SAP

SAP Business Unleashed Innovation Day

When you connect everything,
you can achieve anything.

Unleashed

AI+Data+Applications

Business Data Fabric - Five Steps to a Business Data Fabric Architecture

Pierre van Rooyen - BTP Domain Advisor

Agenda

- The Value of a Business Data Fabric

- How to Build Your Future on a Business Data Fabric *(the five steps)*

- From data mesh to a Business Data Fabric

- How SAP Business Data Cloud strengthens a Business Data Fabric

The Value of a Business Data Fabric
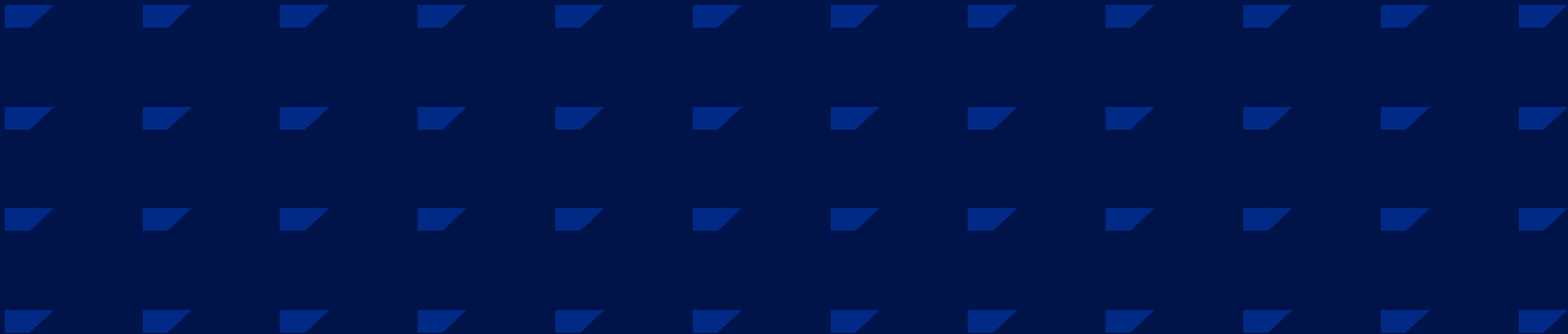
The driving forces for data management today

Applications, AI, and planning require context from quality, trusted data

Business context and logic, especially metadata, is often removed or incomplete for business data

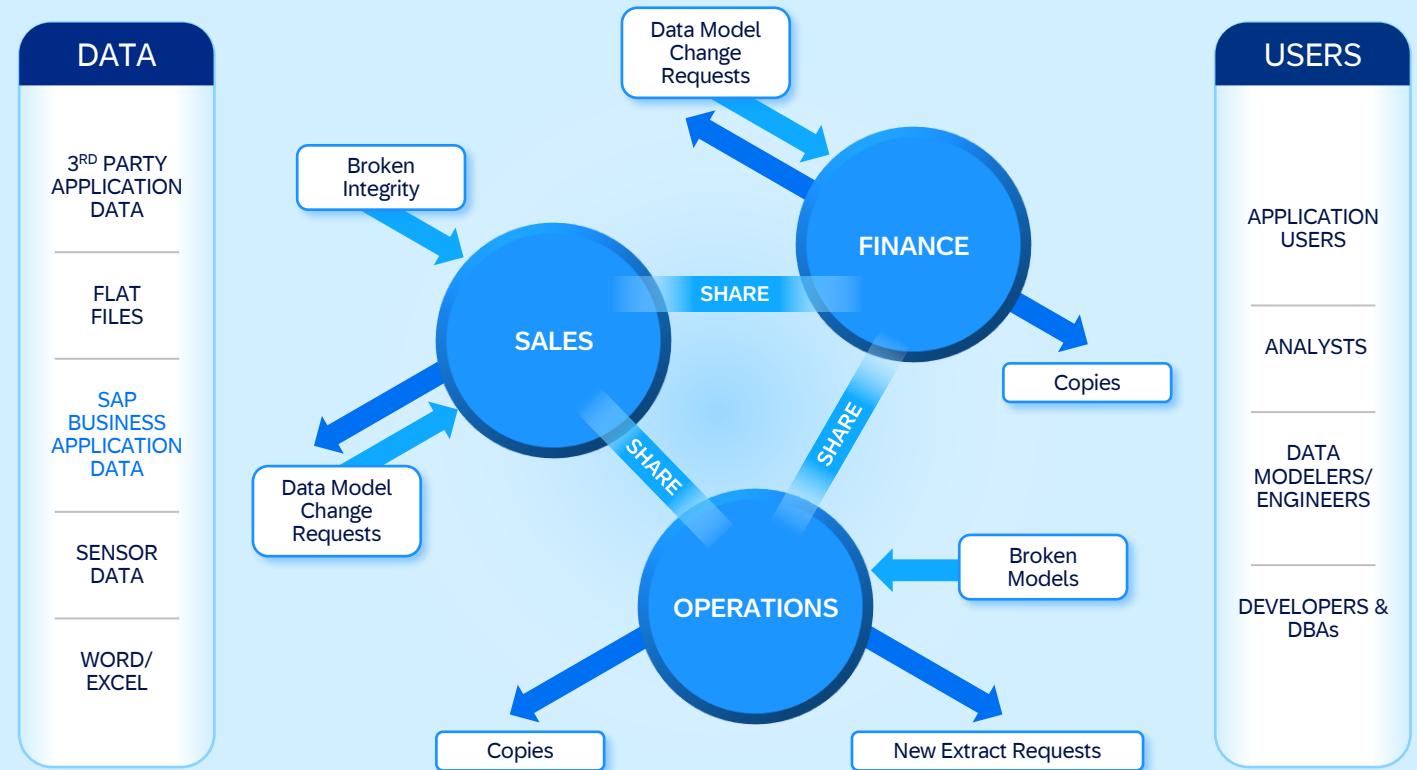Gen AI can be next revolution in productivity, but it requires context and quality data

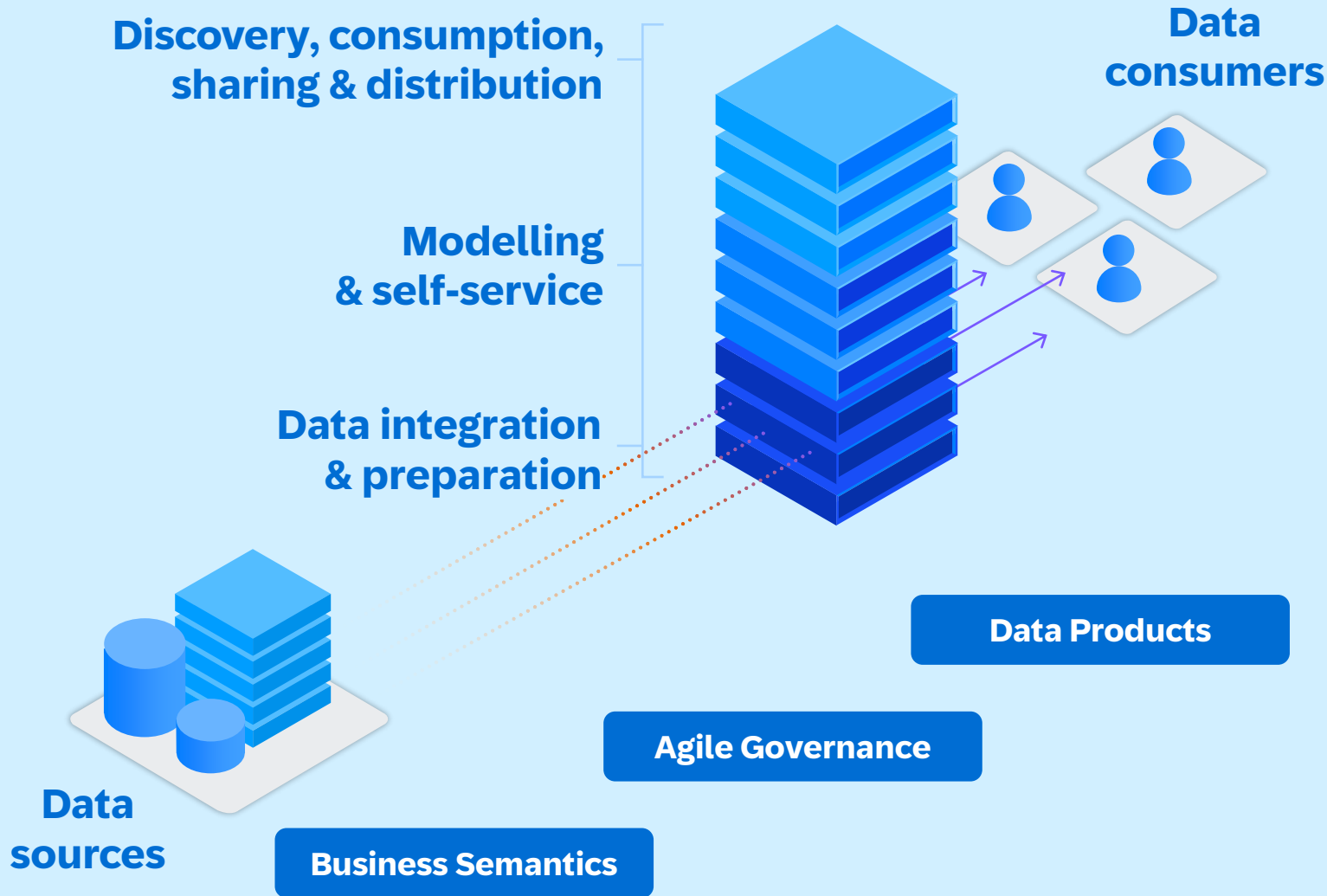The majority of business users lack data context necessary for data to be useful

Extracting data from your landscape removes its context and meaning

- Requires extensive time and effort to recreate business logic

- Inhibits the ability to deliver business data for business users

- Widens the divide between transactional and analytical data

Deliver business data in business terms with a business data fabric

Discovery, consumption, sharing & distribution

Modelling & self-service

Data integration & preparation

Data consumers

Data sources

Data Products

Agile Governance

Business Semantics

- Deliver business data in business terms to ensure business users can easily understand and use corporate data

- Preserve the context and semantics of data including business descriptions, metadata, and relationships

- Accelerate self-service culture inside and beyond business functions

How to Build Your Future on a Business Data Fabric
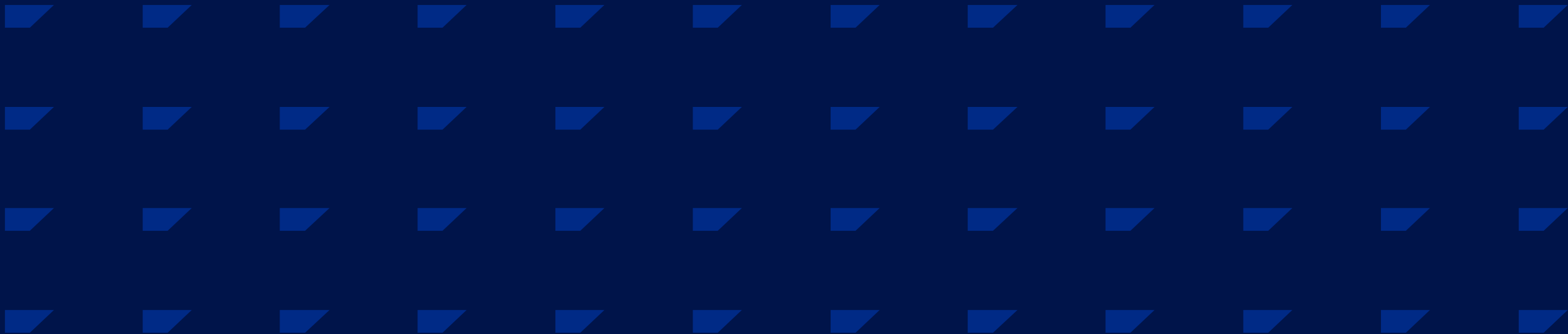
5 Step Framework towards a Business Data Fabric

1. Data ingestion:

- The first step is to ensure that all your data, whether it's **structured or unstructured**, can be **easily ingested** into the system.
- A business data fabric, with its **open data ecosystem**, allows for more seamless data ingestion, regardless of the source or the format of the data.

2. Data integration:

- Data from various sources must be integrated and transformed into a **unified format** easily consumed by data users.
- The interoperability of a business data fabric enables data from different sources to be combined and **connected rather than simply moved around**.

3. Data governance:

- With the increasing complexity and volume of data, governance becomes paramount. This includes ensuring **data quality, privacy, and compliance** with various regulations.
- A business data fabric helps ensure effective governance by **maintaining metadata, lineage**, and control measures.
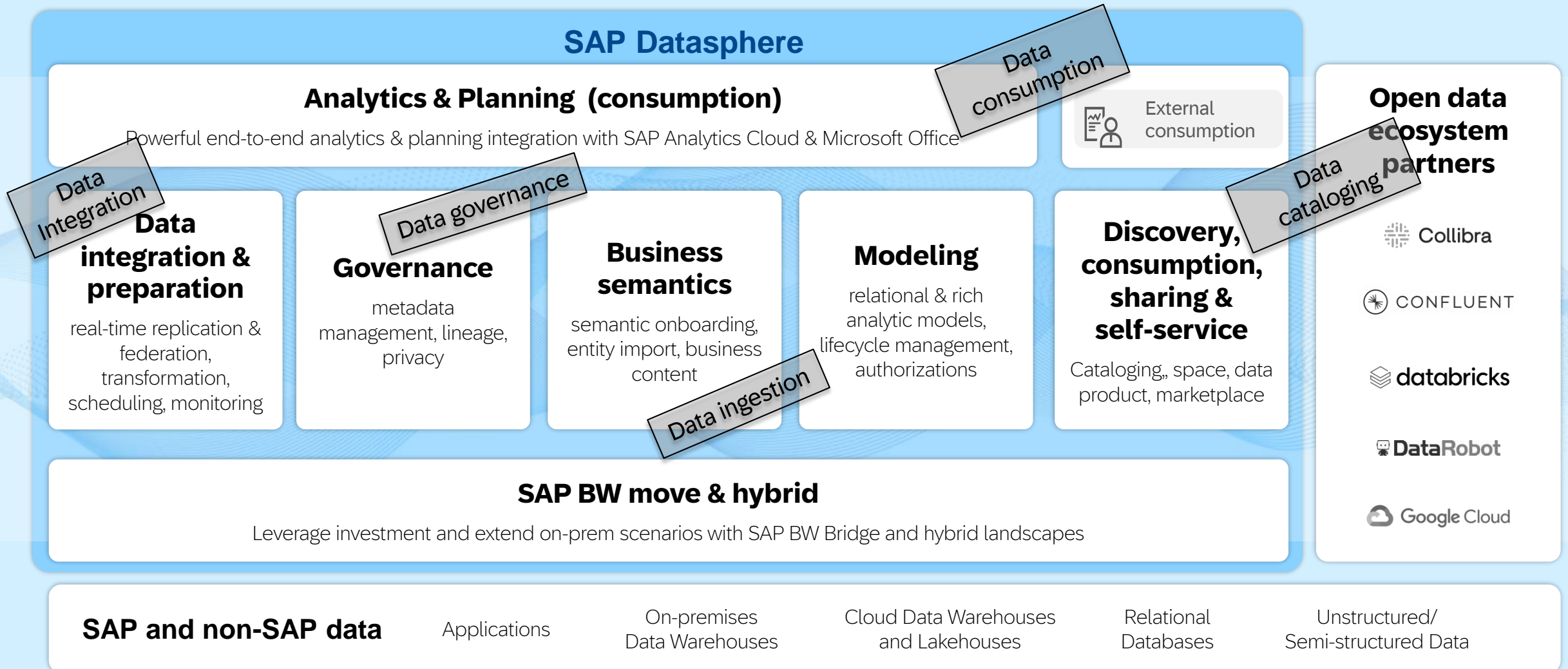
4. Data cataloging:

- This involves creating an **inventory of data assets and their metadata**.
- The catalog serves as a single source of truth for users to find, **understand, and trust** the data they need. It's a critical component of the business data fabric that allows data consumers to understand the business semantics.

5. Data consumption:

- Finally, it's about delivering the right data in the right format, at the right time, and to the right people.
- The business data fabric supports **data federation**, which enables unified and consistent access to data across diverse sources, reducing data redundancy.
- Data is presented in **business-friendly terms, with contexts**, making it simpler for data consumers to interpret and use the data for their specific use cases.
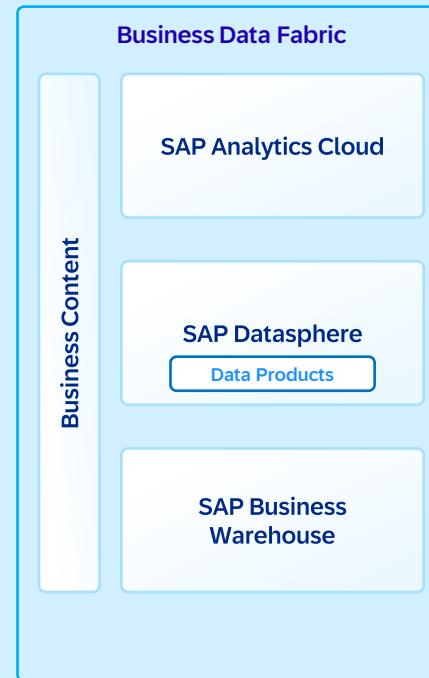
SAP Datasphere is the foundation for a business data fabric architecture

SAP Datasphere

Analytics & Planning (consumption)
Powerful end-to-end analytics & planning integration with SAP Analytics Cloud & Microsoft Office

Data consumption

External consumption

Open data ecosystem partners

Data Integration

Data governance

Data cataloging

Data integration & preparation
real-time replication & federation, transformation, scheduling, monitoring

Governance
metadata management, lineage, privacy

Business semantics
semantic onboarding, entity import, business content

Modeling
relational & rich analytic models, lifecycle management, authorizations

Discovery, consumption, sharing & self-service
Cataloging,, space, data product, marketplace

Data ingestion

- Collibra
- CONFLUENT
- databricks
- DataRobot
- Google Cloud

SAP BW move & hybrid
Leverage investment and extend on-prem scenarios with SAP BW Bridge and hybrid landscapes

SAP and non-SAP data

| Applications | On-premises Data Warehouses | Cloud Data Warehouses and Lakehouses | Relational Databases | Unstructured/ Semi-structured Data |

How SAP Business Data Cloud strengthens a Business Data Fabric

Creating additional value to the Business Data Fabric by extending the services

Business Data Fabric

Business Content

SAP Analytics Cloud

SAP Datasphere

Data Products

SAP Business Warehouse

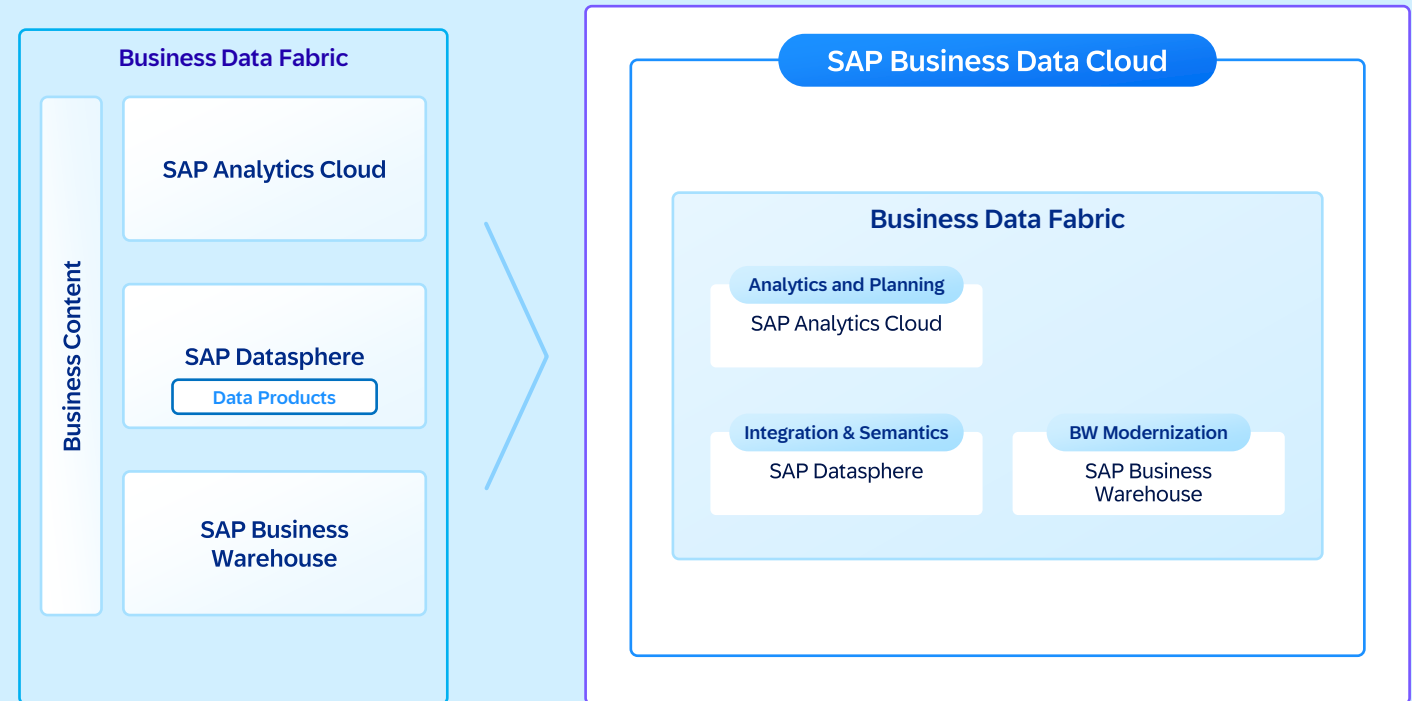*SAP Databricks will be part of GA version

Creating additional value to the Business Data Fabric by extending the services

Enhance the use cases to create additional business value

- **Pivotal evolution of the Business Data Fabric**
  leveraging existing solutions and investments with SAP Analytics Cloud (for planning), SAP Datasphere and SAP BW or SAP BW/4HANA and its capabilities

- **SAP BW modernization**
  take your SAP BW or BW/4HANA investment along and enable custom data products on your BW data
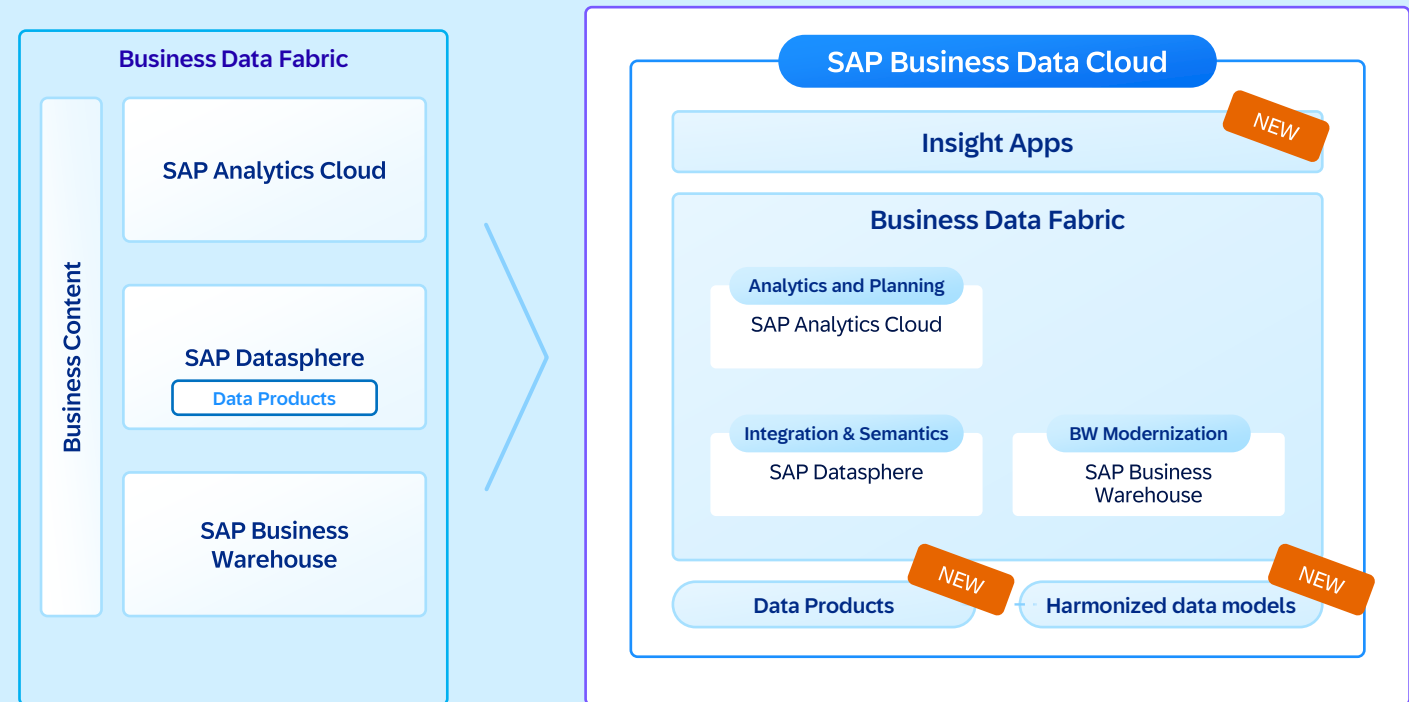
Business Data Fabric

Business Content

SAP Analytics Cloud

SAP Datasphere

Data Products

SAP Business Warehouse

SAP Business Data Cloud

Business Data Fabric

Analytics and Planning

SAP Analytics Cloud

Integration & Semantics

SAP Datasphere

BW Modernization

SAP Business Warehouse

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- **SAP data products and insight apps**
  deliver the next-level business content eliminating the need for manual data integration and modeling while accelerating the process from data to insights
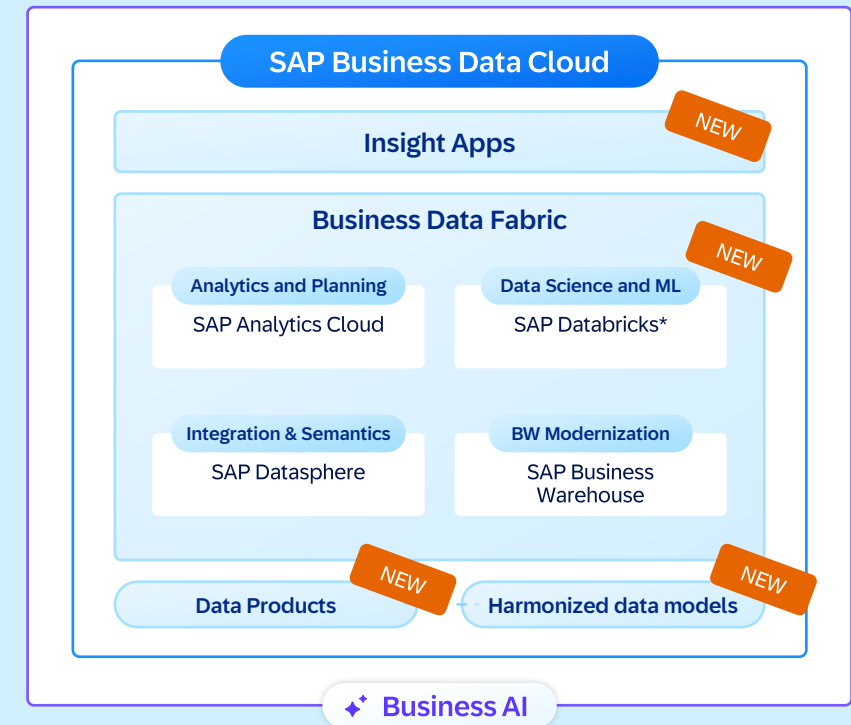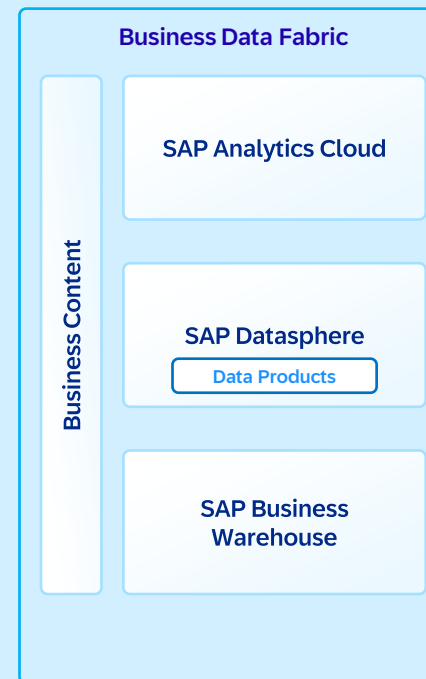
Business Data Fabric

Business Content

- SAP Analytics Cloud
- SAP Datasphere
  - Data Products
- SAP Business Warehouse

SAP Business Data Cloud

Insight Apps — NEW

Business Data Fabric

- **Analytics and Planning**
  SAP Analytics Cloud

- **Integration & Semantics**
  SAP Datasphere

- **BW Modernization**
  SAP Business Warehouse

- Data Products — NEW
- Harmonized data models — NEW

*SAP Databricks will be part of GA version

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- **Data science and ML use cases**
  on an integrated platform leveraging SAP Databricks* and object store technology with zero copy delta share

- **Infuse AI with Joule**
  unifying data platforms and business applications to establish the foundation for SAP Business AI

Business Data Fabric

Business Content

- SAP Analytics Cloud
- SAP Datasphere
  - Data Products
- SAP Business Warehouse

SAP Business Data Cloud

Insight Apps `NEW`

Business Data Fabric `NEW`

Analytics and Planning	Data Science and ML
SAP Analytics Cloud	SAP Databricks*

Integration & Semantics	BW Modernization
SAP Datasphere	SAP Business Warehouse

Data Products `NEW`   Harmonized data models `NEW`

✦ **Business AI**

*SAP Databricks will be part of GA version

Business data fabric provides comprehensive approach to transforming data management and implementing emerging capabilities

A business data fabric provides the implementation path to experience the key advantages organizations are looking for from a data mesh, **while preserving critical business context and metadata semantics**
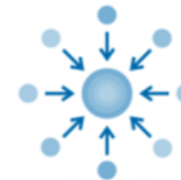
Core Principles of a Data Mesh

Domain ownership

Data as a product

Self-service access

Federated governance

Business data fabric provides comprehensive approach to transforming data management and implementing emerging capabilities

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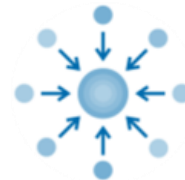## Evolving Data Management with a Business Data Fabric

Domain ownership

Data as a product

Business semantics

Self-service access

Federated governance

Intelligent data discovery

Business data fabric provides comprehensive approach to transforming data management and implementing emerging capabilities
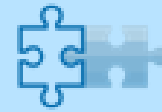
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Evolving Data Management with a Business Data Fabric
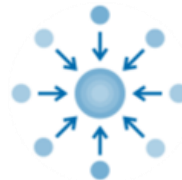

Domain ownership

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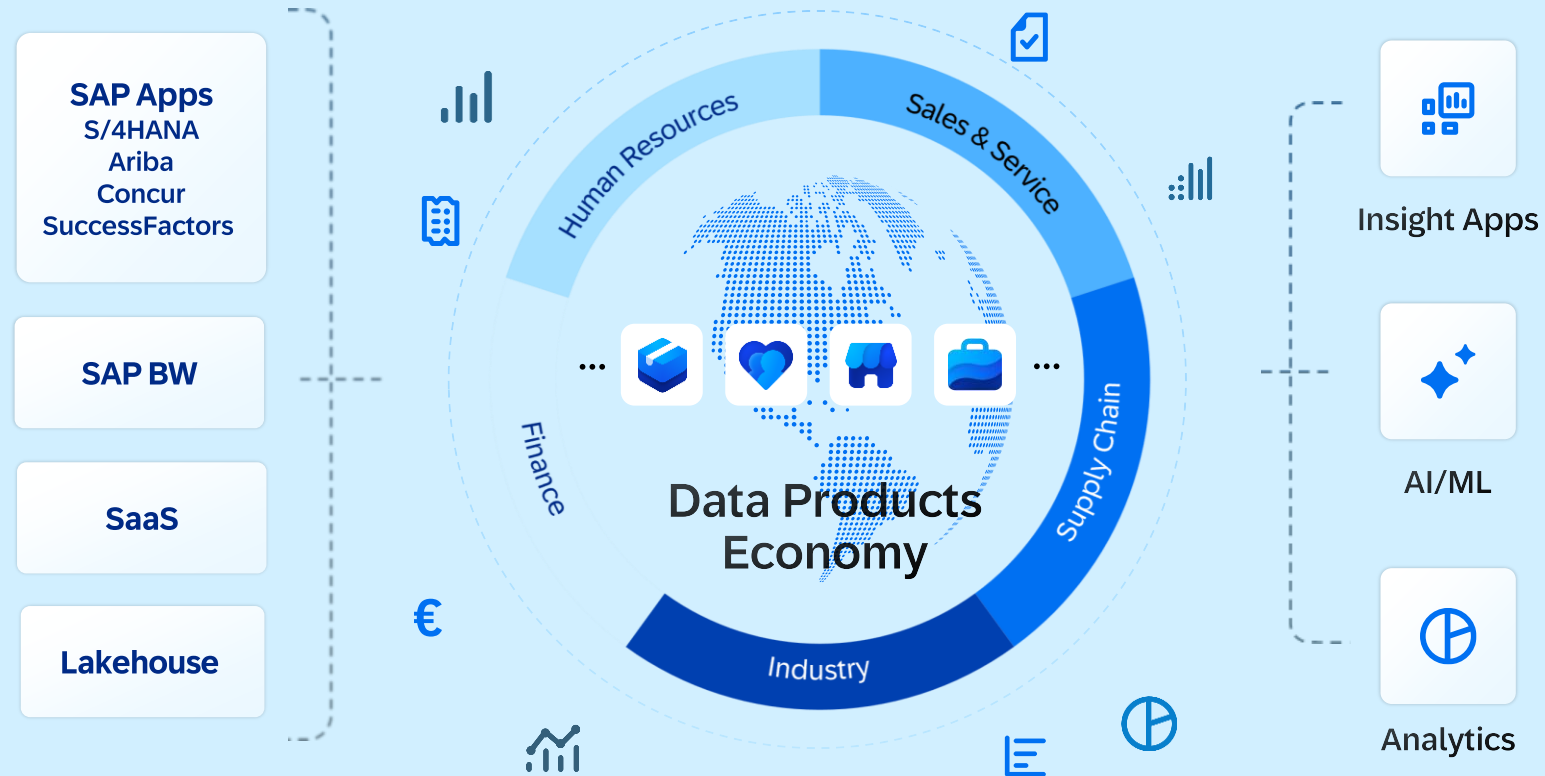
Business semantics

Self-service access

Federated governance

Intelligent data discovery

From a Data Fabric to a New Data Product Economy

SAP Apps
S/4HANA
Ariba
Concur
SuccessFactors

SAP BW

SaaS

Lakehouse

Human Resources

Sales & Service

Finance

Supply Chain

Industry

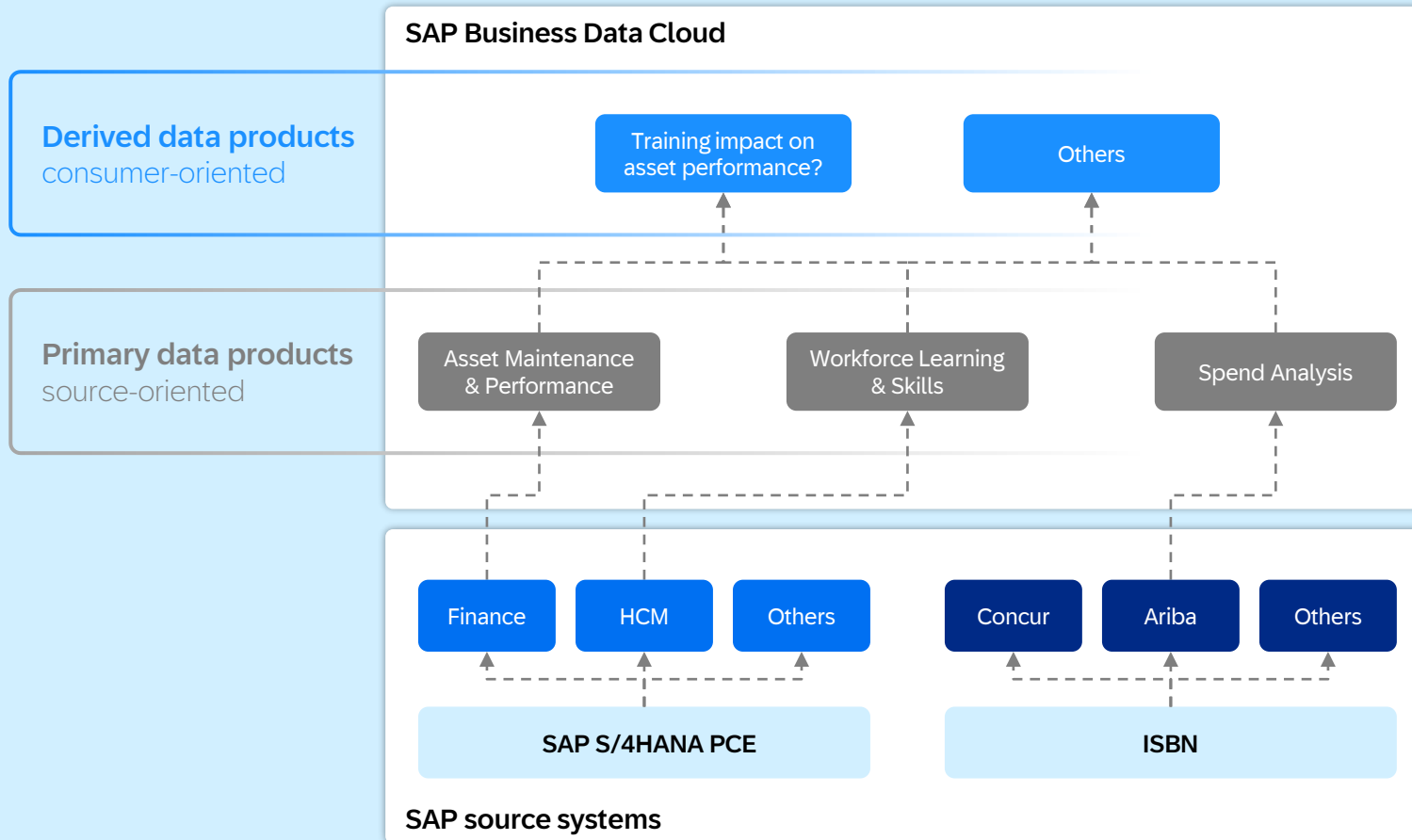**Data Products Economy**

Insight Apps

AI/ML

Analytics

Customers and partners can generate unique data products, AI models, and insights apps and fully participate in SAP's data product economy

Establish a Data Product Economy to serve multiple use cases

SAP managed

- S/4HANA PCE
- Success Factors
- Ariba
- Concur
- …

Custom managed

- S/4HANA
- ECC
- BW[4]
- Third-party

Data integration & transformation

Out-of-the-box **SAP managed data products** delivered as part of insight apps & data packages

Data Products

Zero copy delta share

Custom managed data products for integration and extension of insight apps & data packages

Insight apps

AI/ML

Analytics

Organize SAP data through data products
A service to minimize time to insight

SAP Business Data Cloud

Derived data products
consumer-oriented

- Training impact on asset performance?
- Others

Primary data products
source-oriented

- Asset Maintenance & Performance
- Workforce Learning & Skills
- Spend Analysis

SAP source systems

- Finance
- HCM
- Others
- Concur
- Ariba
- Others

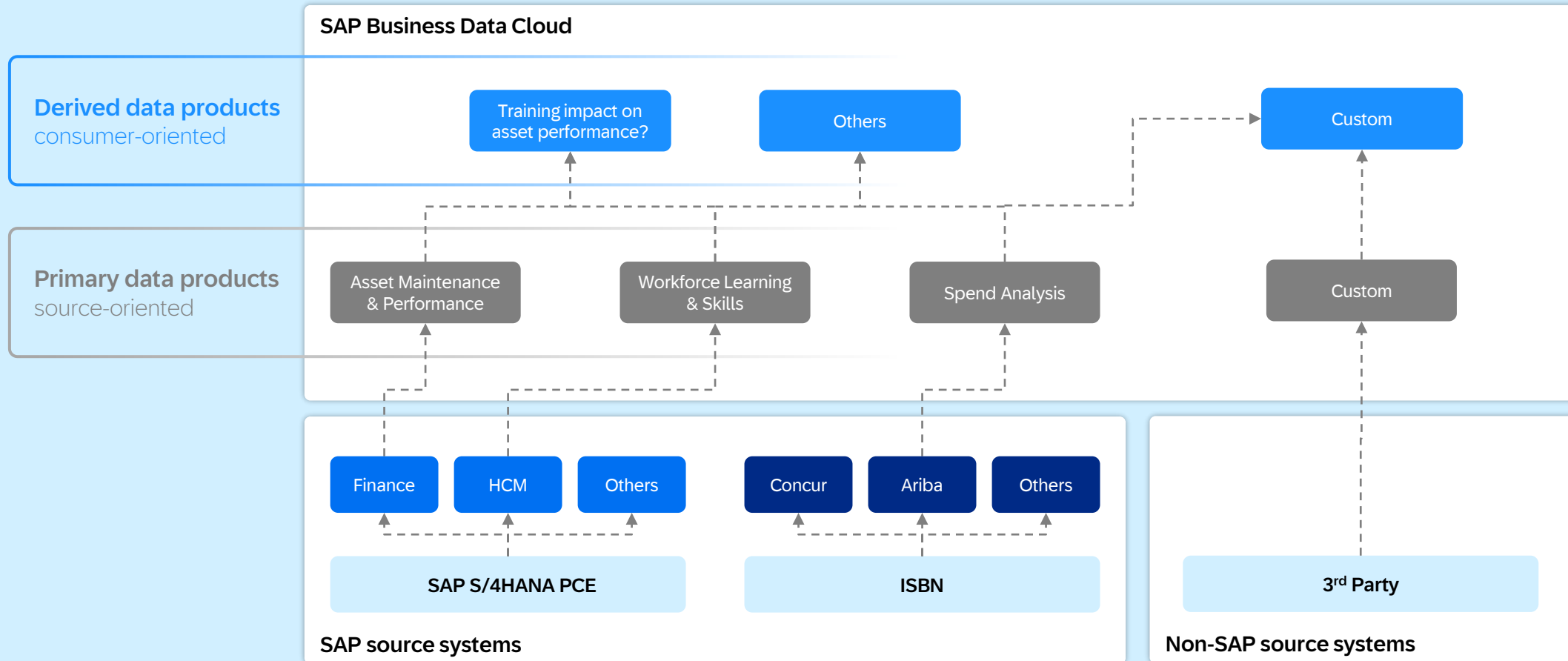**SAP S/4HANA PCE**

ISBN

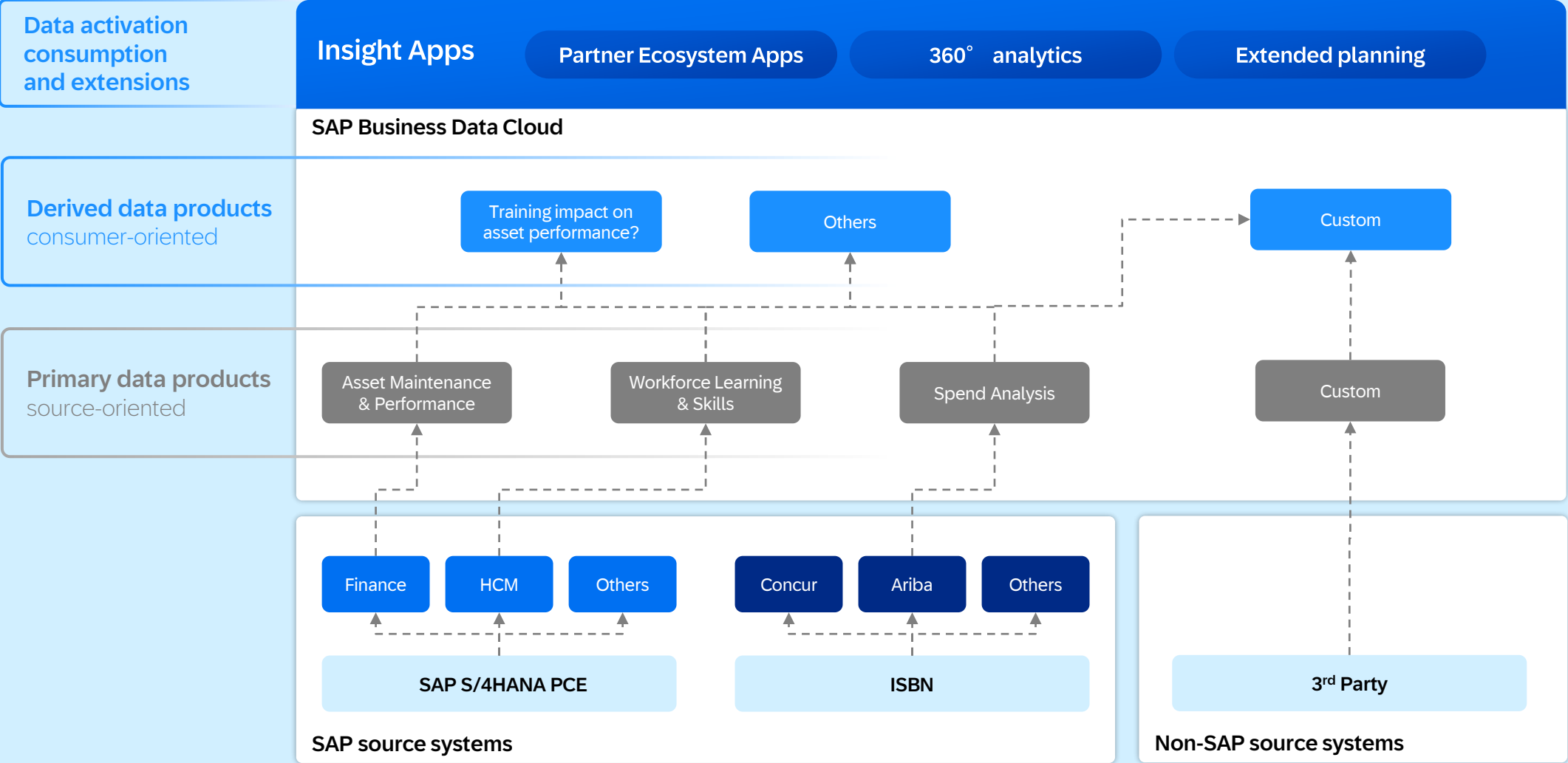## Primary and derived data products

A **derived data product** is curated by SAP and derived from other data set(s). They deliver value-add and are based on other data products or APIs.

A **primary data product** is directly provided from applications and is not based on other data products representing the original data from a source application.

Extending the Business Data Fabric with non-SAP data

SAP Business Data Cloud

Derived data products
consumer-oriented

| Training impact on asset performance? | Others | | Custom |

Primary data products
source-oriented

| Asset Maintenance & Performance | Workforce Learning & Skills | Spend Analysis | Custom |

| Finance | HCM | Others | Concur | Ariba | Others |

SAP S/4HANA PCE

ISBN

3rd Party

SAP source systems

Non-SAP source systems

Extending the Business Data Fabric with non-SAP data

Data activation consumption and extensions

| Insight Apps | Partner Ecosystem Apps | 360° analytics | Extended planning |

SAP Business Data Cloud

Derived data products
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SAP S/4HANA PCE

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ISBN

Non-SAP source systems

- 3rd Party

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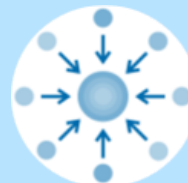## Evolving Data Management with a Business Data Fabric

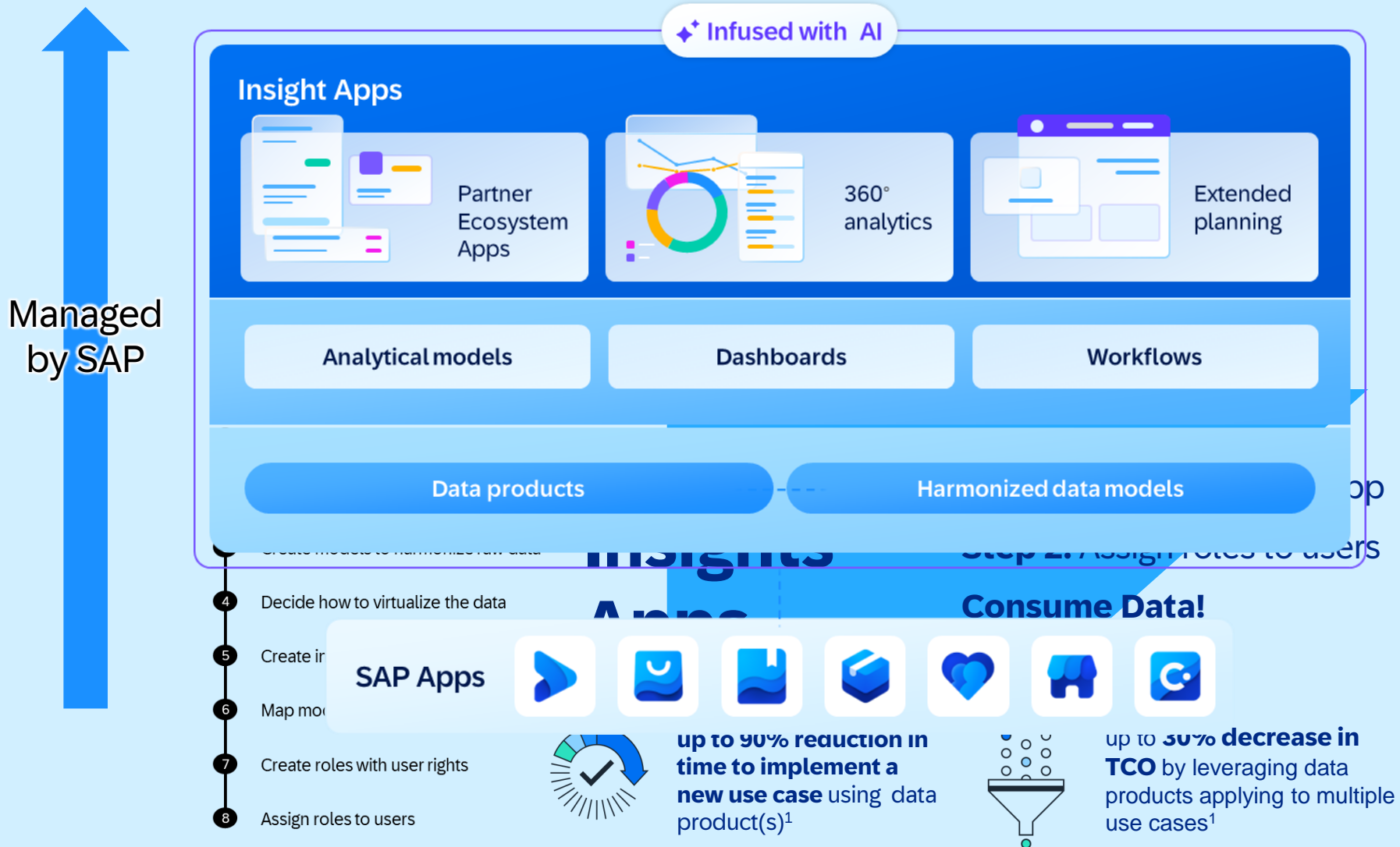**Domain ownership**

Data as a product

Business semantics

Self-service access

Federated governance

Intelligent data discovery

Insights Apps leverage curated data products for the data-driven enterprise

ANALYTICS

ON

✦ **Infused with AI**

Insight Apps

Partner Ecosystem Apps	360° analytics	Extended planning

Analytical models	Dashboards	Workflows

| Data products	Harmonized data models

Managed by SAP

Flip a Switch for Analytics

Managed by SAP

- Data Extraction from SAP Applications
- Harmonized Data Model
- BI Dashboards and Planning Apps
- Infused with AI

Insights Apps

Step 2: Assign roles to users

Consume Data!

3 Create models to harmonize raw data

4 Decide how to virtualize the data

5 Create in

6 Map mod

7 Create roles with user rights

8 Assign roles to users

SAP Apps

up to 90% reduction in time to implement a new use case using data product(s)[1]

up to 30% decrease in TCO by leveraging data products applying to multiple use cases[1]
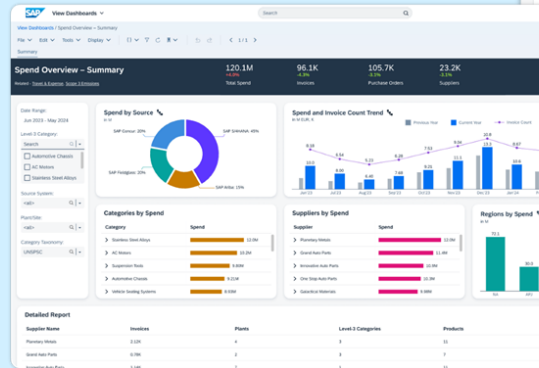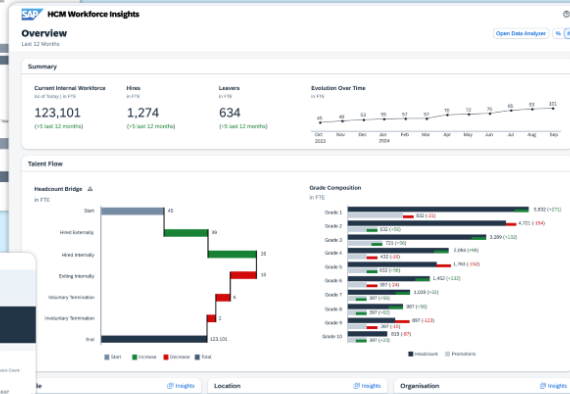
Insight Apps

Managed by SAP ⬆

Core Enterprise Analytics

E.g. **Working Capital** - Enabling companies to effectively make use of current assets and maintain sufficient cash flow to meet short-term goals and obligations.
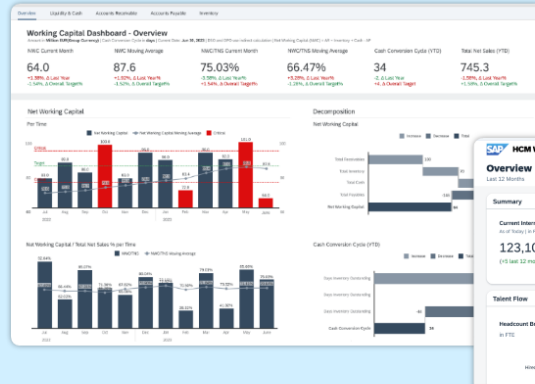
People Analytics

Enabling customers to understand their workforce composition and organizational structure.

Spend Analytics

SAP Spend Control Tower is SAP's new, next-generation analytics solution designed to give companies faster, better visibility into enterprise-wide spend data

CIO	CFO	CHRO	CRO	COO	Partner Ecosystem Apps
Core Enterprise Analytics	**People Analytics**	**Spend Analytics**	**Customer Analytics**	**Supply Chain Analytics**	accenture
• Working Capital	• Employee Central	• Spend Control Tower	• Customer Data Platform	• Order Management	Capgemini
• Finance Foundation	• Learning	• Procurement analysis	• Customer Management	• Inventory and Costing	DataRobot
• Sales Analysis	• Skills	• Supplier risk analysis	• Sales planning & analysis	• Procurement	EY
• Enterprise Asset Mgt	• Recruiting	• Contract Management	• Stock forecasting	• Manufacturing	Spendscape by McKinsey
• Service Analysis	• Talent	• Consolidated Spend analysis	• ++	• ++	pwc
• Solution Business	• ++				

ANALYTICS

Flip a Switch for Analytics

Insight apps provide:

• LoB users with ready-to-use insights, to improve decision making and take action on critical business signals.

• Built by SAP utilizing decades of industry and **domain** experience.

Insight Apps - Working Capital

ANALYTICS

ON

Working Capital [Available]
Application

Overview   Documentation

Category:
Finance

Version:
1.0.0

Details

Manage
by SAP

Data Products (30)

Name	Description
BillableControl	The billable co
BillingProcessDocument	A document cr
BusinessArea	Organizational
CashFlow	The Cash Flow
Company	A Company is
CompanyCode	A company co
ConsolidationChartOfAccounts	A consolidation
ConsolidationSubitem	A Consolidation
ConsolidationUnit	The smallest e
ControllingArea	A Controlling A
ControllingObject	Identifier of the
CostAnalysisResource	A cost analysis

CostCenter	A cost center is an organization...	12		1.0.0
CostCenterActivityType	A cost center activity type is a...	43		1.0.0
Country	A country is a coded representa...	32		1.0.0
Customer	A business partner to whom ma...	47		1.0.0
FinancialPlanningEntryItem				
FiscalYear				
FunctionalArea				
GeneralLedgerAccount				
HANACurrency				
HouseBank				
InternalOrder				
JournalEntryCodes				
JournalEntryHeader				
JournalEntryItemCodes				
Ledger				
OperatingConcern				
OperationalAccountingDocument				
PaymentMethod				
PaymentTerms				
Plant				

Product	A product is a good that contrib...	28	1.0.0
ProfitCenter	A profit center is an organizatio...	33	1.0.0
Project	A project is a business operatio...	63	1.0.0
PurchasingOrganization	An organizational unit in Logisti...	42	1.0.0
SalesDocument	A document that represents a b...	17	1.0.0
SalesMasterData	Collection of Sales Master Data	19	1.0.0
SalesTaxType	A Sales Tax Type is a coded rep...	36	1.0.0
Segment	Division of a company for which...	31	1.0.0
ServiceDocument	A service document is a docum...	28	1.0.0
ShippingPoint	A shipping point is a coded rep...	30	1.0.0
StorageLocation	A storage location is a coded re...	19	1.0.0
Supplier	A business partner who provide...	17	1.0.0
SupplierConfirmation	Reference Document Type is a...	27	1.0.0
PaymentMethod			
PaymentTerms	Payment terms is a coded repr...	62	1.0.0
Plant	A plant is an organizational unit...	27	1.0.0

Business data fabric provides comprehensive approach to transforming data management and implementing emerging capabilities

A business data fabric provides the implementation path to experience the key advantages organizations are looking for from a data mesh, **while preserving critical business context and metadata semantics**

Evolving Data Management with a Business Data Fabric

Domain ownership

Data as a product

Business semantics

Self-service access

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Intelligent data discovery

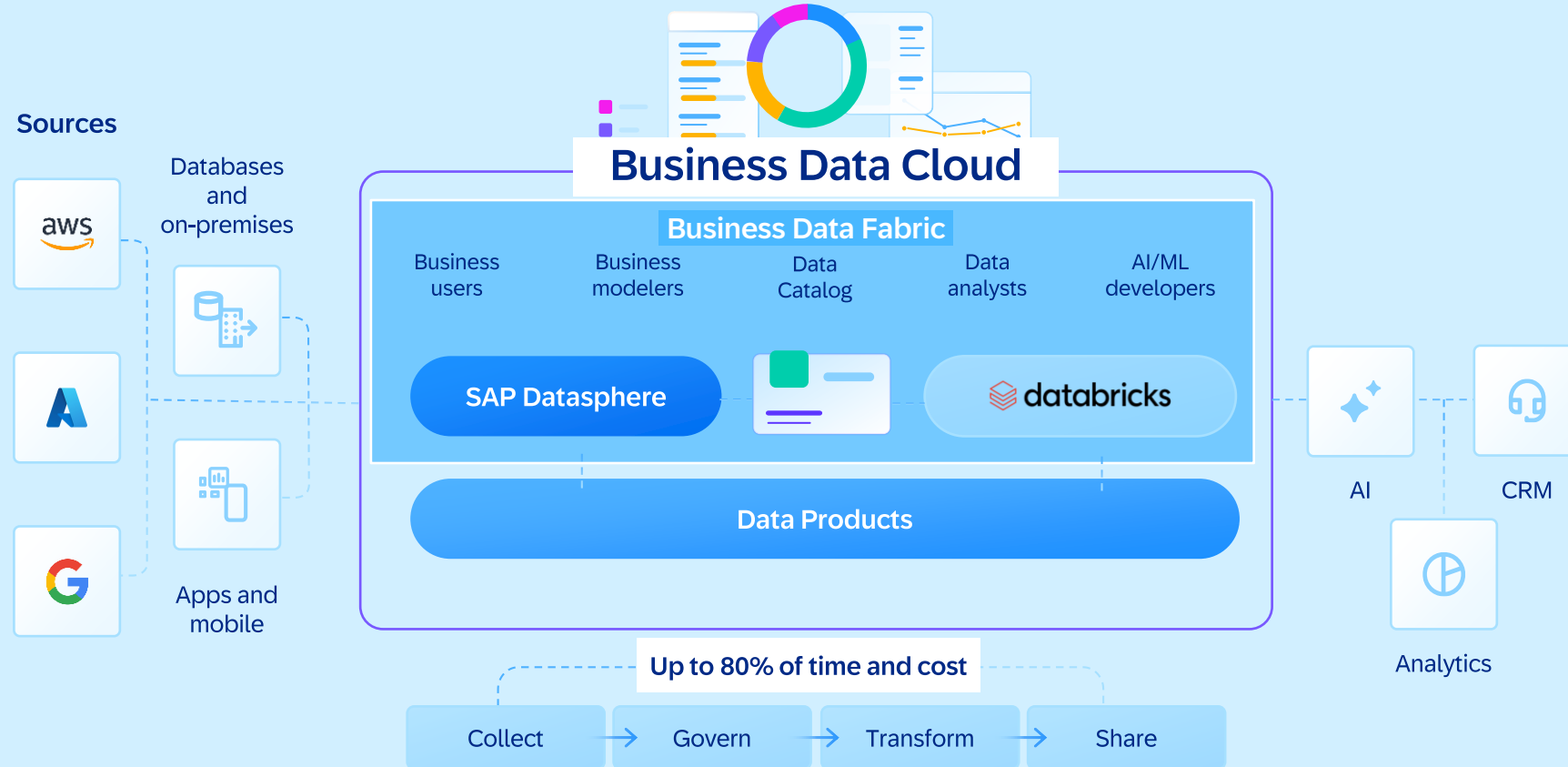# Unlock the full potential of your data with SAP Databricks

Recognized as a **market leader** in unified data and AI/ML platforms

Fully managed and embedded within SAP Business Data Cloud

Brings industry leading data engineering, data science, advanced analytics and SQL serverless capabilities to SAP's Business Data Fabric

Optimized to work with SAP data products with **zero-copy data exchange**

Sources

Databases and on-premises

Apps and mobile

Business Data Cloud

Business Data Fabric

| Business users | Business modelers | Data Catalog | Data analysts | AI/ML developers |

SAP Datasphere

databricks

Data Products

AI

CRM

Analytics

Up to 80% of time and cost

Collect → Govern → Transform → Share

Unify data with zero copies leveraging Delta Share

SAP Databricks enables secure and seamless data sharing between SAP and non-SAP data

✦ Business AI

Insight Apps

| Partner Ecosystem Apps | 360° analytics | Extended planning |

Business Data Fabric

Business semantics

Analytics and planning

BW Modernization

Data engineering and ML/AI

| Notebooks | SQL Analytics | Mosaic AI |

Unity Catalog

Delta Share

databricks

Data products ------ Harmonized data models

SAP Apps

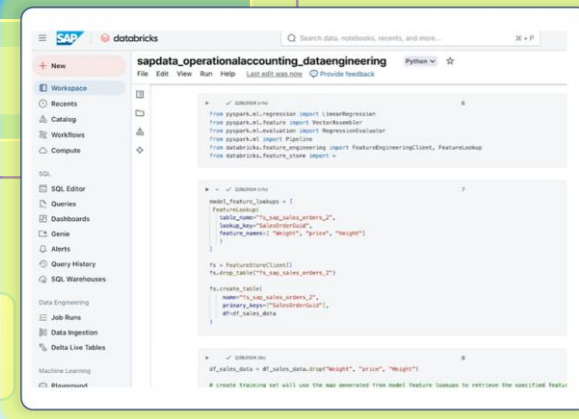Non-SAP Apps   Hybrid On-premises   SaaS Edge   Cloud-native

- Access to all data products - trusted, up-to-date SAP data

- One data catalog allows easy access to find all relevant data quickly

- SAP data easily accessible via delta share – no copying of data

- Allows data science roles to work with **familiar tools**

- Easy sharing of AI/ML insights

*Databricks will be part of GA version

Now let take a look at what this all adds up to

From trusted data to meaningful AI

Thank you

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O   +61 3 9862-7534

Pierre van Rooyen
Domain Advisor - SAP Business
Technology Platform

Capabilities gained using SAP Databricks

SAP Databricks

Unify data with zero copies

Leverage delta sharing to connect and blend data without the need for or complex ETL or data copies

Delta Share

Deliver trusted data products

Access curated SAP managed data products

Build derived data products and publish to catalog

Unity Catalog

Develop with pro-code tooling

Develop pro-code data engineering & custom AI/ML.

Write spark pipelines to blend SAP and 3rd party data

Databricks Notebook

Analyze data at scale, on-demand

Analyze data at scale on-demand with SQL, for faster, data-driven decision-making

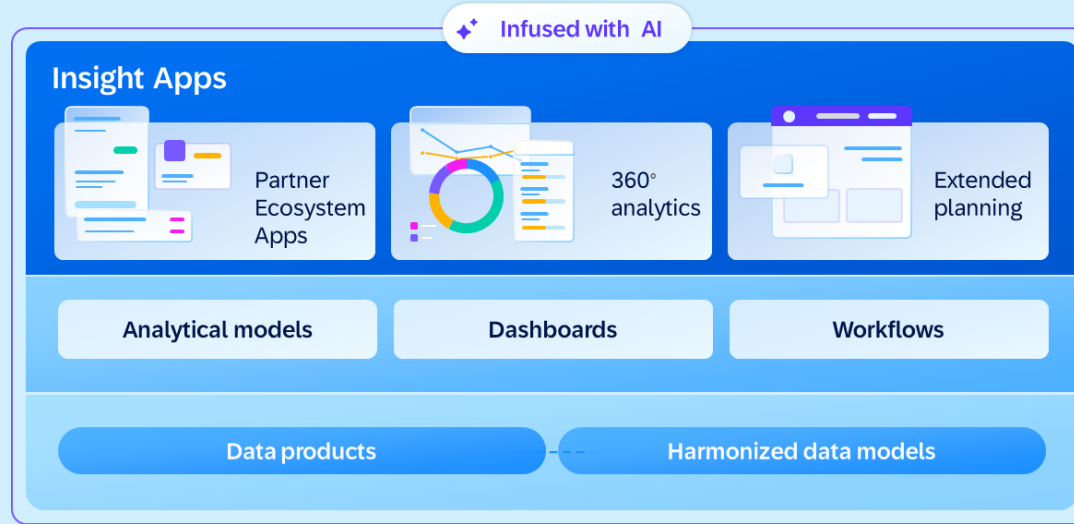**Databricks SQL**

Build custom AI and ML

Build governed and secure custom AI/ML solutions, leveraging trusted, reliable, AI-ready data

Data Science & Mosaic AI

Simplify and fully integrate your data landscape

Insights Apps leverage curated data products for the data-driven enterprise

Infused with AI

Insight Apps

Partner Ecosystem Apps	360° analytics	Extended planning
Analytical models	Dashboards	Workflows

Data products	Harmonized data models

ANALYTICS

ON

Managed by SAP

Flip a Switch for Analytics

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Without Insight Apps

1. Define required measures
2. Look for existing data
3. Create models to harmonize raw data
4. Decide how to virtualize the data
5. Create interactive dashboard
6. Map models to dashboard
7. Create roles with user rights
8. Assign roles to users

With Insights Apps

Step 1: Install an Insight App

Step 2: Assign roles to users

Consume Data!

up to 90% reduction in time to implement a new use case using data product(s)[1]

up to **30% decrease in TCO** by leveraging data products applying to multiple use cases[1]

Source: 1. A better way to put data to work, McKinsey, Harvard Business Review

Insights Apps leverage curated data products **for the data-driven enterprise**

Without Insight Apps

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Data needs context for authoritative decision-making

Innovation has happened in silos

Data, especially metadata, has been removed from its context

There's been a fundamental error—focusing solely on technology rather than the data