



# SAP Business AI



# AI represents a huge value creation potential across industries, many organizations are actively looking into expanding their adoption

Generative AI could add  
**\$2.6 to \$4.4 trillion**  
incremental value annually  
to the global Economy

Existing productivity value from  
previous generation of AI and  
analytics

## Widespread adoption, despite early days

**33%**

companies globally are using gen AI regularly in at least one business function

**40%**

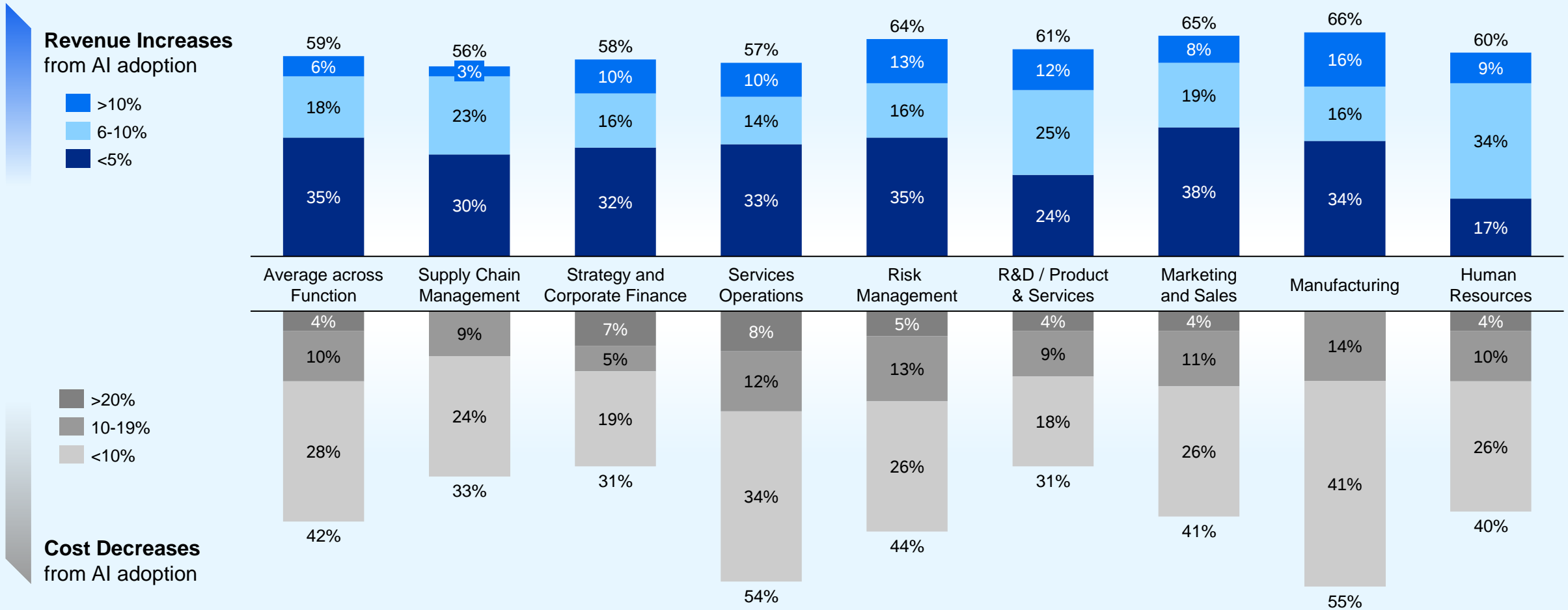
organizations will increase their investment in AI overall because of advances in gen AI

**60%**

organizations with AI adoption are using gen AI

# Organizations are seeing both top and bottom line growth improvement by leveraging AI across functional areas

Revenue and/or Cost improvements from AI adoption in the function using AI capabilities<sup>1</sup>



<sup>1</sup> Source: McKinsey, State of AI in 2023, 1,684 participants globally. Answers shown above only respondents who stated seeing increase in revenue or decrease in costs

# Customers wanting to adopt Business AI Desire Real Business Results

How can the most important business insights be delivered with perfect clarity



How can the entirely new processes be generated to transform business performance



How can employee productivity be augmented delivering improved outcomes



# Key requirements for AI in business

**Relevant**

**Reliable**

**Responsible**

**SAP Business AI has it all**

# Our business AI is embedded across the portfolio

Relevant

Reliable

Responsible



**Joule**

A copilot that truly understands your business

## Embedded AI capabilities

Cloud ERP

Supply Chain  
Management

Human Capital  
Management

Spend Management  
& Business Network

Customer Relationship  
Management

Business Technology  
Platform

## AI Foundation

on Business Technology Platform

## AI ecosystem partnerships and investments



ANTHROPIC



cohere

databricks

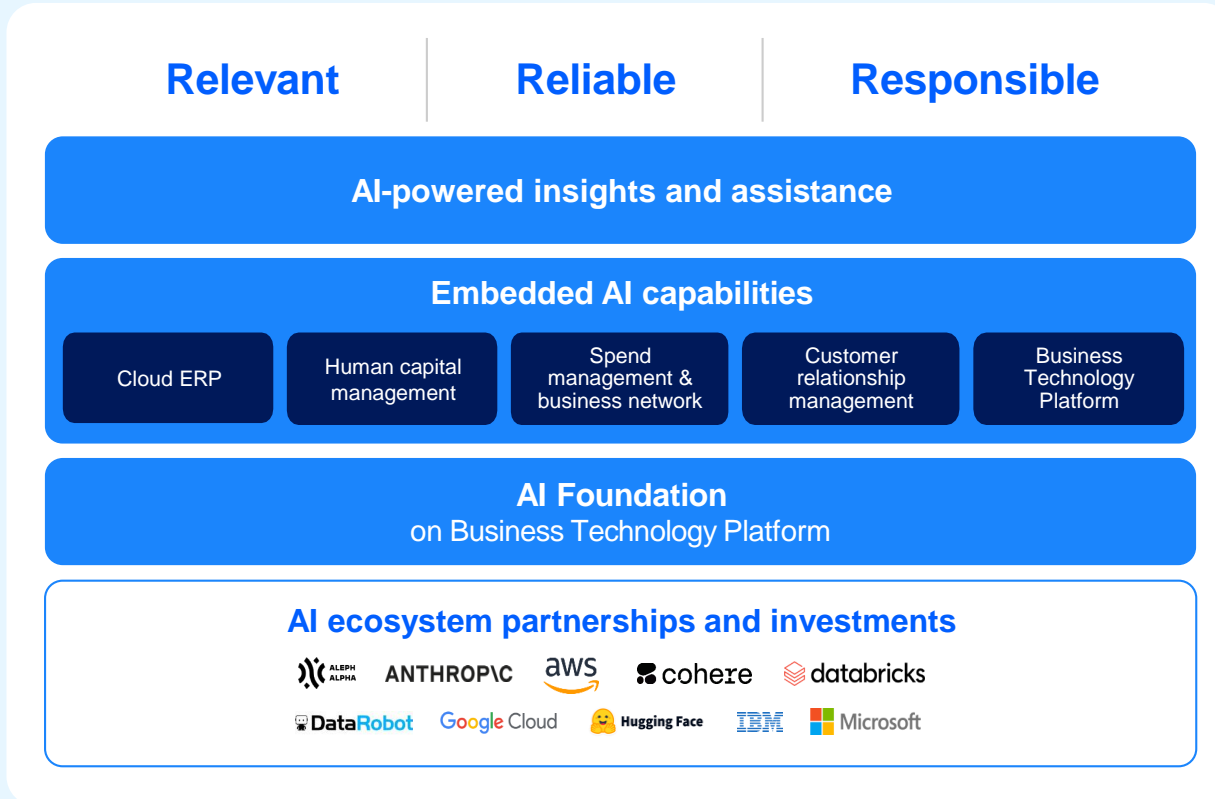
DataRobot

Google Cloud

IBM

Microsoft

# Only SAP Business AI can help customers unlock three sources of value in relevant, reliable and responsible manner for better performance



## **NATURAL USER EXPERIENCE**

Facilitates human-machine interaction

## **AUTOMATION**

Enable machines to complete repetitive tasks like humans

## **INSIGHTS, OPTIMIZATION, & PREDICTIONS**

Augment human decisions and cognition

# Today, SAP offers a large catalogue of AI-powered scenarios across all business functions

Finance	Supply Chain	Customer Experience	Procurement	Human Resources	IT and Cross-Function
<ul style="list-style-type: none"> <li>▪ Tax Compliance</li> <li>▪ Cash Application</li> <li>▪ Intelligent accrual</li> <li>▪ Travel expense auditing</li> <li>▪ Travel expense verification</li> <li>▪ Invoice processing</li> <li>▪ Business Integrity screening</li> <li>▪ Goods and invoice receipt matching</li> <li>▪ Mobile expense entry</li> </ul>	<ul style="list-style-type: none"> <li>▪ Stock in transit</li> <li>▪ Visual Inspection</li> <li>▪ Demand forecasting &amp; sensing</li> <li>▪ Project-cost prediction</li> <li>▪ Predicted delivery processing</li> <li>▪ Demand-driven replenishment</li> <li>▪ Forward scheduling</li> <li>▪ Field service scheduling</li> <li>▪ Asset prediction &amp; optimization</li> <li>▪ Slow-moving materials prediction</li> </ul>	<ul style="list-style-type: none"> <li>▪ Predicted delivery processing</li> <li>▪ Discount recommendations</li> <li>▪ Intelligent sales execution</li> <li>▪ Relationship intelligence</li> <li>▪ Sales route optimization</li> <li>▪ Sales order automation</li> <li>▪ Opportunity scoring</li> <li>▪ Customer insights</li> <li>▪ Guided selling</li> <li>▪ Lead scoring</li> <li>▪ Product recommendations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Guided buying</li> <li>▪ Sourcing item and supply prediction</li> <li>▪ Material group recommendations</li> <li>▪ Invoice object recommendations</li> <li>▪ Job matching for contingent workforce</li> <li>▪ Resume ranking for contingent workforce</li> <li>▪ O'Net labelling</li> </ul>	<ul style="list-style-type: none"> <li>▪ Skill and career path recommendations</li> <li>▪ Learning recommendations</li> <li>▪ Job analyzer</li> </ul>	<ul style="list-style-type: none"> <li>▪ Joule</li> <li>▪ Process automation</li> <li>▪ Business rule mining</li> <li>▪ Intrusion detection</li> </ul>

...Find out more on [SAP Business AI](#)





# Recent Release Highlights

## HR

- ✓ Joule in SAP SuccessFactors
- ✓ Job Description Generation
- ✓ Learning in Viva with Co-Pilot
- ✓ Assisted Interviews & Feedback

## Procurement

- ✓ Content recommendations in category tools

## Cloud ERP

- ✓ Next Generation Shared Services Automation in SAP Enterprise Service Management
- ✓ Visual Inspection
- ✓ Joule in SAP S/4HANA Cloud, public edition (EAC)

## Sales, Service, Support

- ✓ SAP CX AI Toolkit
- ✓ AI-assisted content generation

## IT & Cross-function

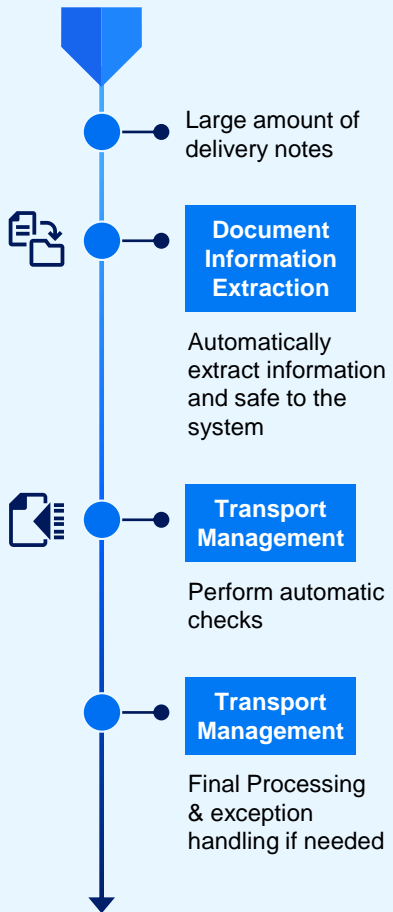
- ✓ Generative AI Hub in SAP AI Core
- ✓ Document Information Extraction, premium edition
- ✓ Just Ask in SAP Analytics Cloud
- ✓ SAP Build Code (Beta)

## Industries

- ✓ SAP Intelligent Product Recommendation
- ✓ SAP Predictive Replenishment

# Save up to 55% of delivery note processing costs with SAP Transportation Management

## Intelligent goods receipt analysis



Quickly return to regular process

### Challenge

- Processing **high volumes** of daily deliveries while ensuring accurate freight orders
- Manual process is time-consuming, error-prone, and leads to **manual rework**, with the potential to cause significant delays and inefficiencies

### Solution

#### Digital Supply Chain – Transportation Management

- Extraction of all relevant information automatically from the document – e.g., Delivery note and post data to the system
- Automating processing incl. Checks
- System can flag exceptions in freight orders, allowing clerks in the back-office to handle them and speed up the process for trucks without exceptions

### Benefits

- Automated checks can be conducted with **greater accuracy**, **minimizing errors** and **reducing the time** required for manual checks
- Leading to overall a **significant reduction** in the **hours spent** on manual checks and waiting times for logistics carriers
- Ultimately improving operational efficiency and saving valuable time

### Average Business Value for Customers

Calculation Method / Assumption In Notes

**Saves €0.42**

Per page of a delivery note\*

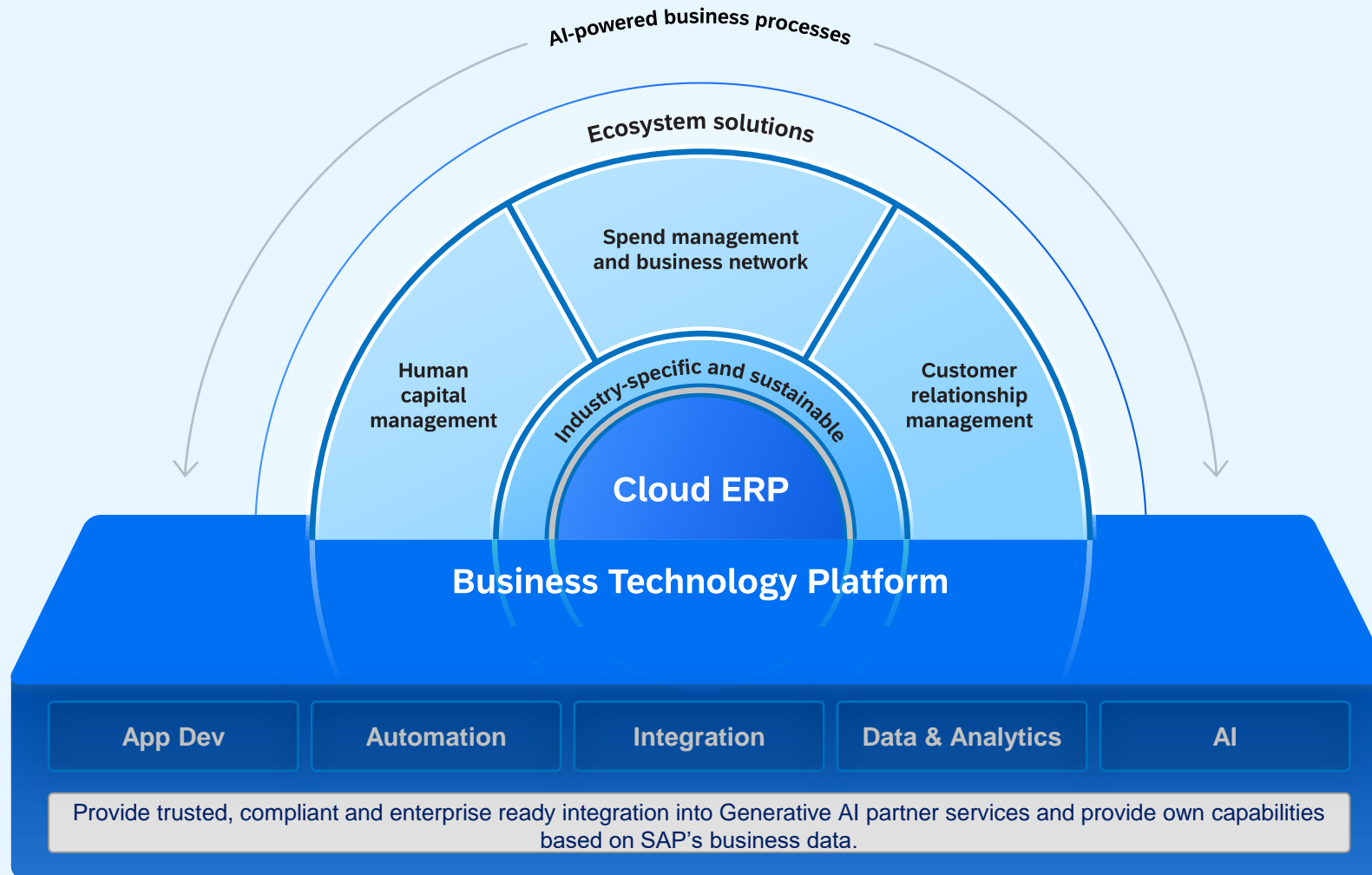
**Up to 80%  
Instant Accuracy**

### Customer / LoB Spotlight

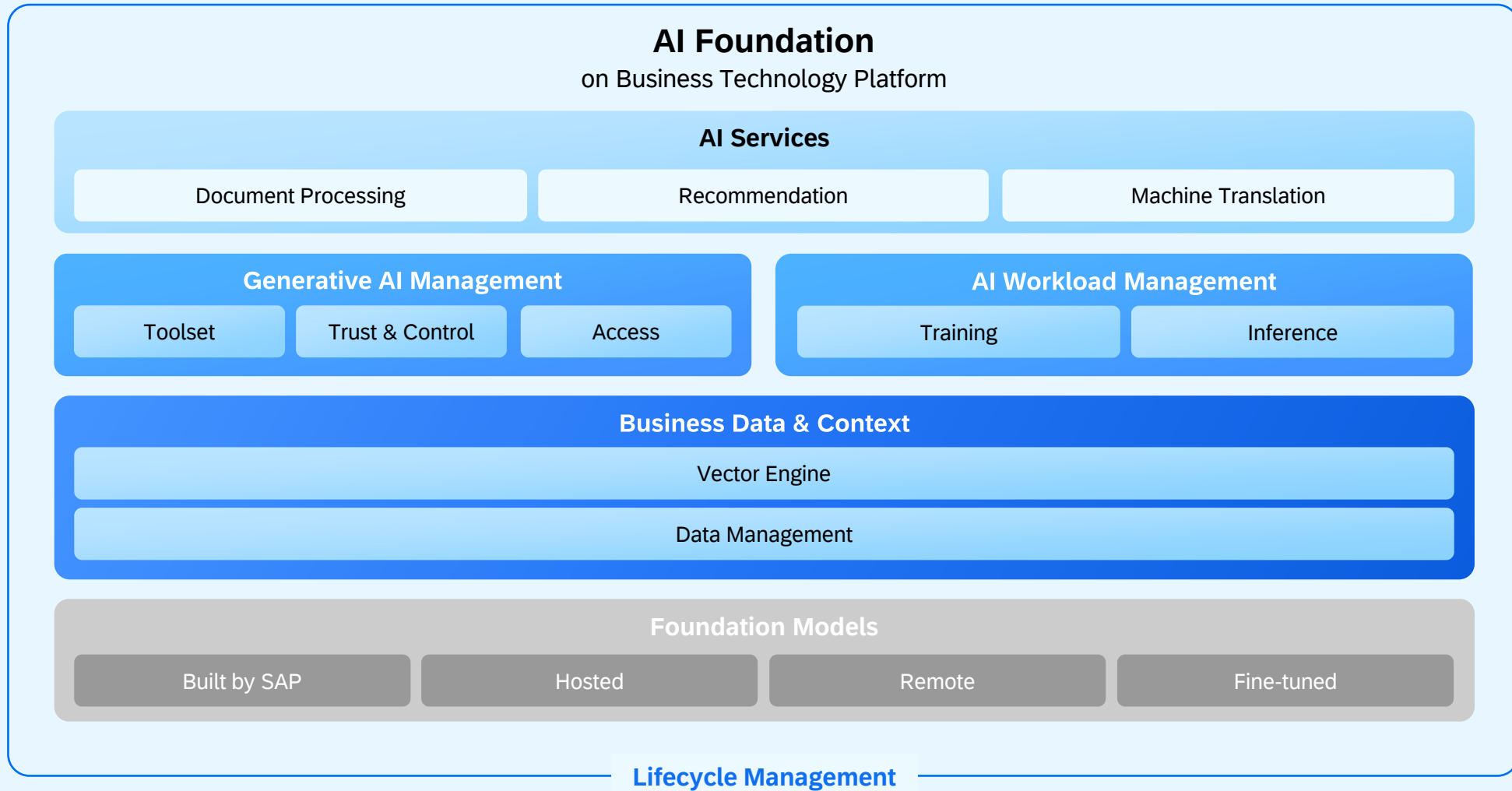
**Up to ~730k€/yr  
Expected Savings  
Per Factory**

\* Assumptions:  
 - Average field recognition rate: 80%  
 - Human cost rate: 50,- Euro/hour  
 - Today's manual processing time per page: 1 minute  
 - Calculated by savings of labor cost minus cost for DOX service

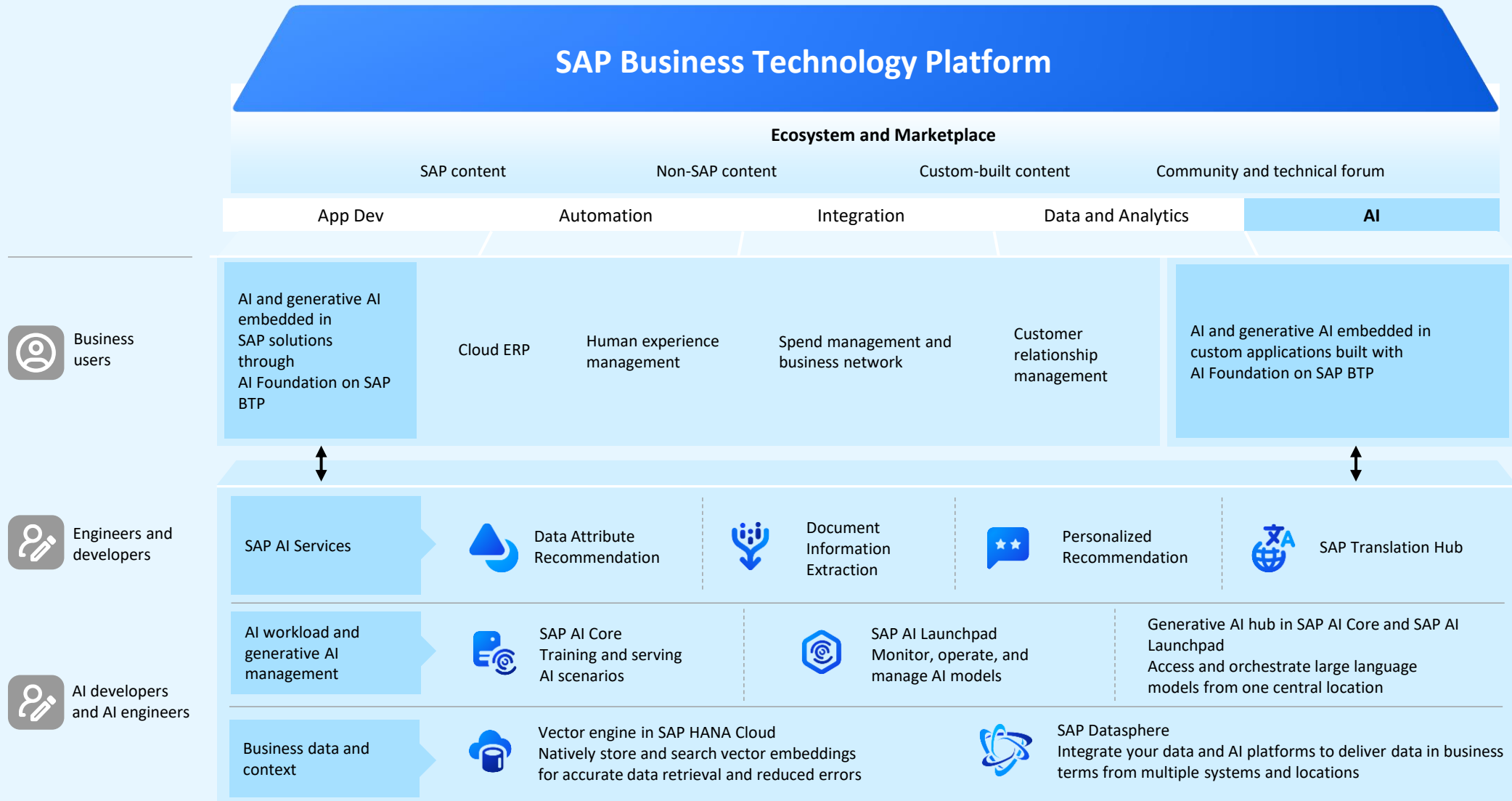
# BTP as enabler to infuse Generative AI into our entire portfolio



# A complete set of services for AI developers on SAP BTP



# AI with SAP Business Technology Platform



## Responsible AI

Our guiding principles of responsibility and trustworthiness serve as a road map for building AI-enabled software that is transparent, safe, and designed to protect your data and privacy.

# Explore models and engineer better prompts with generative AI hub playground in SAP AI Launchpad

Generative AI / Prompt Editor

**Prompt Editor** Name: HANA SQL Lag Save Create New Select

**Prompt** Run

**Message**

### Instruction:  
You are an SAP HANA Cloud expert.  
You are provided multiple context items that are related to the prompt you have to answer.  
Use the following pieces of context to answer the user's question.

### User:  
I'm trying to use the LAG analytic function of SAP HANA Cloud in a SQL Script procedure to get the previous row value in a specific partition. However, I'm getting unexpected results. Can you give me an example code that I could compare to my approach?

### Context:

> **Model** Selected Model: Falcon-40b

> **Model Grounding (0)**

**Response**

One approach to using the LAG analytic function in SAP HANA Cloud SQL Script procedure is to use a window function with a recursive subquery. Here's an example code snippet:

```

--- sql
WITH RECURSIVE table_name AS (
  SELECT ...
  FROM table_name
  UNION ALL
  SELECT ...
  FROM table_name
), subquery AS (
  SELECT ...
  FROM table_name
  UNION ALL
  SELECT ...
  FROM table_name
  UNION ALL
  SELECT ...
  FROM table_name
)
SELECT ..., LAG(... OVER (PARTITION BY ... ORDER BY
subquery.column))
FROM subquery
---

```

This code creates a recursive common table expression (CTE) called 'table\_name' that fetches data from the table 'table\_name' with a starting condition. The 'SUBQUERY' CTE then selects all rows from 'table\_name' that lie after the current row in the recursion. The final query selects all columns from the 'SUBQUERY' CTE and applies the LAG function to calculate the difference between the current row and the previous row in the same partition.

To use this code for your specific scenario, you need to replace the table name, column indices, and column names in the 'SELECT', 'FROM', and 'UNION ALL' clauses with your own. Make sure that



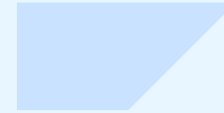
## Explore

the possibilities and responses of different models with a single click



## Create

requests that best satisfy your needs in a dedicated prompt engineering tool



## Manage

The lifecycle of your prompts to guarantee their best usage into your applications

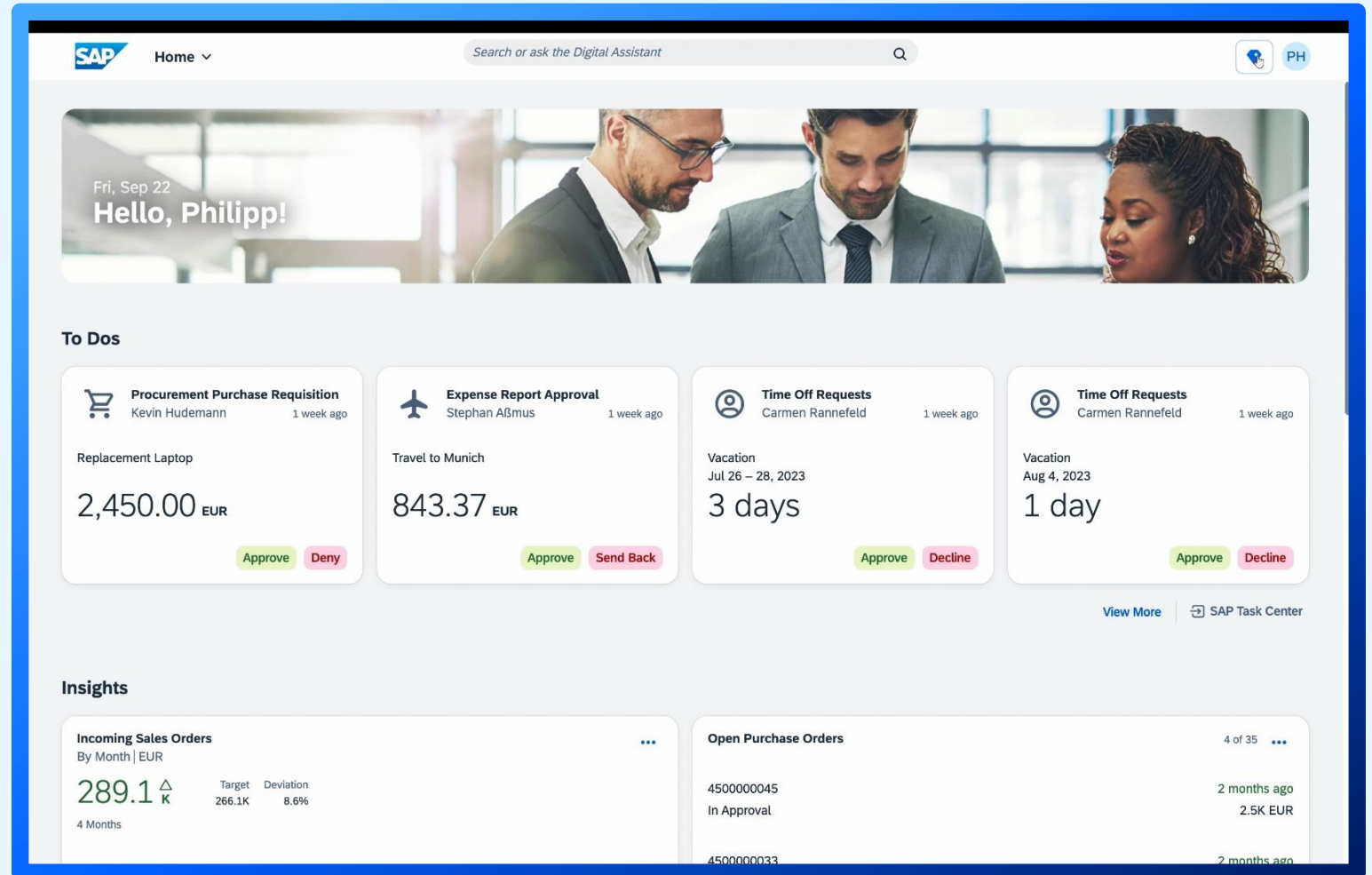
# Joule - the AI copilot that truly understands your business

**Work faster** with an AI copilot that truly understands your business

**Benefit from smarter insights** and quick answers on demand

**Achieve better outcomes** when creating content, code, and more

**Maintain full control** over decision-making and your data privacy

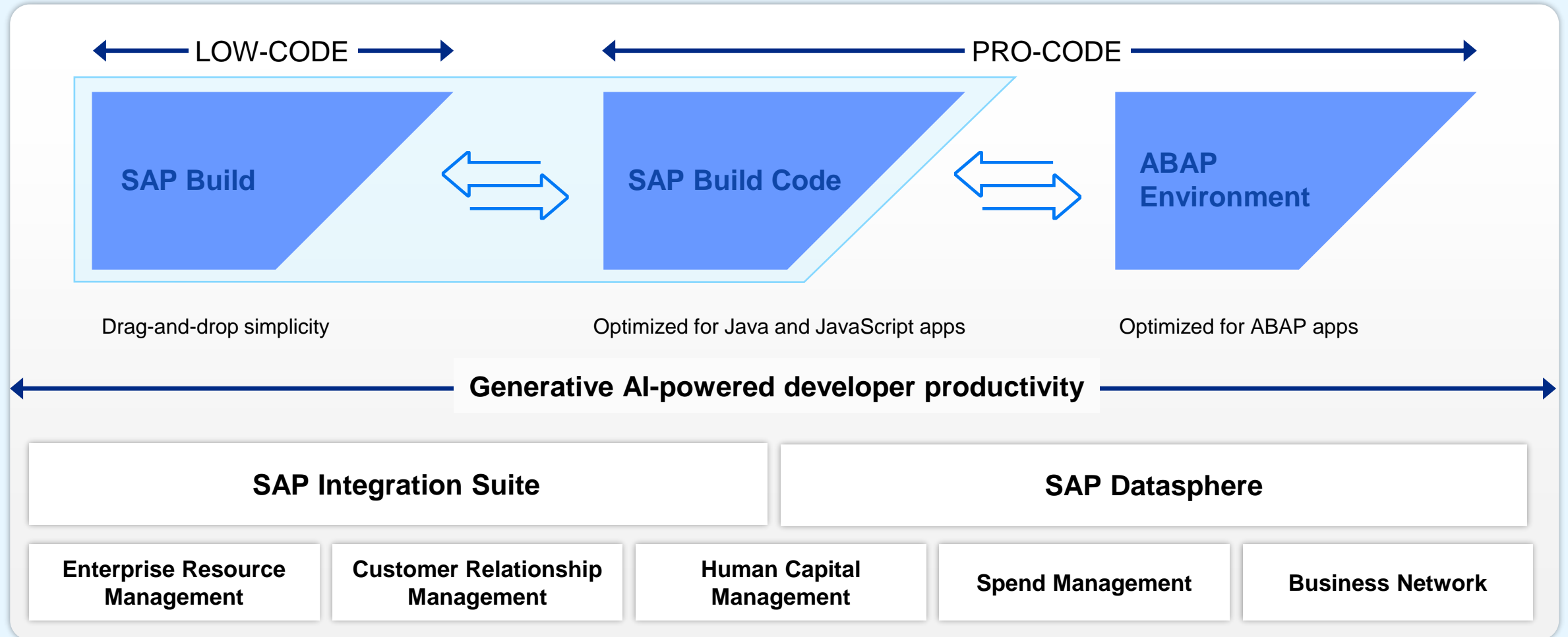


Joule

Note: Planned availability in SAP business applications at different times, starting with SuccessFactors and SAP Start in Q4 2023.

# Application development and automation on SAP BTP

Integrated solutions enabled by generative AI





# Unlock insights with AI-infused SAP Data & Analytics Portfolio

SAP Analytics Cloud  
Extended Planning and Analysis



SAP Datasphere  
Business Data Fabric



SAP HANA Cloud  
Intelligent Data Application



## Conversational

Access swiftly to insights and accelerate your use of major workflows using natural language and leveraging large language models

## Augmented

Get accurate and consistent insights for fact-based decision-making

## Predictive

Predict potential outcomes, generate forecasts and automate predictive planning

## Governed

Provide proper and governed data foundation for AI cases, incorporating semantically rich data from SAP and non-SAP sources

## Open

Integrate SAP Datasphere with AI-enabled stack of tools and processes through an API-first approach

## Simple

Achieve business outcomes faster and easier with innovations, such as automated modeling

## Intelligent

Empower developers to build apps that utilize multi-model and machine learning capabilities and connect to vital business data

## Integrated

Process, store, and analyse any data type – relational, geospatial, graph, JSON, and vector – in one flexible and adaptable database

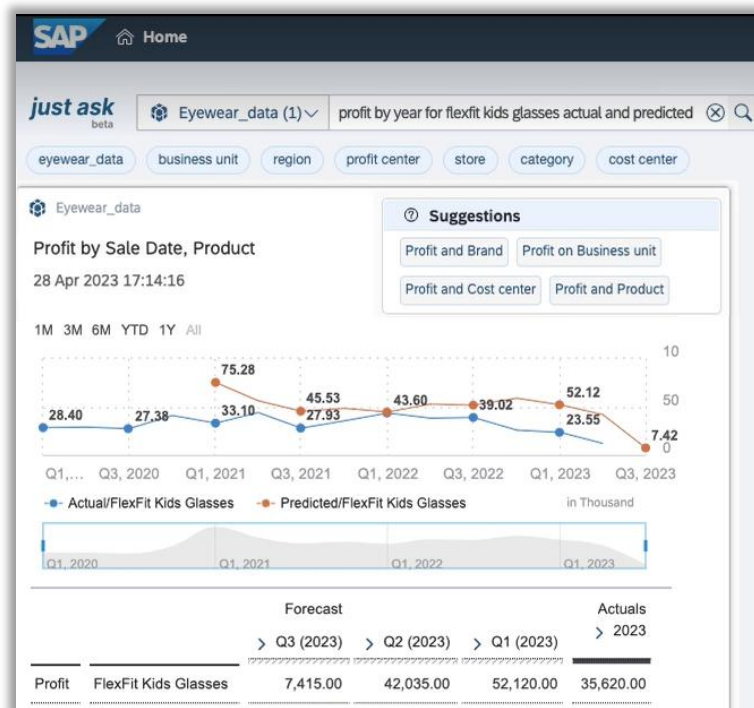
## Secure

Provide private context to generative AI applications via similarity search against high-dimensional embedding vectors

# Get answers to business questions in natural language in SAP Analytics Cloud

## AI-powered queries for analytics in natural language

 Information Consumer



### CHALLENGE

- Information consumers have little to no experience with analytics tools
- Information consumers access to insights is limited to existing dashboards
- IT teams face challenges to keep up with growing business demand for insights

### SOLUTION

#### Just Ask for SAP Analytics Cloud

- Empower Information consumers to get answers on their own
- Scale the use of analytics & fully leverage your data assets
- Analytics teams can focus on delivering strategic insights

### OUTCOMES

**Accelerate**

Access to relevant insights

**Increase**

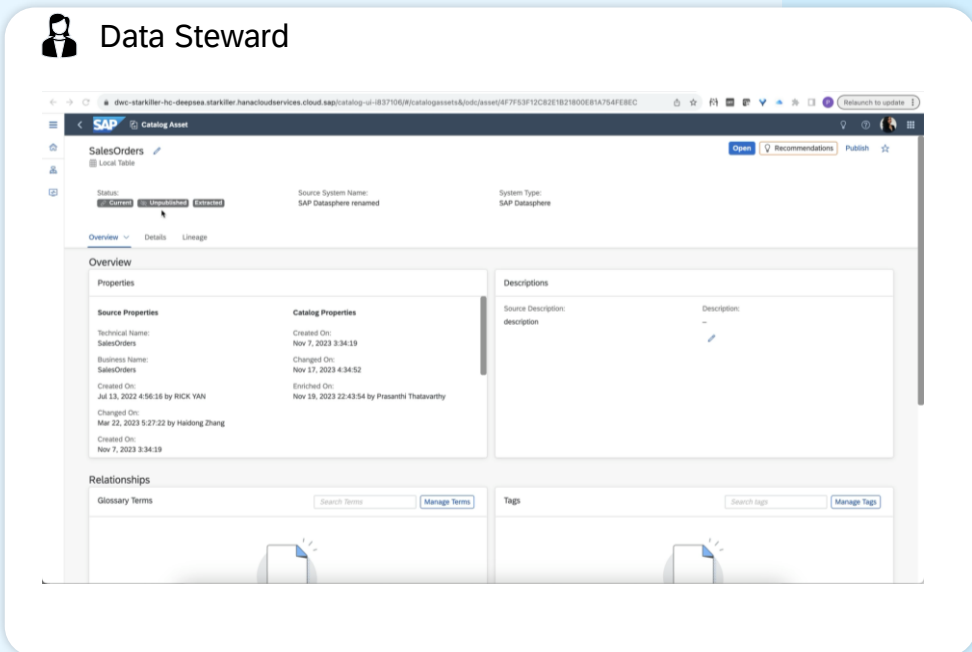
Analytics adoption for the 80% occasional users

**Empower**

Users to answer their business questions

# Enhance data discoverability with GenAI in SAP Datasphere

## GenAI automatically populates the data catalog metadata



### CHALLENGE

The Data Catalog in SAP Datasphere enables users to enhance their data assets with various enrichments like business descriptions, hierarchical tags and glossary definitions. This helps better discovery and understanding of their data. However, with millions of data assets in their landscape, adding enrichments for each asset is manual and cumbersome.

### SOLUTION

The fields in the data catalog get filled out with suggestions automatically requiring only the click of a button.

### OUTCOMES

**Enhance**

Data discoverability

**Save**

Hours of manual efforts

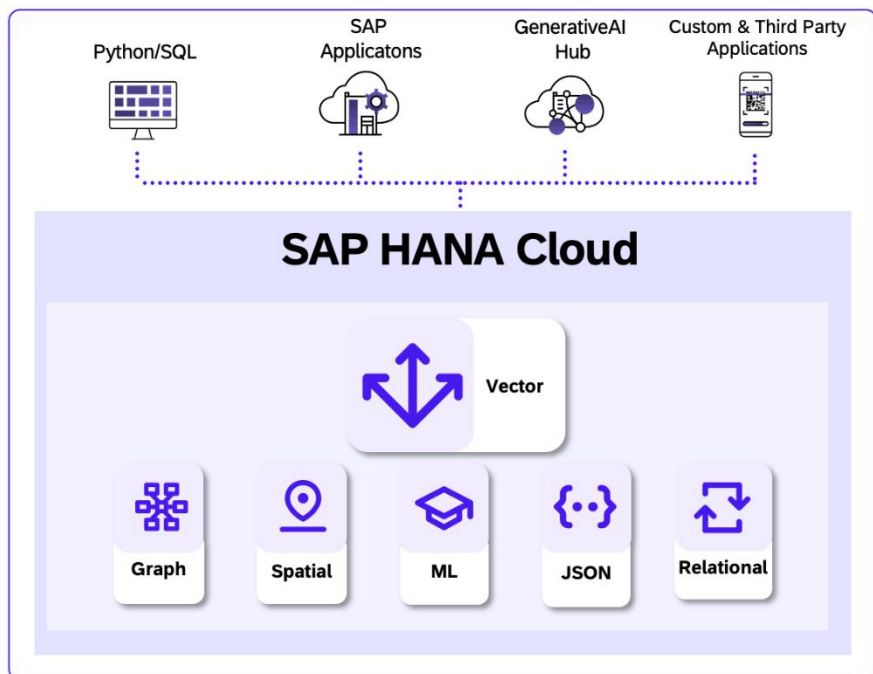
**Easy**

Handling for the user

# SAP HANA Cloud Vector Engine

## Storing Embedding Vectors and Similarity Search

 Developer



### CHALLENGE

- Generative AI – Retrieval Augmented Generation (RAG) scenarios by providing business context using embedding vectors
- Semantic search, clustering, outlier detection, ...

### SOLUTION

- Store high-dimensional vectors along enterprise data
- Run fast vector searches using SQL
- Combine results from vector-based similarity search with other SQL operations like joins, filters, aggregations
- Enable Generative AI applications with out-of-the-box vector engine capabilities in SAP HANA Cloud

### OUTCOMES

#### Generate

Coherent and fact based responses with business context

#### Reduce

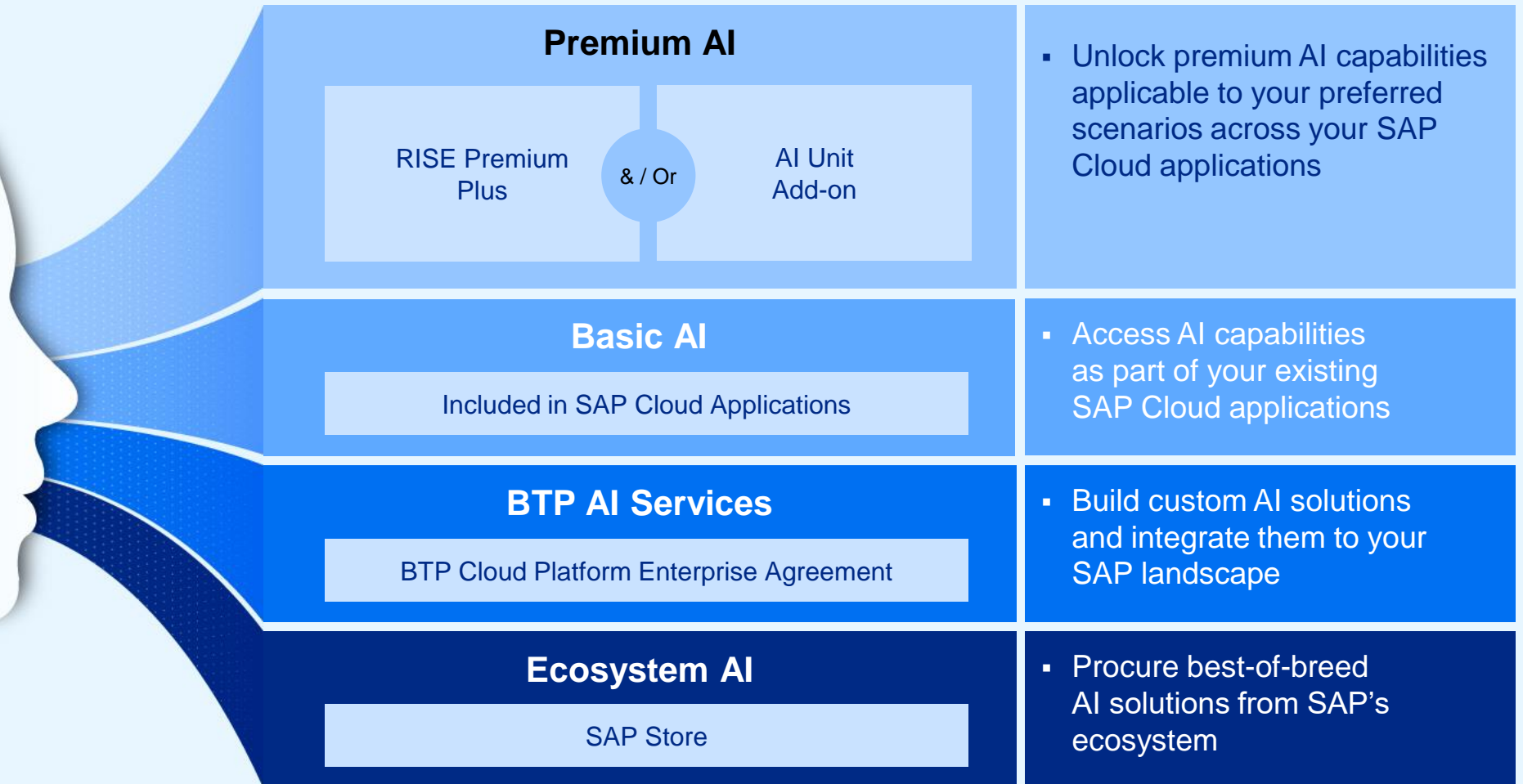
Significantly the model 'hallucination' behavior

#### Secure

Sensitive and confidential information

# Customers already benefit from artificial intelligence capabilities as part of SAP's Cloud applications and will soon be able to unlock new premium features

## SAP BUSINESS AI



# It's time to realize your potential with Business AI from SAP



**99%**

of incoming payments  
automatically assigned



**15 minutes**

to run forecasts down  
from 3 hours



**350 hours**

saved each month  
by reducing repetitive tasks



**91.5%**

of employees use  
intelligent reskilling  
application







Explore more on  
[SAP.com/ai](https://www.sap.com/ai)