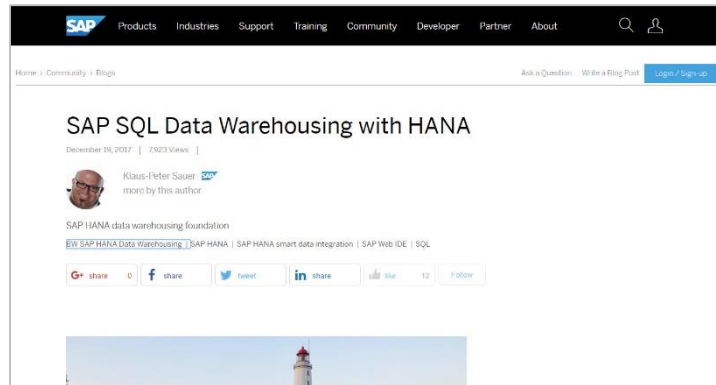


### Share & Follow

[#BW4HANA](#),  
[#TheFutureofDW](#)



# More Information about SAP SQL Data Warehousing



## Landing Page

<https://blogs.sap.com/2017/12/19/sap-sql-data-warehousing-with-hana/>



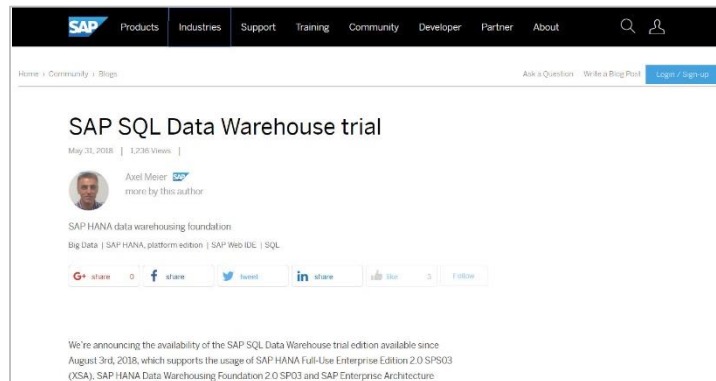
## Community Page

<https://www.sap.com/community/topics/sql-data-warehousing.html>



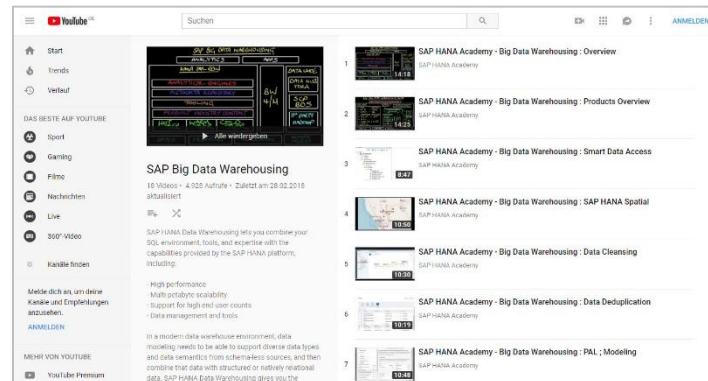
## Documentation

[https://help.sap.com/viewer/p/SAP\\_HANA\\_DATA\\_WAREHOUSING\\_FOUNDATION](https://help.sap.com/viewer/p/SAP_HANA_DATA_WAREHOUSING_FOUNDATION)



## Trial Version

<https://blogs.sap.com/2018/05/31/sap-sql-data-warehouse-trial/>



## SAP HANA Academy

<https://www.youtube.com/playlist?list=PLkzo92owKnVyWRIk3dLVj1ol3MrA7UzMR>



## SAP Training HDW410

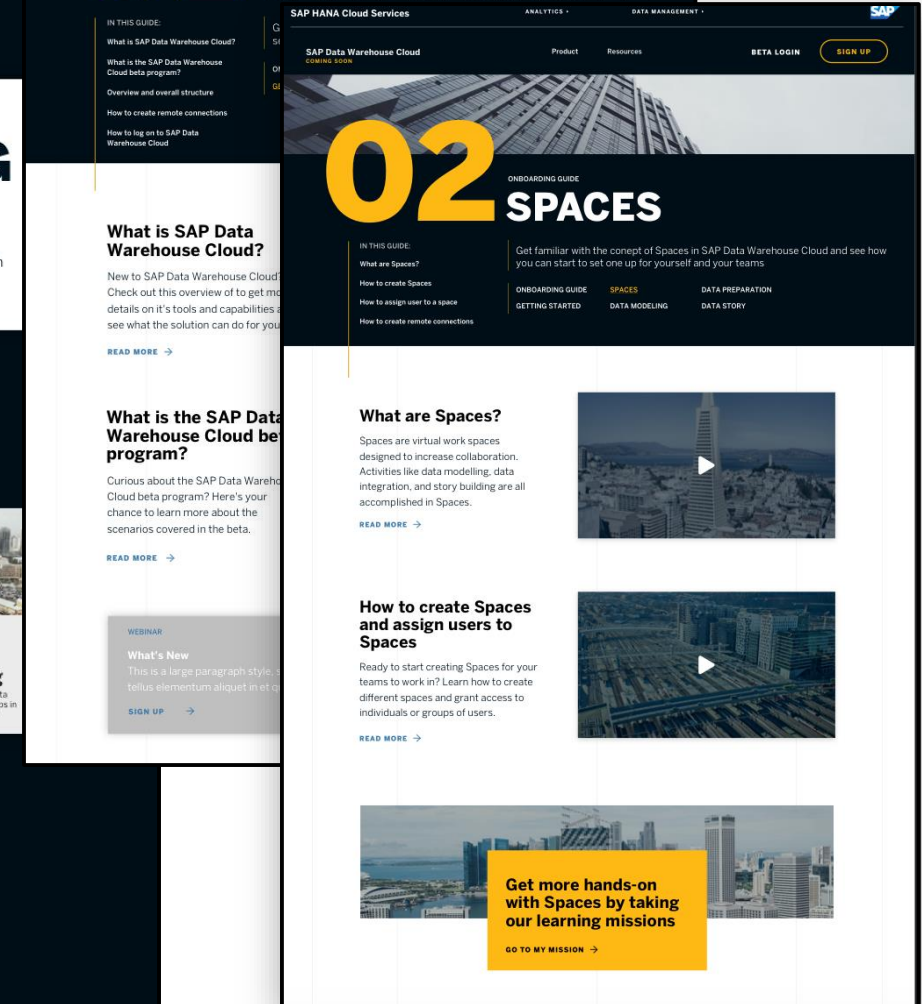
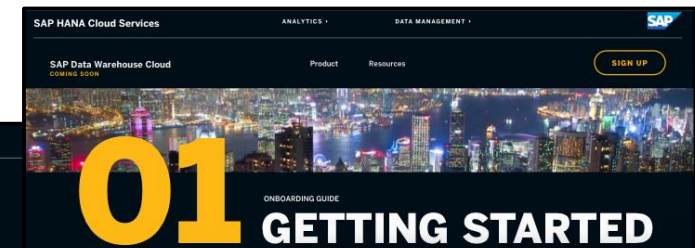
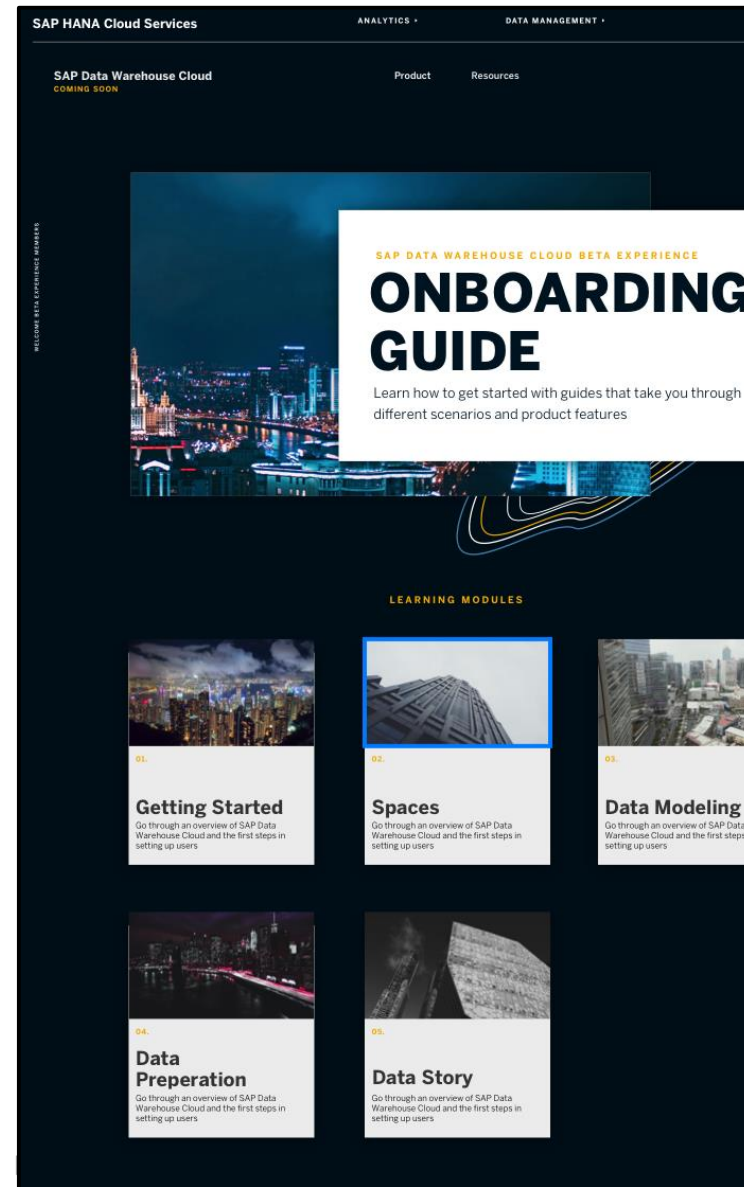
<https://training.sap.com/course/hdw410-sap-sql-data-warehousing-classroom-016-at-de/>

# More Information about SAP Data Warehouse Cloud



Find out more at  
[www.sapdatawarehouse.cloud](https://www.sapdatawarehouse.cloud)

- Onboarding Guide
- Learning Academy
- Blogs
- Community
- [SAP Help Documentation](#)
- [Calculator](#)
- Sample Content on [GitHub](#)
- Provide [your feedback](#):



# SAP Analytics Cloud



# SAP Analytics Cloud **Vision**

“SAP Analytics Cloud is the strategic analytics platform for all **SAP business applications** moving forward.”



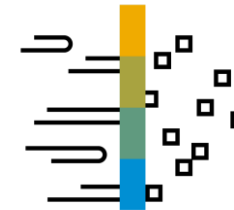
All Analytics, One Cloud-Based Platform



Powering the Intelligent Enterprise Suite



Hybrid Analytics

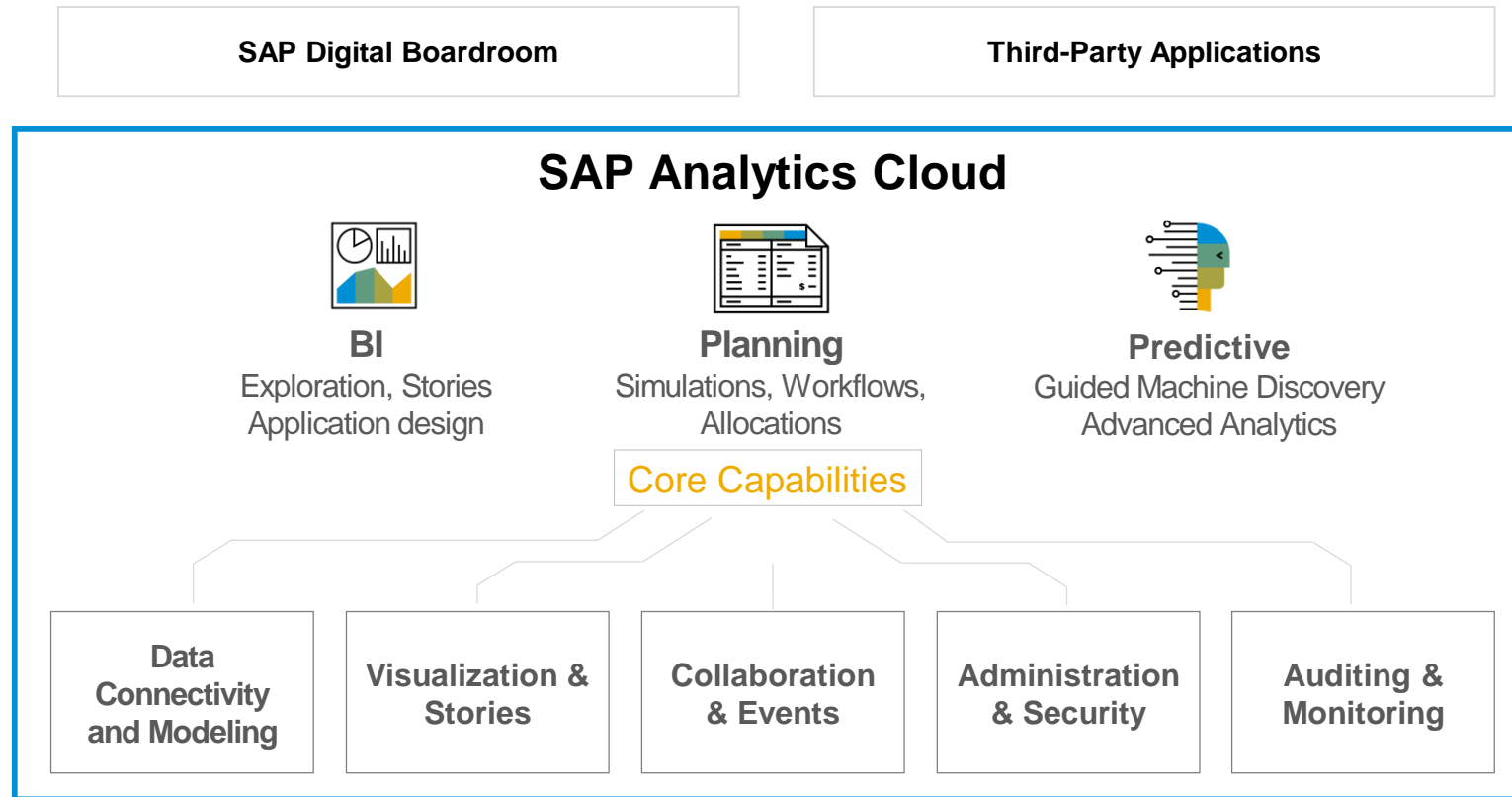


Augmented Analytics



Consumer Grade and Common Experience

# Analyze, Plan, Predict, and Report all in One Place



Cloud Data Sources  
and Applications



On-Premise Data Sources  
and Applications



# Create, Change, Distribute your Dashboards and Stories



## BI

Exploration, Stories  
Application design



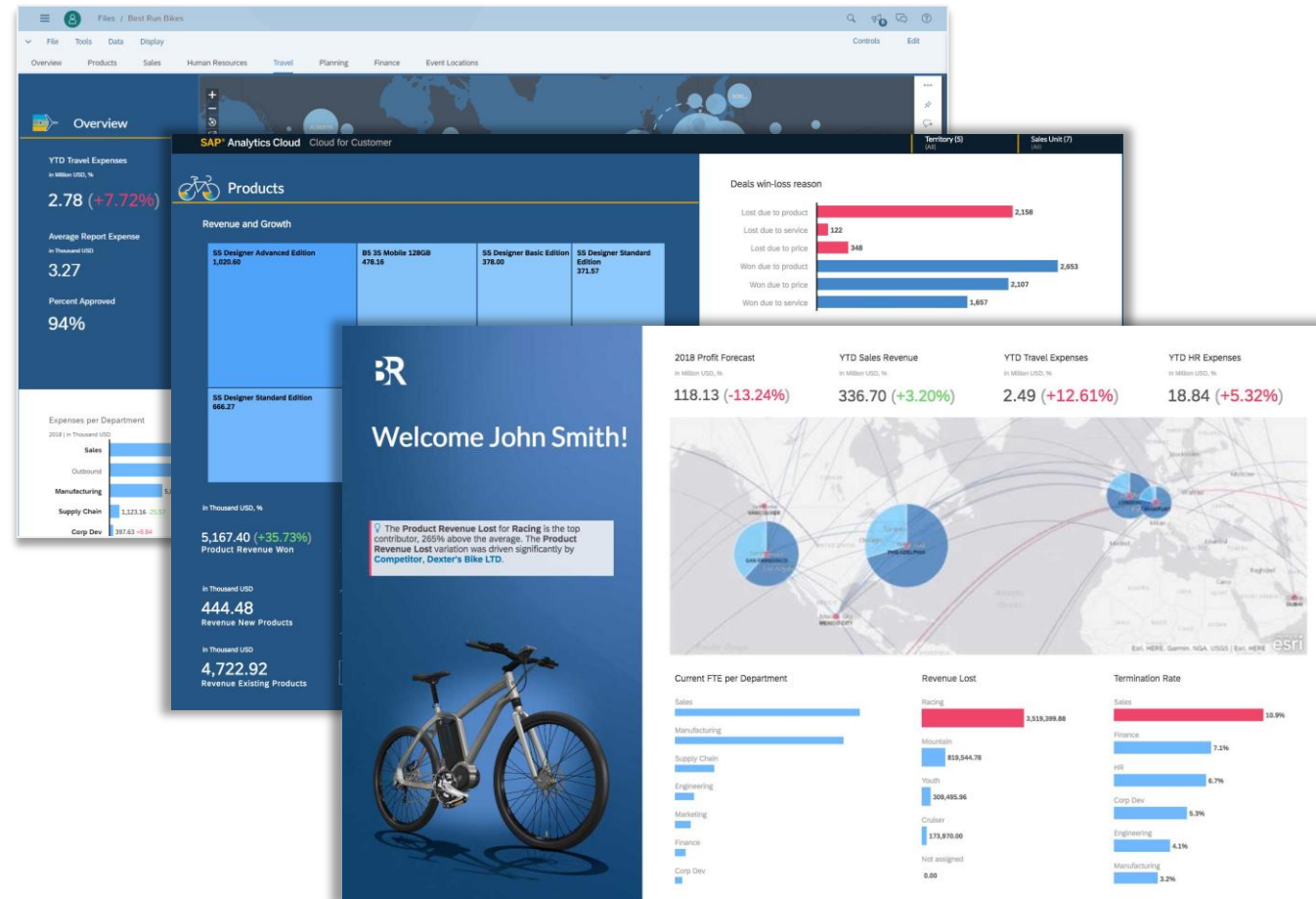
## Planning

Simulations, Workflows,  
Allocations



## Predictive

Guided Machine Discovery  
Advanced Analytics



# Business content out-of-the box



## BI

Exploration, Stories  
Application design



## Planning

Simulations, Workflows,  
Allocations



## Predictive

Guided Machine Discovery  
Advanced Analytics

### Line of Business

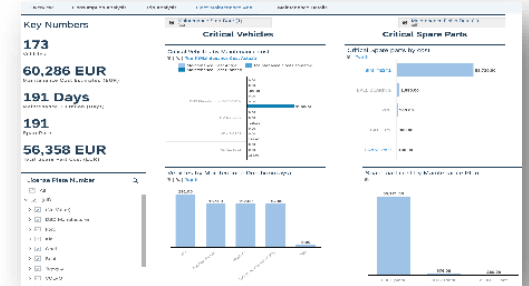
- Advanced Compliance Reporting
- Business ByDesign (Finance and Procurement)
- Cost Center Expense Budgeting and Activity Planning for SAP S/4HANA
- Environment, Health and Safety
- Finance
  - Finance Account Receivable – Invoice Payment Forecasting.
  - Finance Contract Accounts (FI-CA)
  - Finance – Live based on Semantic Tags
  - Financial Consolidation S/4HC (BPE)
  - Financial Planning & Analysis S/4HC (BPE)
  - FI Operational Expense Planning
  - Goods and Services Tax GST Analytics
  - Human Resources (SuccessFactors)
  - Human Resources (SuccessFactors) – Simplified Chinese Localization
  - Human Resources Salary Planning
  - Liquidity Planning S/4HC (BPE)
- Marketing
- Manufacturing S/4HC (BPE)
- Procurement
- Procurement S/4HC (BPE)
- Product Cost Planning
- Project and Portfolio Management
- Project Budgeting & Planning S/4HC (BPE)
- Project Staff Planning
- Real Estate
- SAP Qualtrics
- Sales and Distribution
- Sales and Distribution for S/4HC (BPE)
- Sales Performance and Target Planning (CRM)
- Service Cloud Analytics (CRM)
- Solution Manager: Test Suite Analysis /
- IT Service Management Analytics
- Trade Management
- Travel & Expense (Concur)
- Vendor Management System (Fieldglass)
- Workforce Planning for S/4HC (BPE)

### Industry

- Banking
- Big Data Margin Assurance (Telco)
- Chemicals
- Consumer Products
- Engineering, Construction & Operations
- Health Care
- Industry Innovation Kit – Leonardo Fleet Insight
- Industry Innovation Kit – Leonardo Zero Waste
- Insurance
- Mill Products
- Mining
- Oil & Gas
- Professional Services S/4HC (BPE)
- Public Sector
- Public Services: Higher Education and Research
- Retail (BPE)
- Retail (Model Company: Core Retail and Fashion)
- Rural Sourcing Management
- Utilities

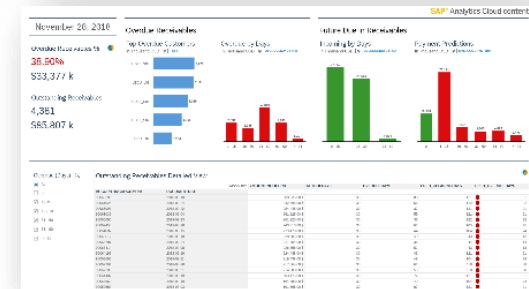
### Packages that include Planning:

- Cost Center Planning
- Liquidity Planning
- Financial Planning & Analysis S/4HC (BPE)
- FI Operational Expense Planning
- Human Resources Salary Planning
- Product Cost Planning
- Project Budgeting & Planning S/4HC (BPE)
- Project Staff Planning
- Sales Performance and Target Planning (CRM)
- Travel & Expense (Budget Planning)
- Workforce Planning for S/4HC (BPE)



**LIQUIDITY PLANNING INPUT**  
Company Code: Germany Code 1003 Currency: /

CURRENCY	COMPANY CODE	LIQUIDITY ITEM	TIME PERIOD	Nov 2021 Forecast	Nov 2021 Actual	Nov 2021 Target
EUR	1003	Operating		650,075	650,075	---
		Cash received from sales of goods or rendering of services		676,332	683,345	---
		Interest received from bank		500	473	---
		Other cash received from operating activities		73,843	62,730	---
		Cash paid for investments in property, plant and equipment		(40,000)	(47,000)	---
		Cash paid for acquisition of intangible assets		(45,000)	(48,000)	---
		Interest paid		(15,000)	(12,000)	---
		Other cash paid for operating activities		(200)	(200)	---
		Cash received from financing activities		686,628	633,078	---
		Other cash received from financing activities		686,628	633,078	---
		Cash paid for financing activities		(4,324)	(13,000)	---
		Other cash paid for financing activities		(4,324)	(13,000)	---
		Cash received from financing activities		682,304	620,078	---
		Other cash received from financing activities		682,304	620,078	---
		Cash		682,304	620,078	---





# Make it hybrid to distribute BPC



BI

Exploration, Stories  
Application design



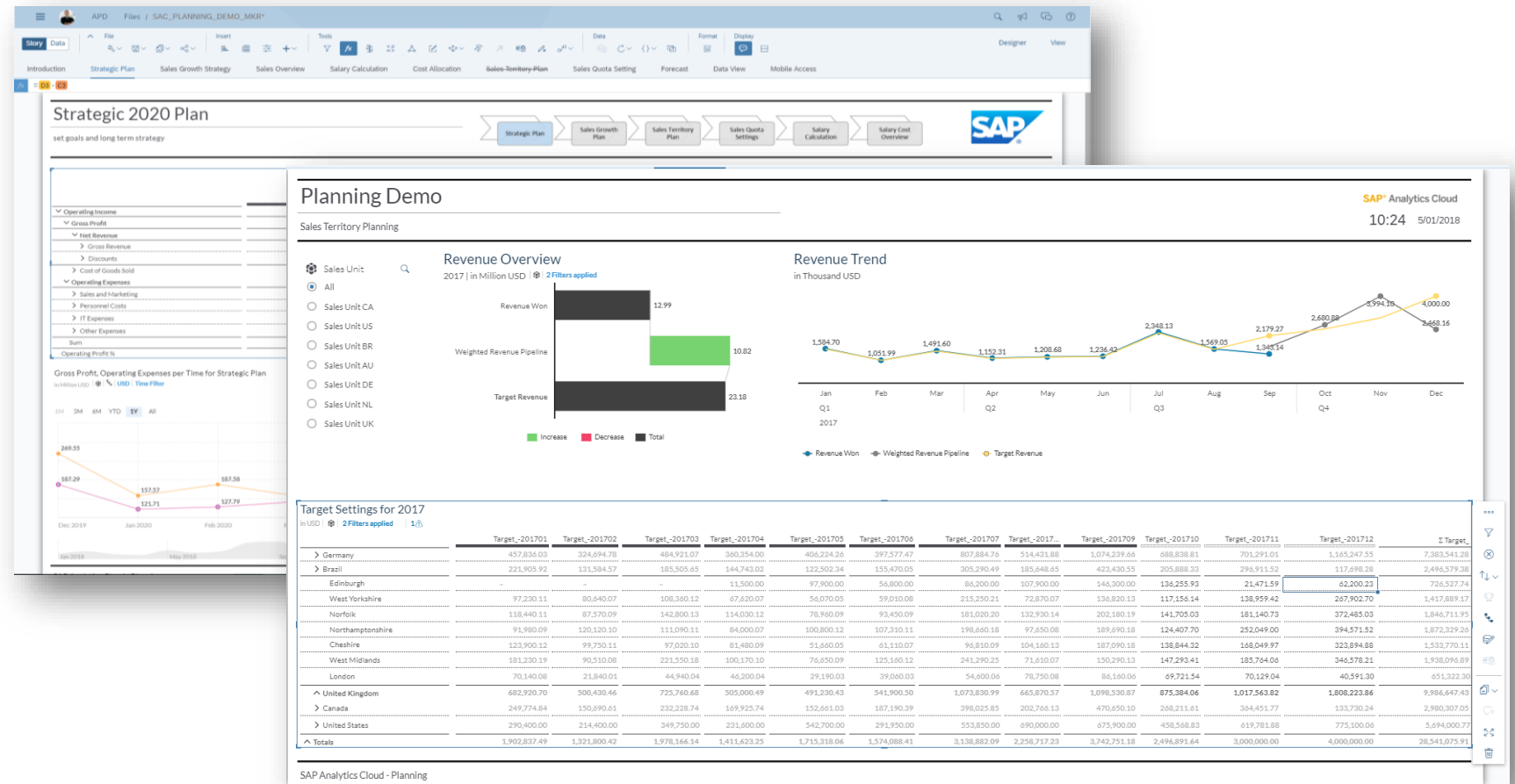
Planning

Simulations, Workflows,  
Allocations



Predictive

Guided Machine Discovery  
Advanced Analytics



# Smart Predict Out of the box



## BI

Exploration, Stories  
Application design



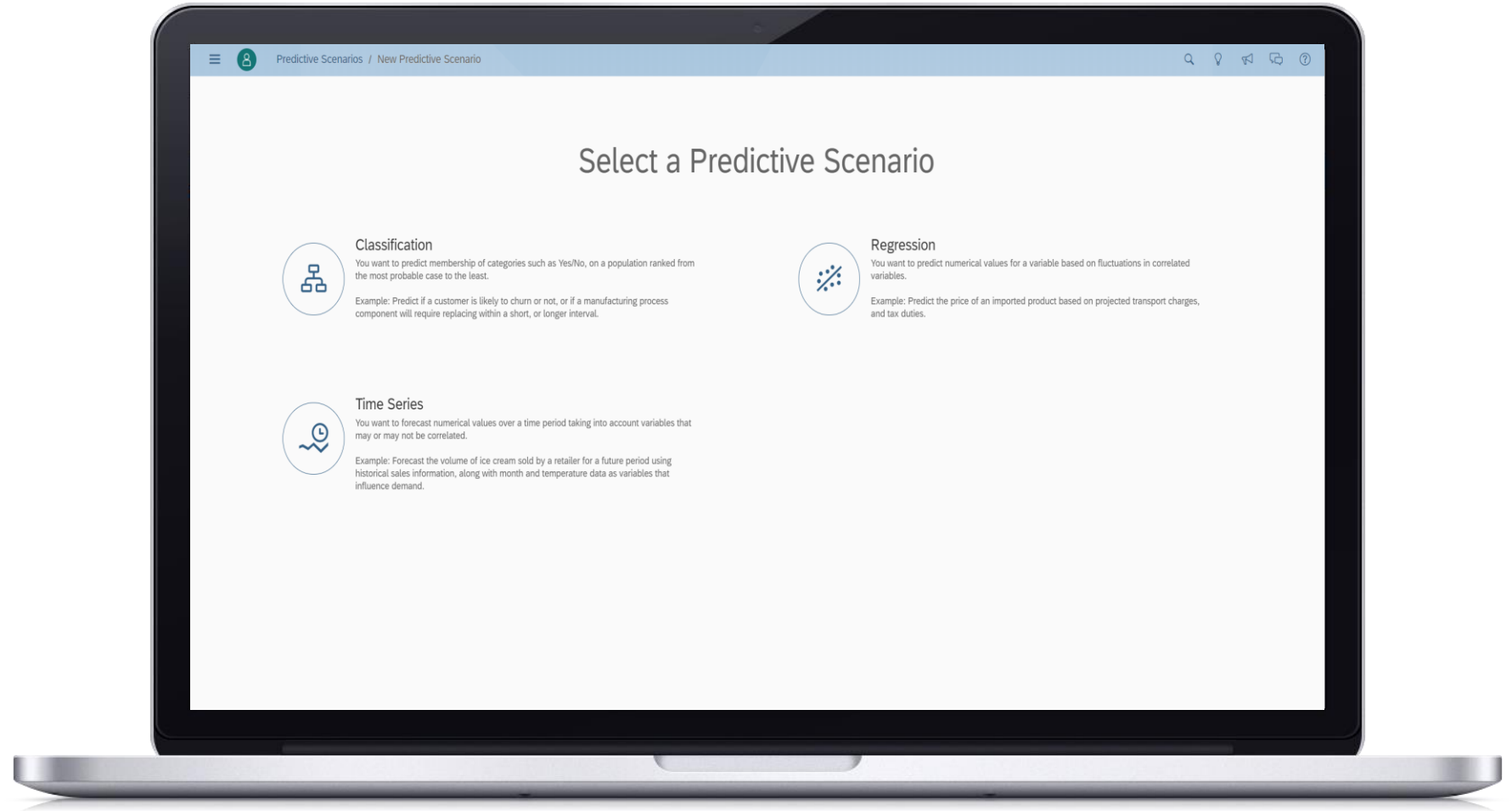
## Planning

Simulations, Workflows,  
Allocations



## Predictive

Guided Machine Discovery  
Advanced Analytics



# SAP Analytics Cloud

## Key take aways

- Smart and automated features help you find intelligent insights fast and without bias
- Live and real-time access to key data sources guarantee lightning fast data insights
- Business Intelligence extended by Collaborative Planning and Predictive Analytics in one integrated solution
- Fully scalable and governed analytics solution for corporate and enterprise data insights



# Product Demos



# Thank you.

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