SAPinsider

SUMMIT SERIES

Technology & Innovation

October 24-25, 2024 | Dallas

Rock-Solid Mission Critical Data with SAP Datasphere

Abhijit Nilegaonkar
Architect, Delta System & Software, Inc.

DELTA
Complete IT Solution...
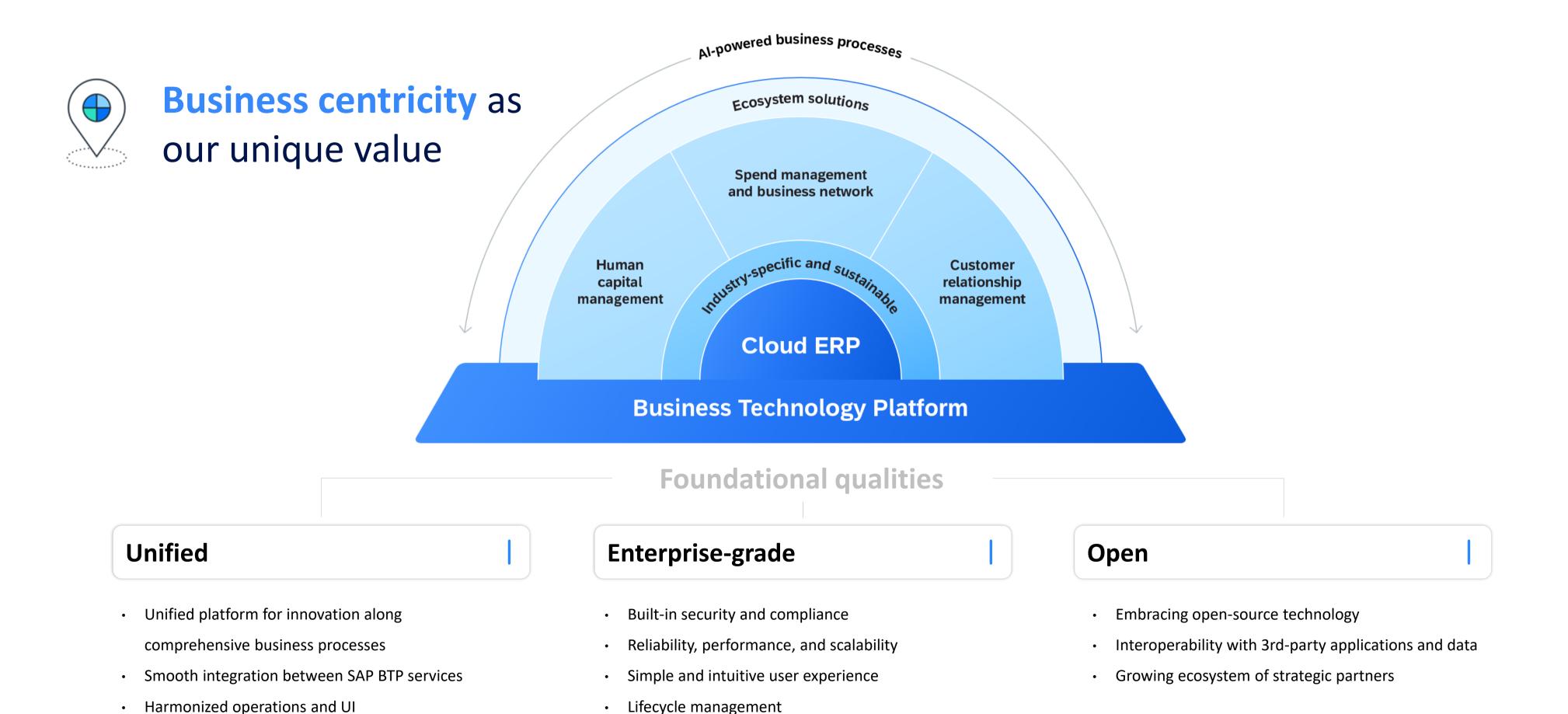
Jey Ping
S/4 Analytics & BTP Ambassador, SAP

SAP

What We'll Cover

- A Strong Data Foundation with SAP BTP and SAP Datasphere

- SAP Datasphere Architecture and Best Practices

- SAP Analytics Cloud

- Wrap-up

A Strong Data Foundation with SAP BTP and SAP Datasphere

Pairing foundational qualities with a clear differentiation

Business centricity as our unique value

AI-powered business processes

Ecosystem solutions

Spend management and business network

Human capital management

Industry-specific and sustainable

Customer relationship management

Cloud ERP

Business Technology Platform

Foundational qualities

Unified

- Unified platform for innovation along comprehensive business processes
- Smooth integration between SAP BTP services
- Harmonized operations and UI

Enterprise-grade

- Built-in security and compliance
- Reliability, performance, and scalability
- Simple and intuitive user experience
- Lifecycle management

Open

- Embracing open-source technology
- Interoperability with 3rd-party applications and data
- Growing ecosystem of strategic partners

SAP Business Technology Platform

Unlock your Business Potential with a Platform Built for Business

Application Development and automation

Solutions including low-code and pro-code offerings for professional developers and business experts drive innovation across the company.

Data and analytics

SAP data and analytics solutions provide organizations with a modern, open cloud architecture, making the most out of the value of SAP and non-SAP data.

Extended planning and analysis

Extended planning and analysis (xP&A) solutions bring people and plans together to increase agility and performance.

Integration

SAP's integration platform-as-a-service (iPaaS) allows enterprises to quickly integrate on-premise and cloud-based processes, services, applications, events, and data.

Artificial Intelligence

Connect finance, supply chain, procurement, sales and marketing, human resources, and IT with built-in AI for your core business processes.
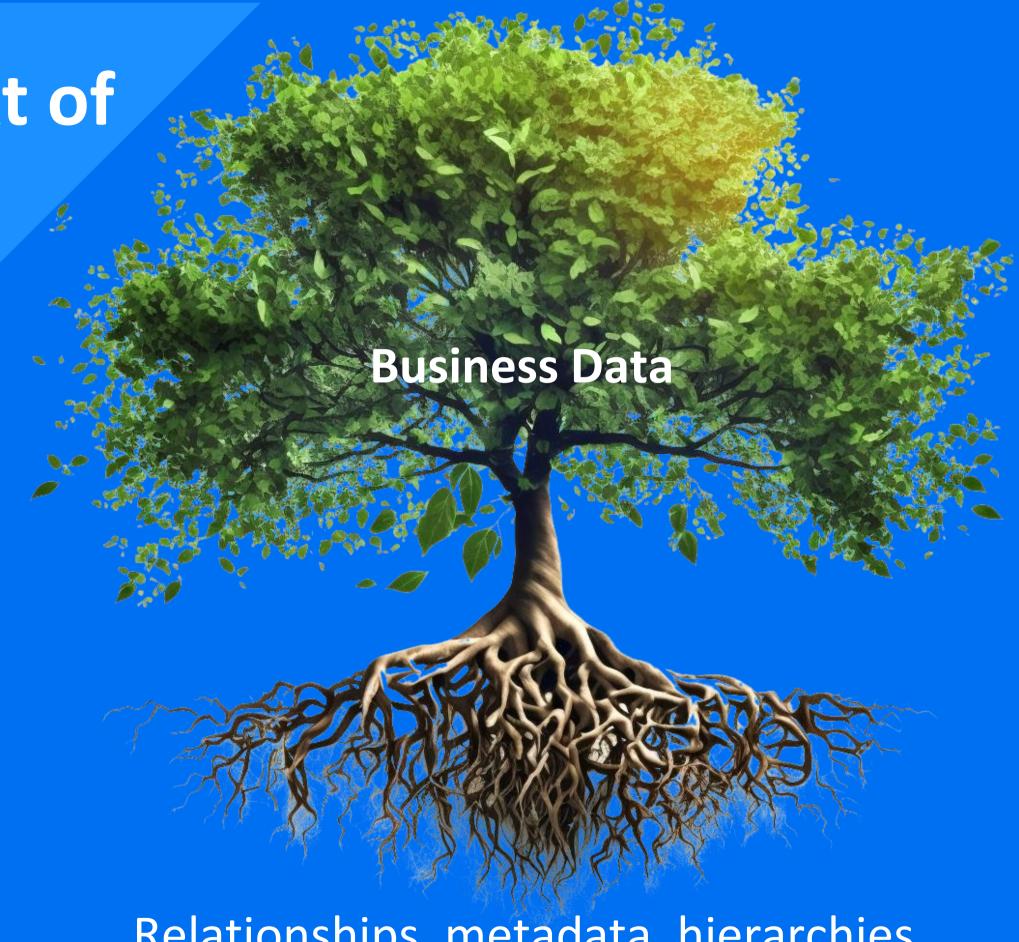
Implement a Strong Data Foundation

This is where Innovation starts!

Business Data Fabric

A modern federated "data as a product" approach

Keep the business context of data

Business Data

Don't rip data out of business systems – leave it where it is as much as possible
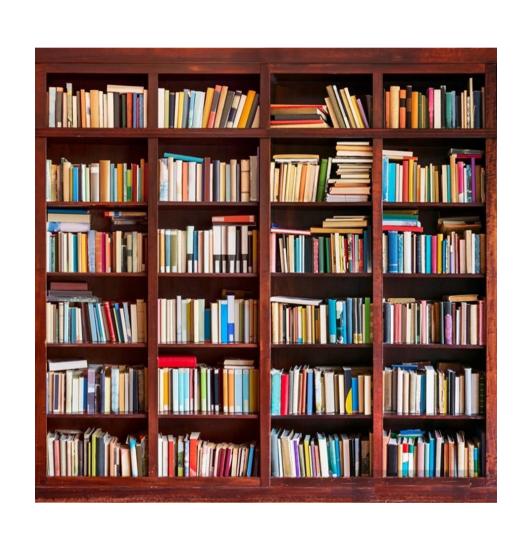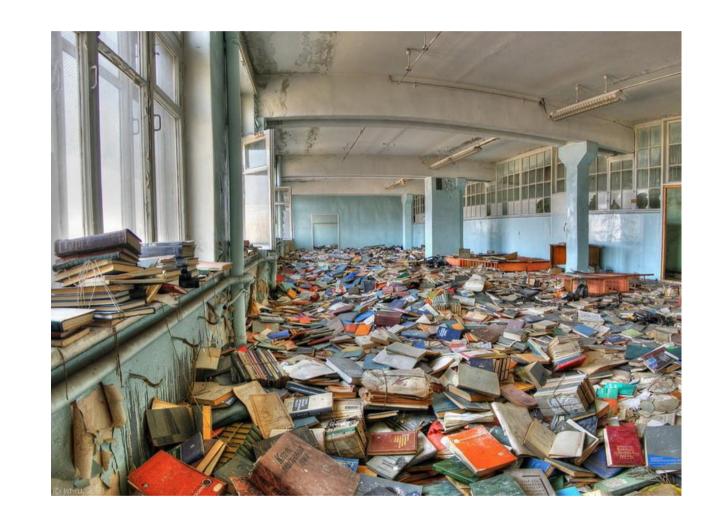
Relationships, metadata, hierarchies, security, etc.

Connect data with Business Context

SAP applications generating structured data

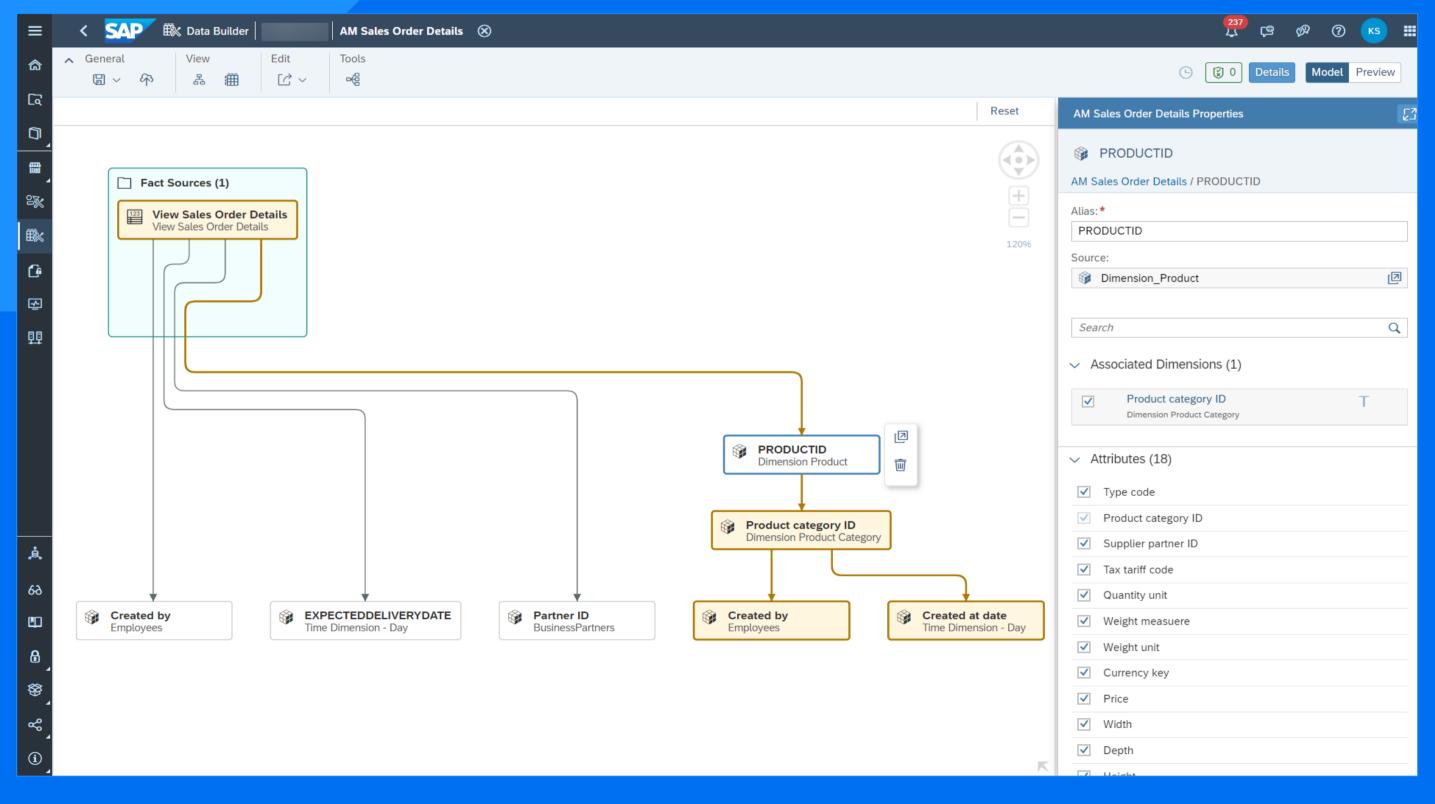Unstructured Data Lake

Add structure to the data in the data lake

Easy

Difficult

Keep the business context of data

Data Management – Core Capabilities

Data Integration

Connect and **integrate everything,** structured, unstructured or streaming

Data Processing

Extract meaning from data, orchestrating any mix of engines

Data Catalog

Discover, classify, profile, understand and **prepare** all your enterprise data assets
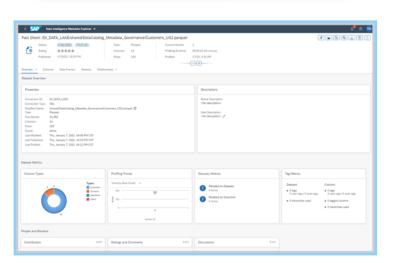
SAP Datasphere Architecture and Best Practices

SAP Datasphere Features and Architecture
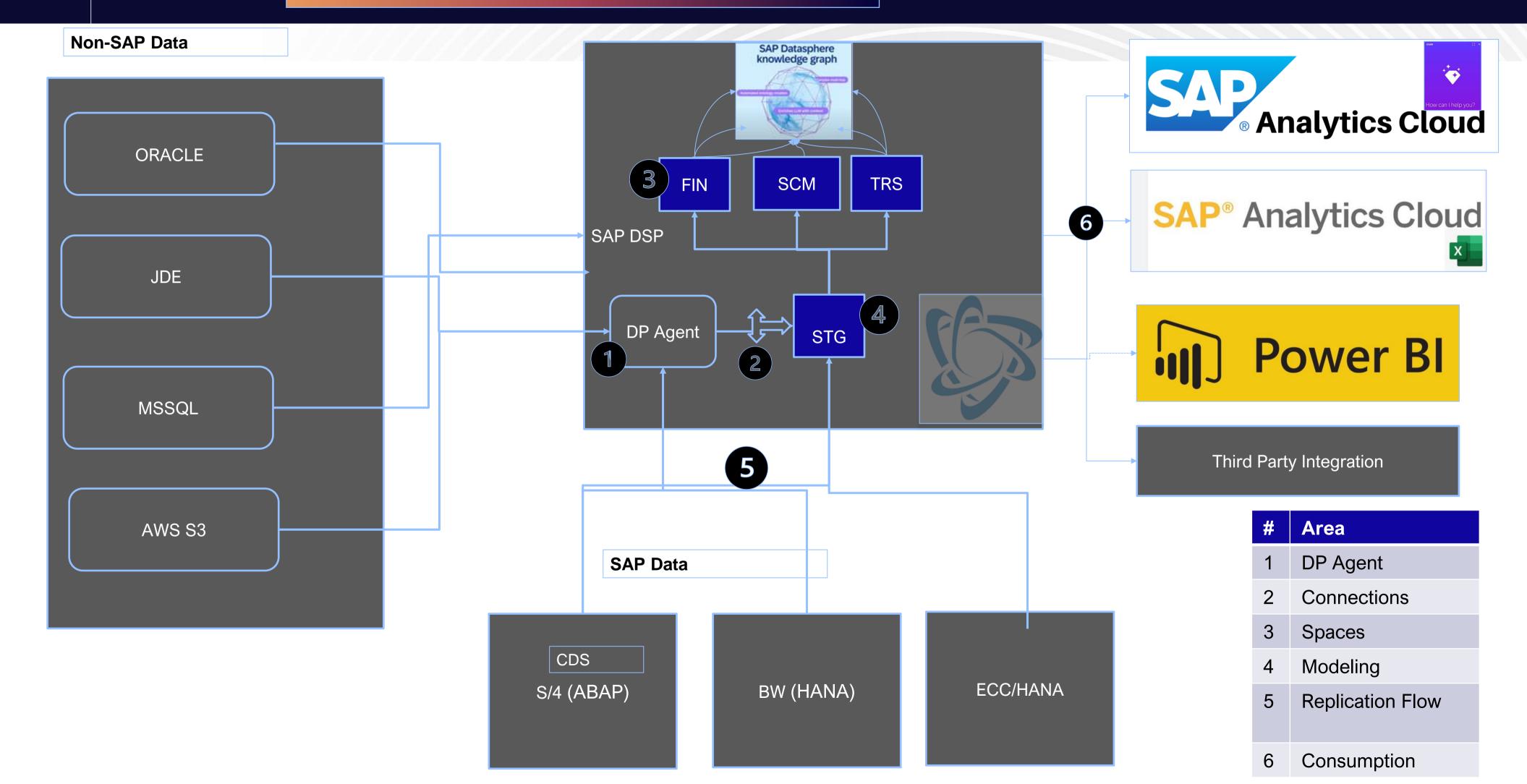
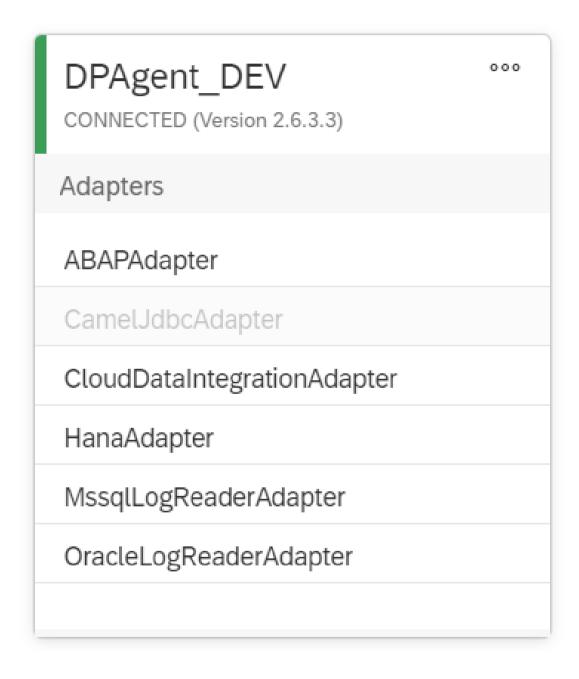Provide your users an end-to-end view of their data landscape that is trusted, secure, and actionable

Non-SAP Data

ORACLE

JDE

MSSQL

AWS S3

SAP Datasphere knowledge graph

③ FIN · SCM · TRS

SAP DSP

① DP Agent **②** ⟷ **④** STG

⑤

SAP Data

CDS
S/4 (ABAP)

BW (HANA)

ECC/HANA

SAP Analytics Cloud

⑥ SAP® Analytics Cloud

Power BI

Third Party Integration

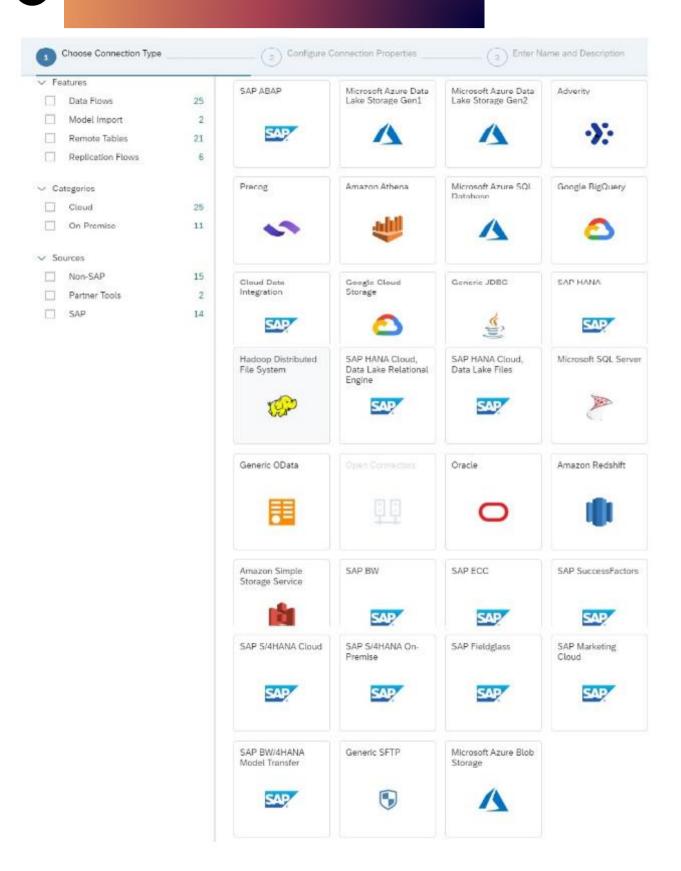| #	Area
1	DP Agent
2	Connections
3	Spaces
4	Modeling
5	Replication Flow
6	Consumption

Data Warehousing Best Practices

- Build a master inventory by each core area (Finance, Supply Chain, Manufacturing)
- Sign off on the scope early
- Frequent show and tells for Business (Before UAT)
- Clarity on validation criteria/success criteria
- Have proper naming conventions/ development guides in place
- Engage early along with the S/4 project
- Training developers and users is pivotal
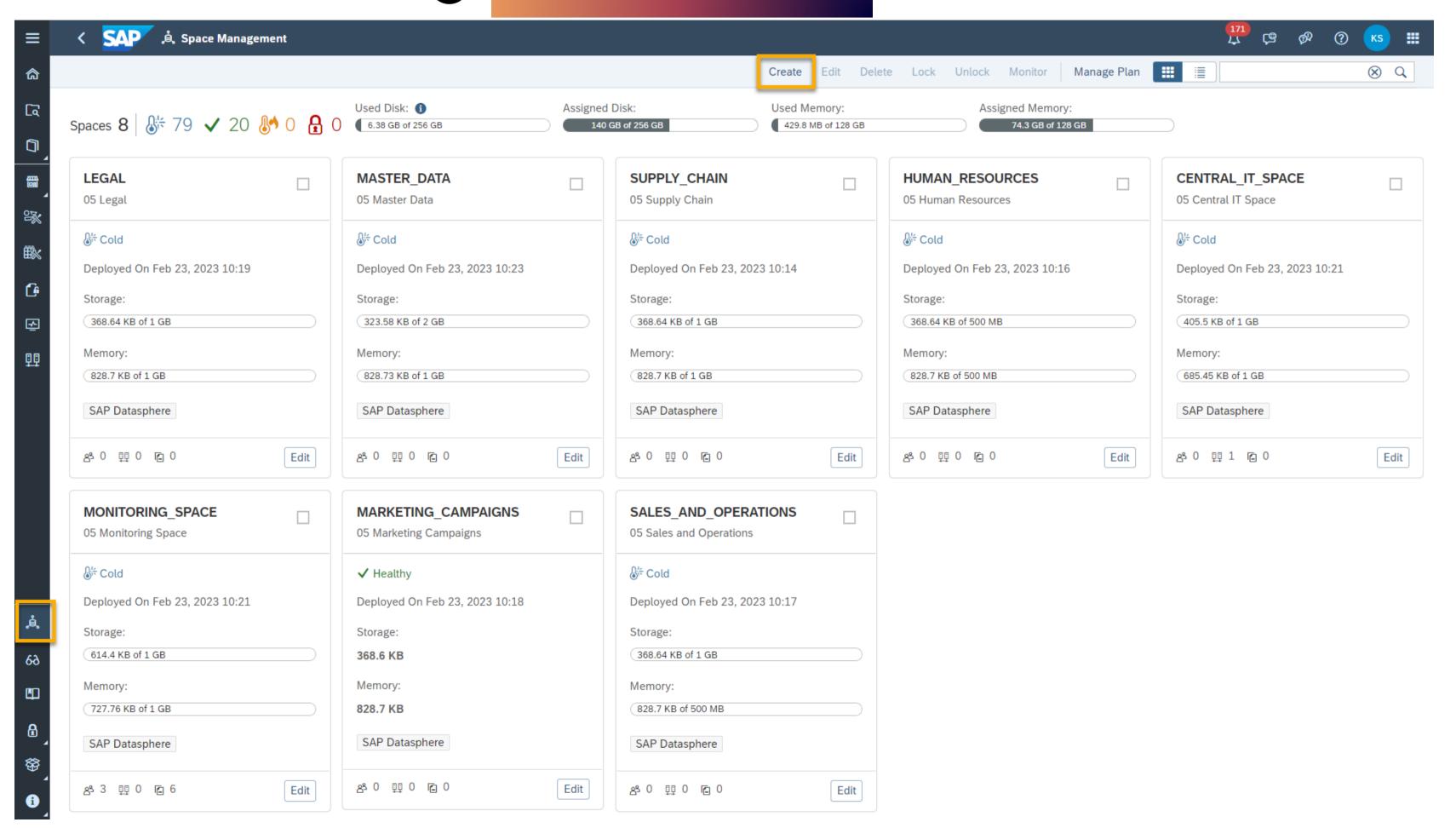
1 DP AGENT CONFIG

2 CREATE CONNECTIONS

③ SPACES

Inbound Data Integration

Remote
(Federation)

Replication

Snapshot

Replication
Flow

4 MODELING

REPORTING LAYER
Master Data Joins/Associations
Hierarchies
Calculated Columns
Data Access Controls

PROPAGATION LAYER
Joins, Unions
Aggregations
Filters (Dynamic)

HARMONIZATION LAYER
Reusability
Projections
Technical Filters (Static)
Data Access Controls

INBOUND LAYER
Remote System Information
Naming convention of source systems

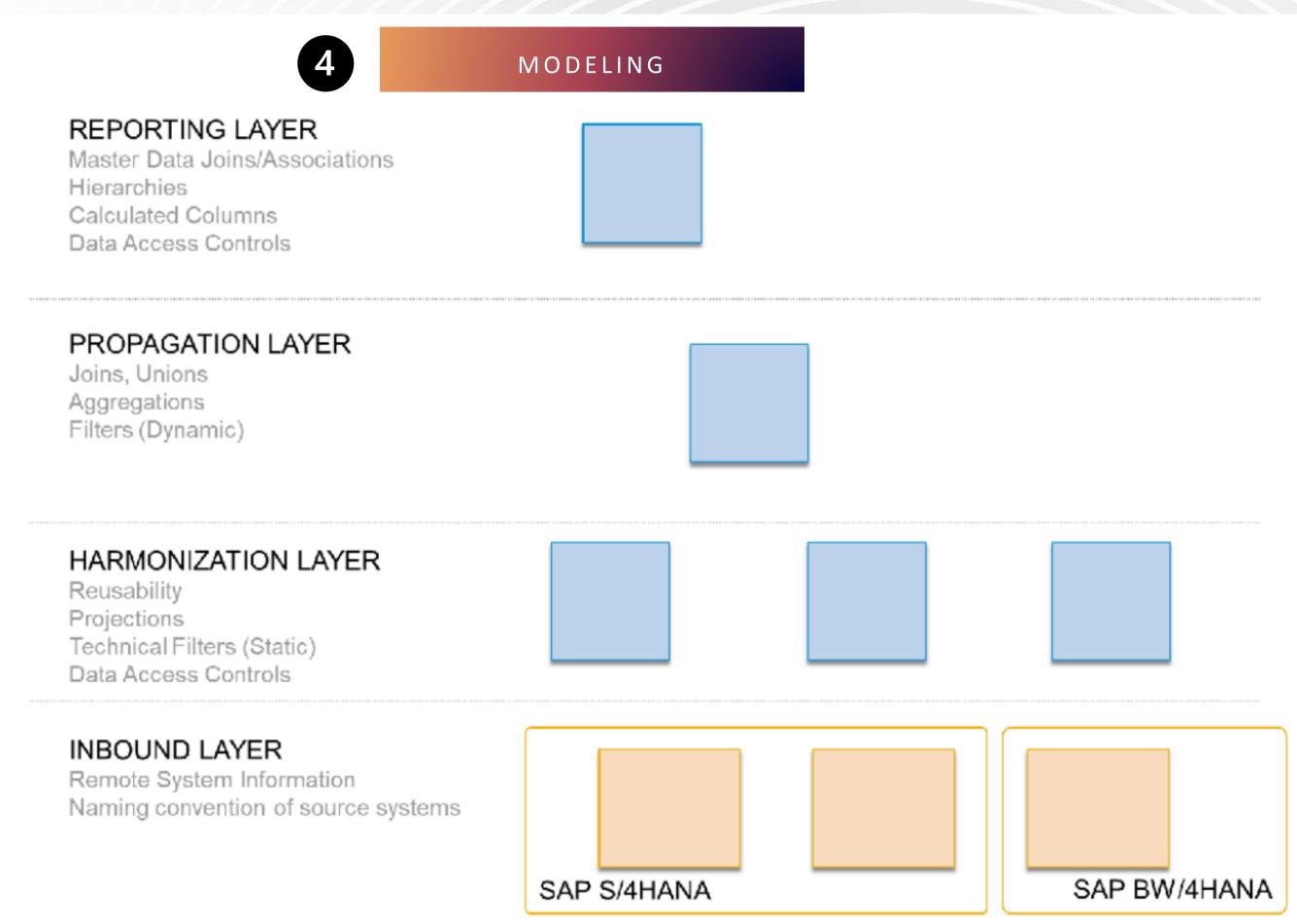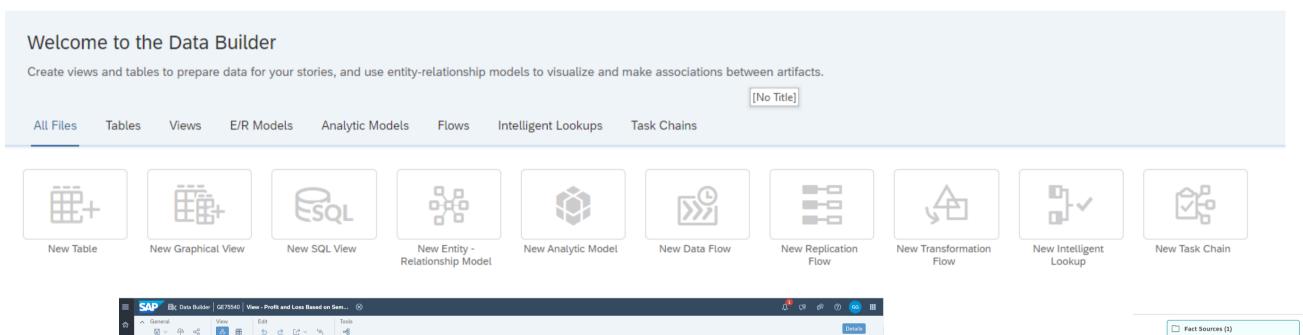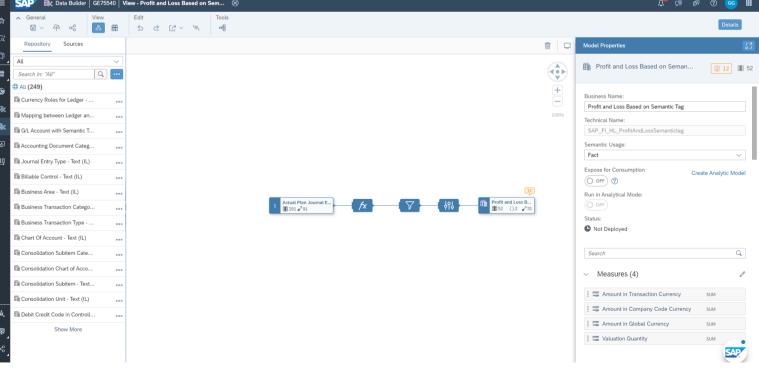SAP S/4HANA   SAP BW/4HANA

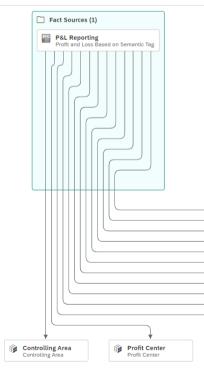*Figure 13: Layered modeling approach*

4 MODELING

FACT

ANALYTIC MODEL

SYSTEM DEMO

Setup your own Trial account at
https://www.sap.com/products/technology-platform/datasphere/guided-experience.html

WHAT ARE VECTOR ENGINES?

Vectors are Big rows of numbers understood by machine. These vectors capture the meaning of the Text and Context associated with it. (Apple, Vs I love apple computer)

HANA Vector Engine Provides: ability to store various data types in the form of vector embeddings, the vector engine facilitates tasks such as Retrieval Augmented Generation (RAG), natural language processing, image recognition, and recommendation systems. Opting for a multi-model database provides greater flexibility since it can manage various data types, unlike a single-purpose database that's restricted to one type
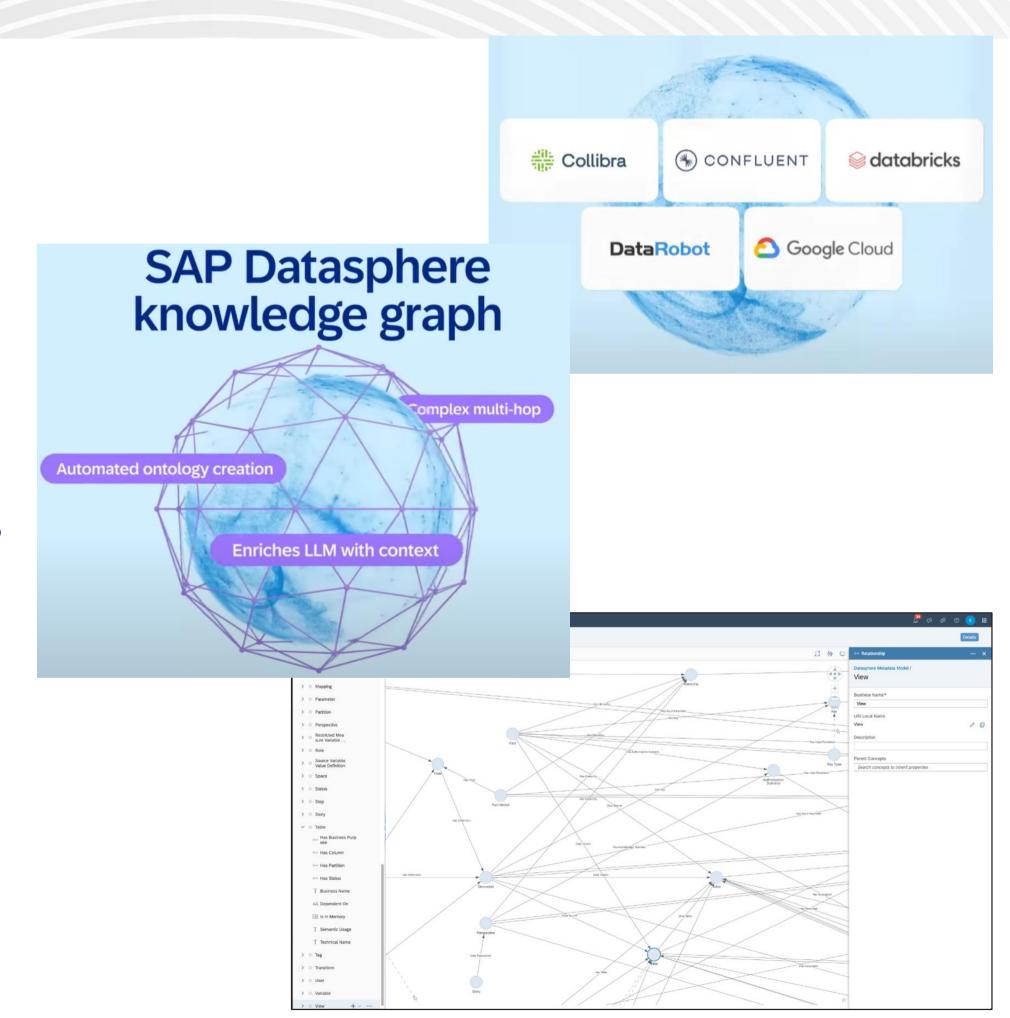

Key Benefits:
1. Store and manage all your data, including vectors, within a single secure platform.
2. Leverage familiar SQL commands to work with all data types, including vectors.
3. Combine various data formats (spatial, graph, JSON, etc.) with vector-based queries for richer insights.
4. With the vector engine integrated into SAP HANA Cloud, customers can reuse existing authorizations, simplifying setup and improving security.
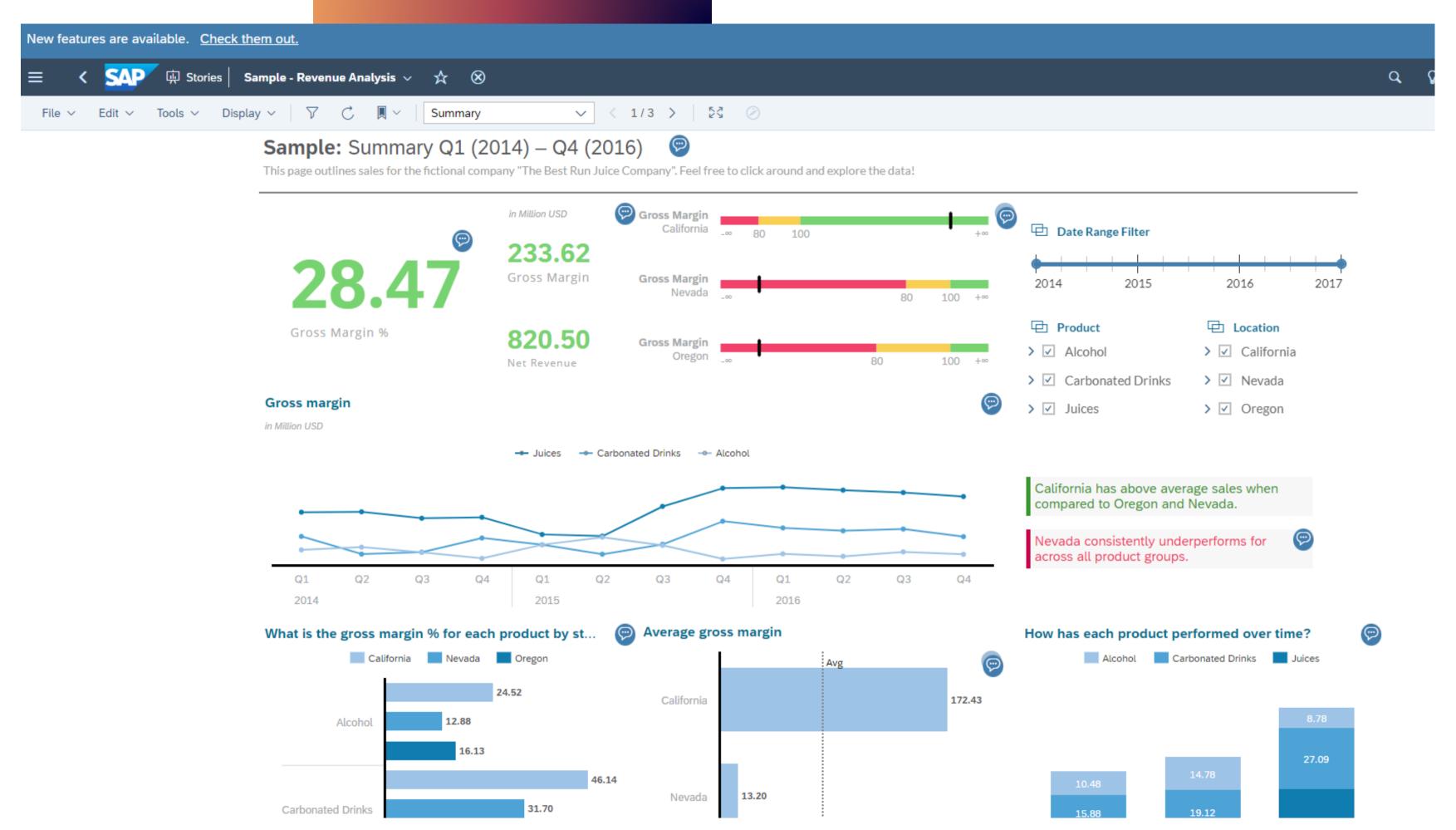
WHAT ARE KNOWLEDGE GRAPHS?

- In SAP Datasphere, a knowledge graph is a powerful tool used to model, connect, and manage complex relationships between various data entities

- Hallucinations are replaced with precise answers based on your Business Data

- Graphs are automatically created as soon as data arrives in SAP Datasphere.

- Knowledge Graphs are more accurate than Vector Engines

- LLMs + Knowledge graphs is going to set the foundation for Joule to answer your Business questions
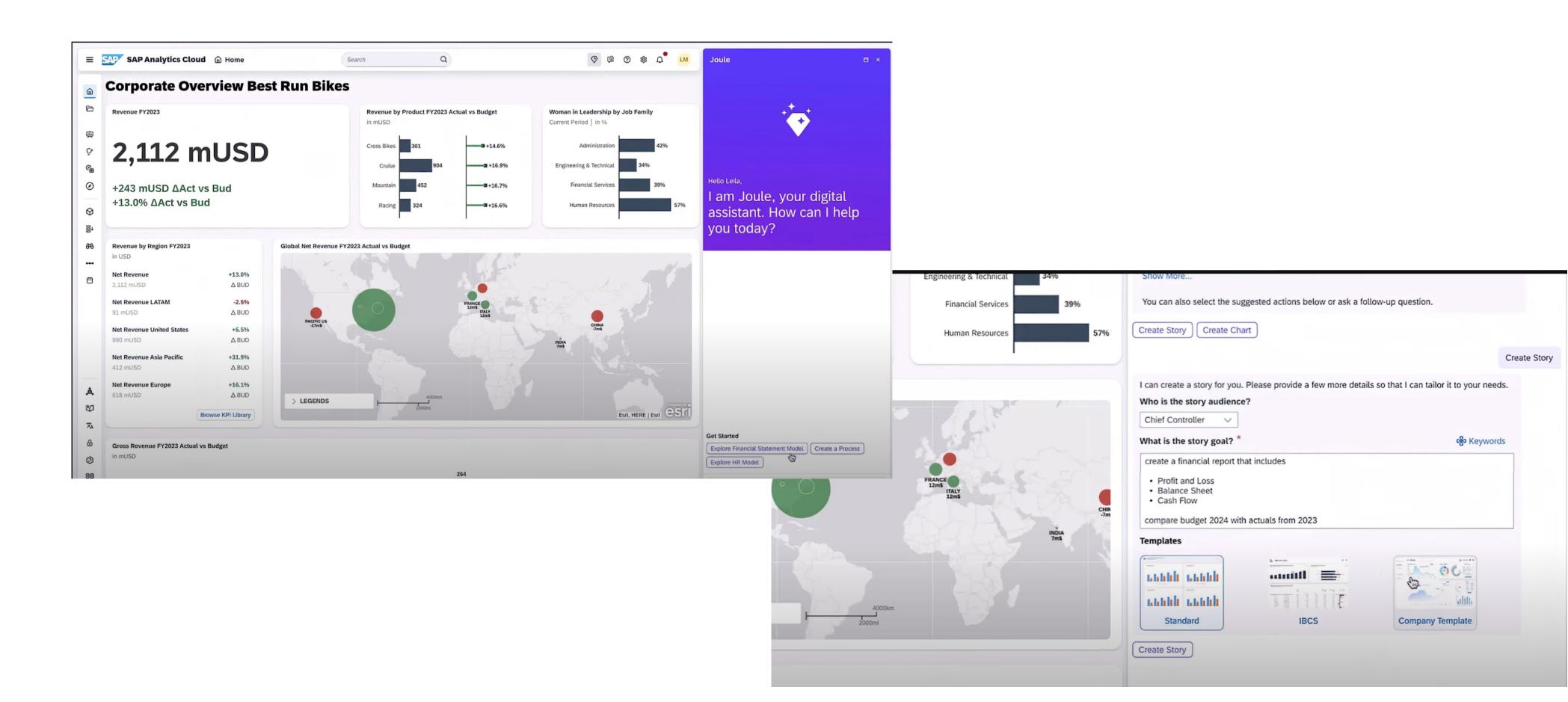
- What is SAP's Partner ECO System for AI?
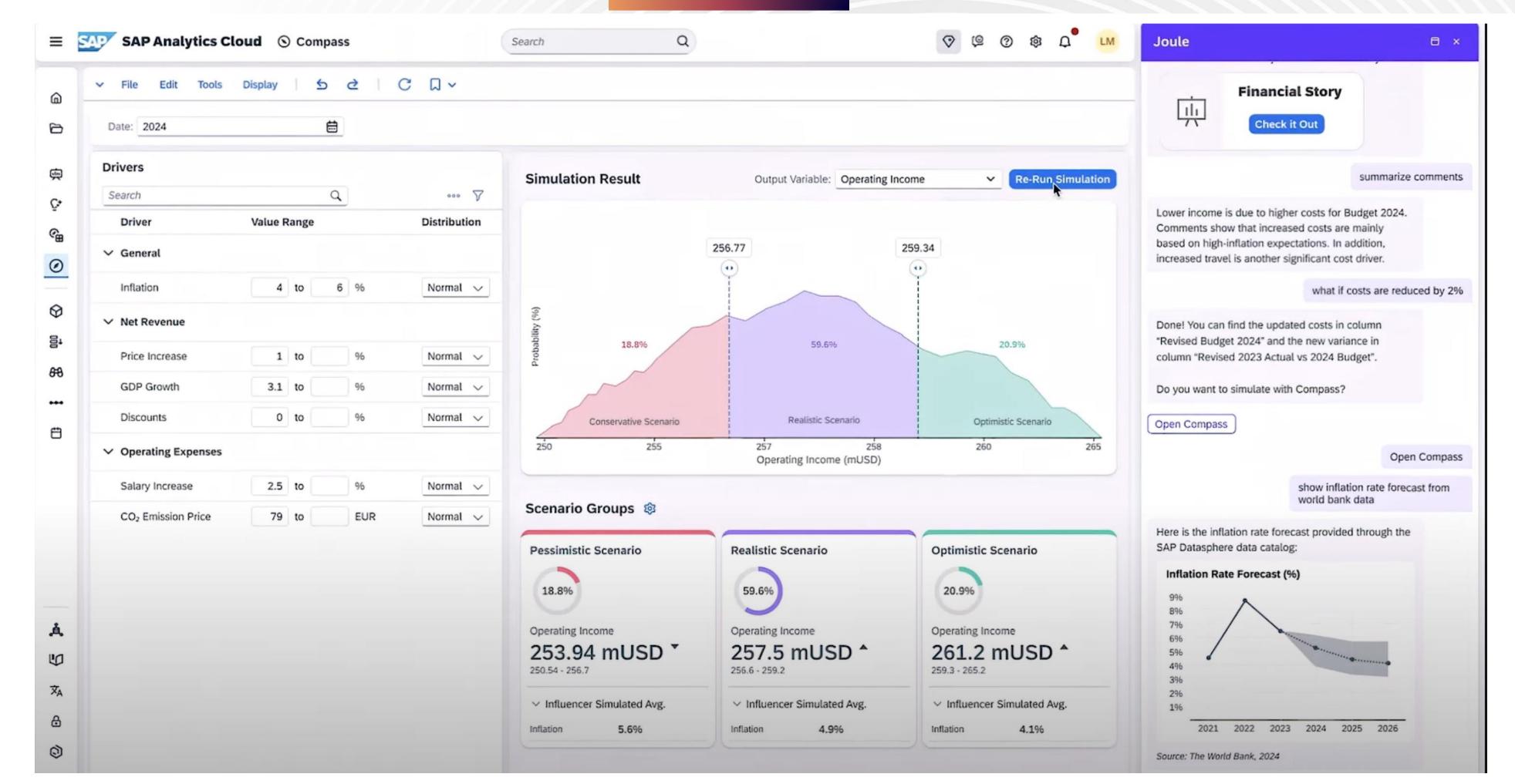
SAP Analytics Cloud

BI STORIES

New features are available. Check them out.

☰ 〈 **SAP** 📊 Stories | **Sample - Revenue Analysis** ⌄ ☆ ⊗   🔍

File ⌄   Edit ⌄   Tools ⌄   Display ⌄   ▽   ↻   🔖 ⌄ | Summary ⌄ | 〈 1 / 3 〉   ⤢   🧭

Sample: Summary Q1 (2014) – Q4 (2016) 💬

This page outlines sales for the fictional company "The Best Run Juice Company". Feel free to click around and explore the data!

in Million USD

28.47

Gross Margin %

233.62
Gross Margin

820.50
Net Revenue

💬 Gross Margin
California
_-∞   80   100   +∞_

Gross Margin
Nevada
_-∞   80   100 +∞_

Gross Margin
Oregon
_-∞   80   100 +∞_

Date Range Filter
2014   2015   2016   2017

Product
〉 ☑ Alcohol
〉 ☑ Carbonated Drinks
〉 ☑ Juices

Location
〉 ☑ California
〉 ☑ Nevada
〉 ☑ Oregon

Gross margin 💬
in Million USD

← Juices   ← Carbonated Drinks   ← Alcohol

Q1   Q2   Q3   Q4   Q1   Q2   Q3   Q4   Q1   Q2   Q3   Q4
2014   2015   2016

California has above average sales when compared to Oregon and Nevada.

Nevada consistently underperforms for 💬 across all product groups.

What is the gross margin % for each product by st... 💬

☐ California   ☐ Nevada   ☐ Oregon

Alcohol
24.52
12.88
16.13

Carbonated Drinks
46.14
31.70

Average gross margin

Avg

California
172.43

Nevada
13.20

💬

How has each product performed over time? 💬

☐ Alcohol   ☐ Carbonated Drinks   ☐ Juices

8.78
27.09
10.48   14.78
15.88   19.12

BI STORIES WITH JOULE

SAC COMPASS

PREDICTIVE ANALYTICS
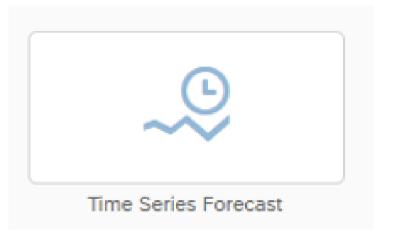
Classification

All businesses face questions about upcoming events for their customers, their industrial assets, or their marketing campaigns. Business life is made of events: churn/no churn, failure/no failure, sale/no sale, delay/on time to list the most common. That's what classification does: it associates to each entity of a population, the probability that an event will happen.
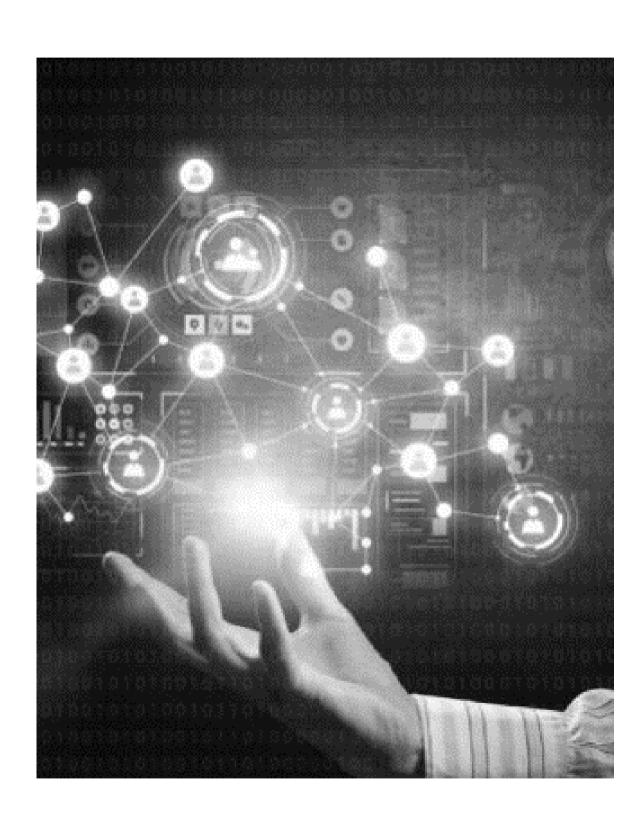
Regression

How will the revenue of products of my stores be impacted by the new marketing campaign? The variables considered are surface of the stores, their location, the number of families in the sectors of the stores

Time Series Forecast

Time Series Forecasting is used to forecast the future evolution of a measure based on its past values. For example, how many products should be produced to cope with demand?
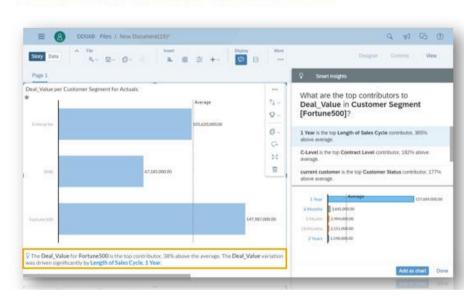
AUGMENTED ANALYTICS

- Time Series Forecasting
- Search to Insights
- Smart Grouping
- Smart Discovery
- Smart Insights
- Smart Predict
- What If Analysis

Supplement visualizations with smart textual explanations on the contributors behind your data using Smart Insight dynamic text

Strengthen data analysis with dynamic text token in chart footers

Dive deeper with an entry point to the Smart Insights panel for continuous data exploration

Example: What to know more about your *Deal Value* against *Customer Segment*? Hidden insights are surfaced to explain the variations.
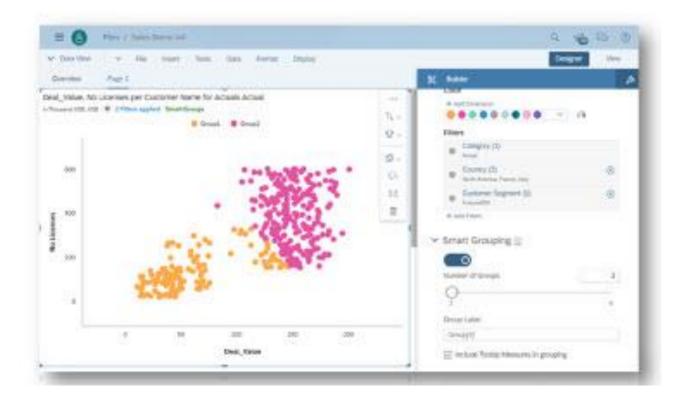
Smart Grouping

Automatically create segments on different types of data in your organization

Get smart groupings (clusters) of data values across several measures

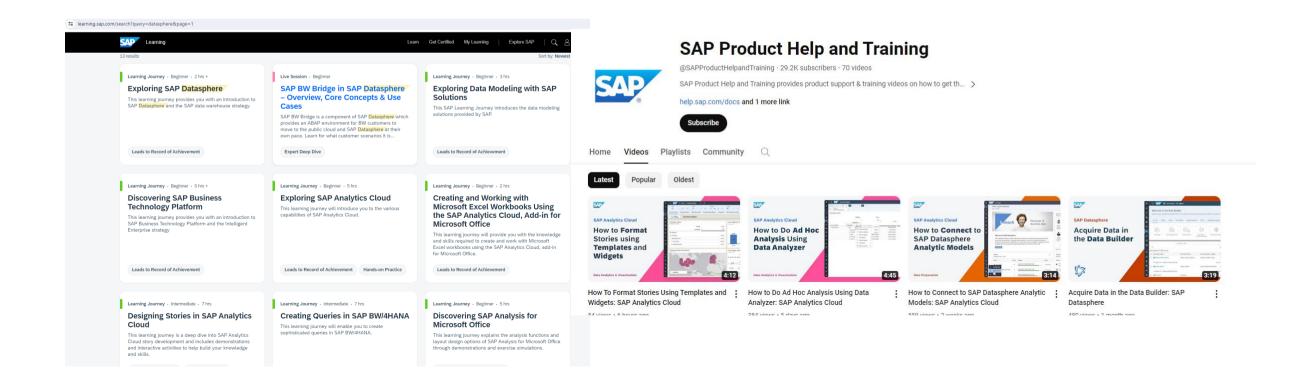Use recommended number of groups most appropriate for your data

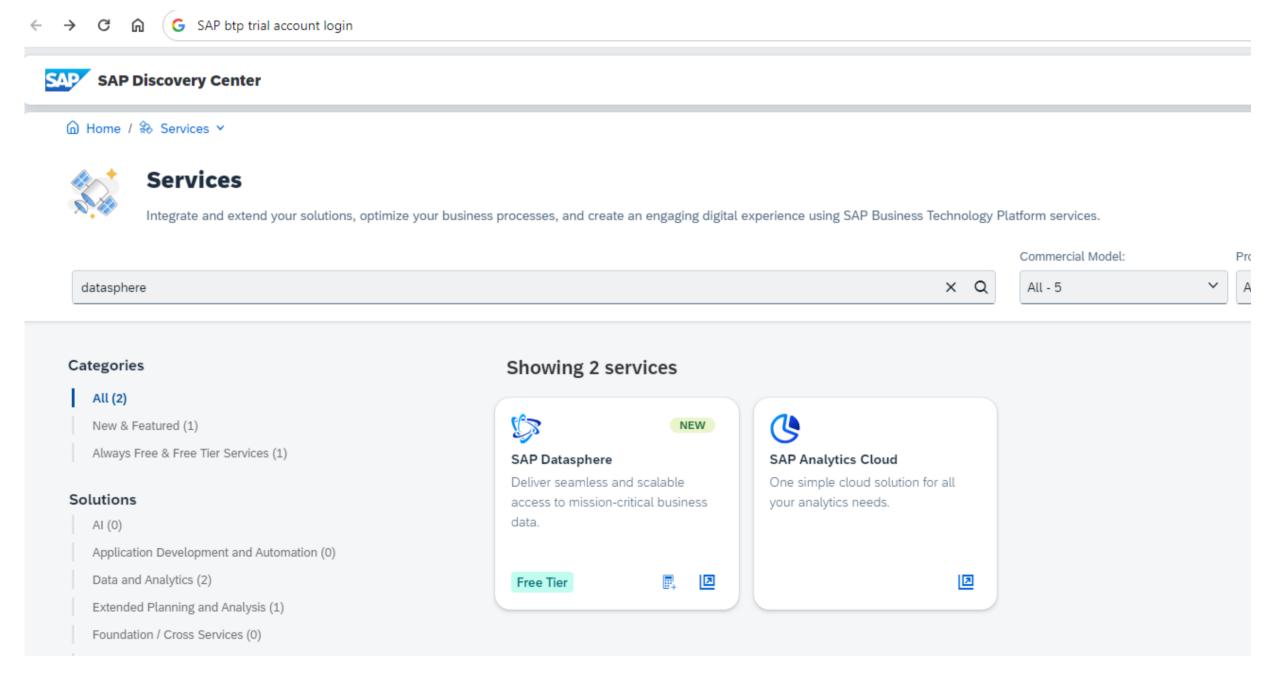**Example:** Automatically identify customer groups in your data

Wrap-up

Where to Find More Information

- Learning Journeys: https://learning.sap.com/learning-journeys?page=1

- YouTube How To Guides https://www.youtube.com/@sapproductsandservices/videos

- YouTube What's New https://www.youtube.com/@SAPProductHelpandTraining/videos
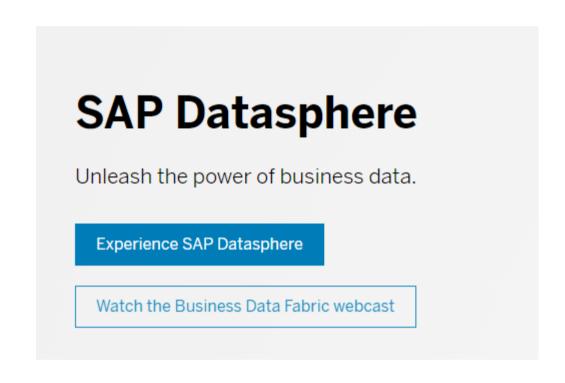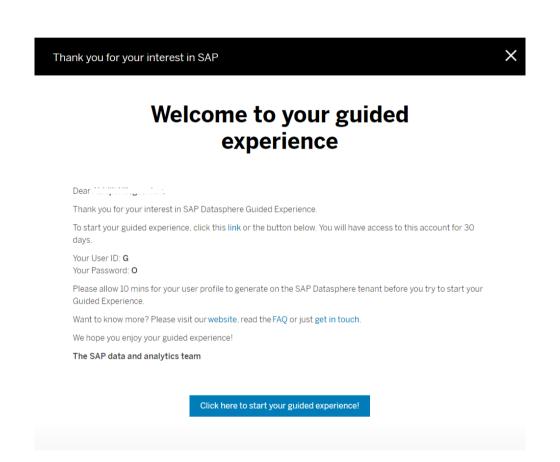
- Help SAP Video Tutorials

SAP DISCOVERYCENTER

https://discovery-center.cloud.sap/serviceCatalog/sap-datasphere?region=all
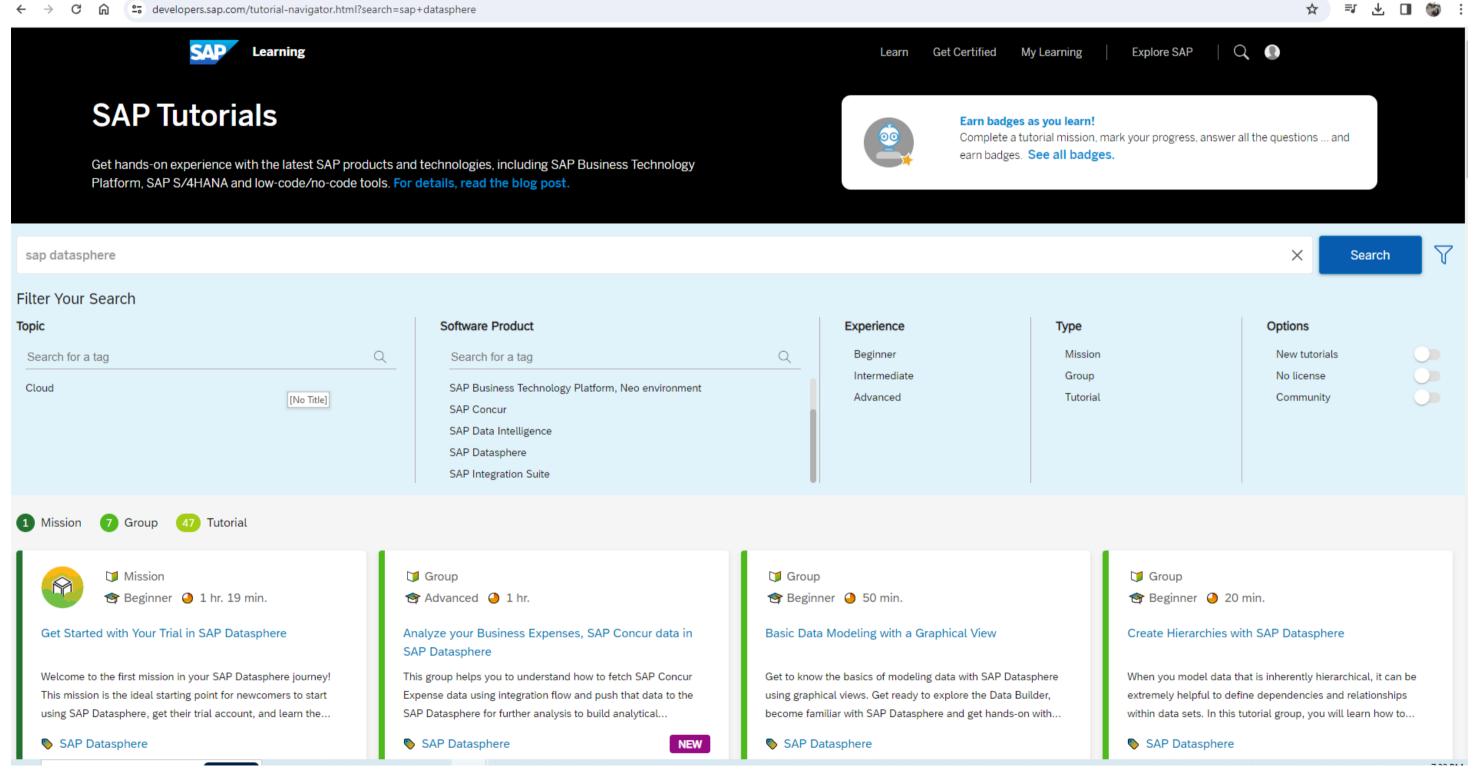
SAP DATASPHERE GUIDED EXPERIENCE

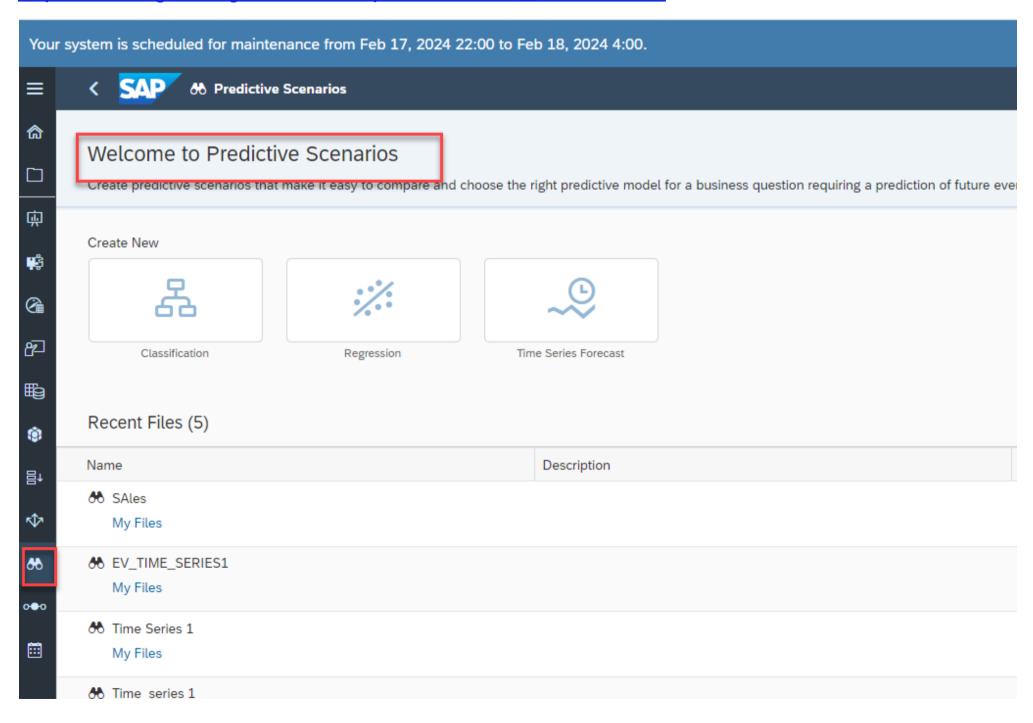https://www.sap.com/products/technology-platform/datasphere.html

Practice Tutorial to Import Datasets
https://developers.sap.com/tutorials/data-warehouse-cloud-5-import-dataset.html

SAP DATASPHERE TUTORIALS

https://developers.sap.com/tutorial-navigator.html?search=sap+datasphere

SAC PREDICTIVE ANALTYCS

Download Data samples from here and Create your Own Predictive
Scenarios in your SAC trial
https://catalog.data.gov/dataset?q=&sort=views_recent+desc

Key Points to Take Home

- SAP BTP is a business platform umbrella that encompasses Data and Analytics
- Modernization of SAP Data Warehouse is the foundation for the success of AI
- Follow best practices to set up a well governed and clean Datawarehouse
- Embrace newer technology instead of being intimidated by it
- LLMs + Knowledge Graphs is a key feature for Joule to answer your Business questions

Thank you! Any questions?

Abhijit Nilegaonkar

twitter.com/Abhijit55

linkedin.com/in/abhijit55

Jey Ping

twitter.com/jeyping

linkedin.com/in/jeyping

Please remember to complete your session evaluation.

Abhijit Nilegaonkar
Director, Analytics Advisor, Speaker,
Judge, Technology Evangelist, Platin...

SAPinsider

SAPINSIDER MEMBERSHIP MATTERS. YOU HAVE TO BE PART OF THE GLOBAL COMMUNITY.

Visit sapinsider.org