Empowering Business Applications through SAP-Enabled AI Integration

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SAPinsider

2023

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In This Session

- How SAP Business AI can be effectively used

- Understand how SAP integrates AI into your business

- Explore SAPs AI offerings

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Agenda

1. Introduction SAP Business AI
2. E2E AI Use Case Integration
3. Status Quo & Roadmap Outlook
4. Wrap-Up

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What SAP Business AI does for your Business

Increase your top line

Grow customer loyalty •

Accelerate sales process •

Optimize inventory levels •

Improve your bottom line

• Accelerate demand planning

• Increase expense compliance

• Reduce working capital

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The Future with SAP Business AI

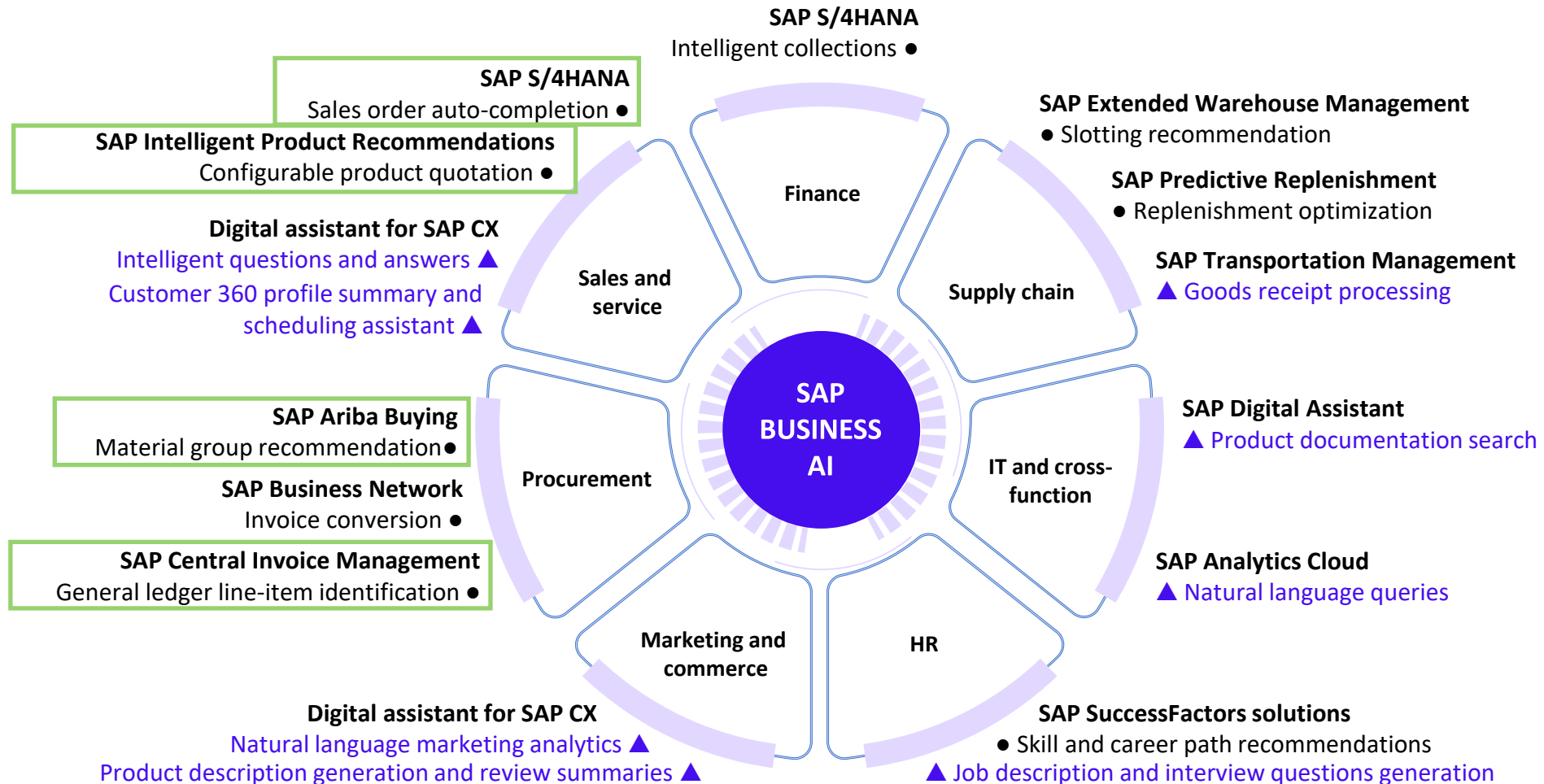The most important business insights delivered with perfect clarity

Entirely new processes are generated to transform business performance

Employee productivity is augmented delivering improved outcomes

Built-in Capabilities

SAP S/4HANA
Intelligent collections ●

SAP S/4HANA
Sales order auto-completion ●

SAP Intelligent Product Recommendations
Configurable product quotation ●

Digital assistant for SAP CX
Intelligent questions and answers ▲
Customer 360 profile summary and
scheduling assistant ▲

SAP Ariba Buying
Material group recommendation ●

SAP Business Network
Invoice conversion ●

SAP Central Invoice Management
General ledger line-item identification ●

SAP Extended Warehouse Management
● Slotting recommendation

SAP Predictive Replenishment
● Replenishment optimization

SAP Transportation Management
▲ Goods receipt processing

SAP Digital Assistant
▲ Product documentation search

SAP Analytics Cloud
▲ Natural language queries

SAP SuccessFactors solutions
● Skill and career path recommendations
▲ Job description and interview questions generation

Digital assistant for SAP CX
Natural language marketing analytics ▲
Product description generation and review summaries ▲

Finance

Sales and service

Supply chain

Procurement

SAP BUSINESS AI

IT and cross-function

Marketing and commerce

HR

▲ Generative AI scenario | Status: Announced at SAP Sapphire 2023

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SAP Business AI Approach

Finance | Supply Chain | HR | Procurement | Marketing and Commerce | Sales and Services | IT

Joule
A copilot that truly understands your business

Embedded AI capabilities

| Cloud ERP | Human capital management | Spend management and business network | Customer relationship management | Business Technology Platform |

AI Foundation
on Business Technology Platform

AI ecosystem partnerships and investments

ALEPH ALPHA   ANTHROP\C   aws   cohere   databricks

DataRobot   Google Cloud   IBM   Microsoft

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SAP S/4HANA Cloud and SAP Business Technology Platform

A versatile platform to speed innovation

Comprehensive extensibility capabilities to allow cloud lifecycle compliant innovation and differentiation while retaining the benefits of a clean digital core

Further intelligent industry capabilities available **side-by-side with SAP Business Technology Platform**

Intelligent technologies fully **embedded in SAP S/4HANA Cloud**

Digital core and backbone

Analytical structures allow for **enterprise-wide data democratization**

Intelligent situation automation

Machine learning

Analytics

SAP Build Process Automation

Situation handling

Machine learning

Analytics

Digital assistant and chatbot

SAP S/4HANA

The right structure and business processes set up to improve your business performance through business innovation and intelligent technologies

Extend prebuilt use cases with:

Key user extensibility

Developer extensibility

Extend side-by-side with:

Custom code development

Integration with services for SAP BTP

Introduction SAP Business AI

E2E AI Use Case Integration

Status Quo & Roadmap Outlook

Wrap-Up

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Todays Frame

Analyze — Statistics — 1970s - 2010s

Predict — Machine Learning — 2010s - 2020s

Create — Generative AI — 2020s - ...

Productivity

Note: Simplified, illustrative view

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Use Case Example

Sales Order Completion

Manual Sales Order Completion Process

Incomplete log fields
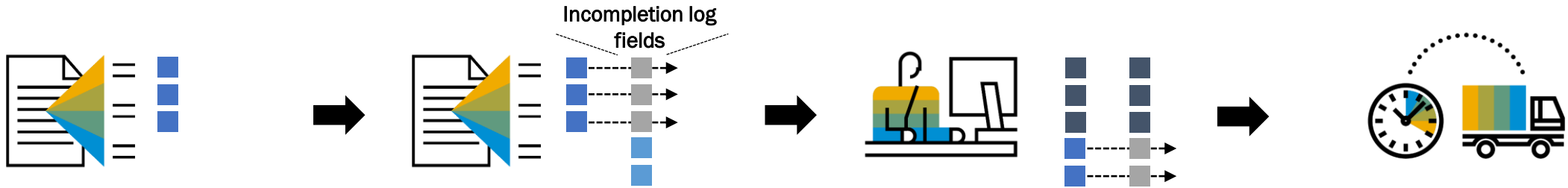
| **New sales order is created** | **Missing mandatory fields to process sales order** | **Manual correction needed to complete sales order** | **Might cause a delay in delivery** |

Use Case Example

Sales Order Completion

Machine Learning Aided Sales Order Completion Process

Incompletion log fields
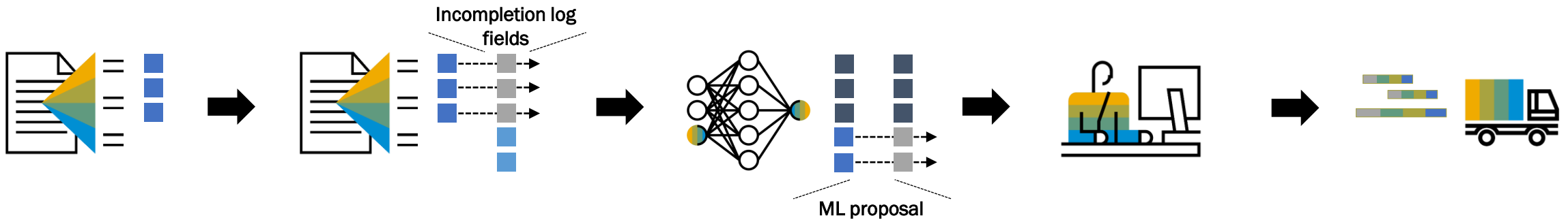
ML proposal

| New sales order is created | **Missing mandatory fields** to process sales order | **Proposal of missing fields** to complete sales order | **Faster processing** or even automation | **No delay and fast delivery** |

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Challenges in Enterprise Data Management

Repetitive manual & cost intense tasks

Error-prone business processes

High effort in analyzing data

Suggest Missing fields in your business processes

Detect inconsistencies and outliers in your data

Predict upcoming trends

Cleanse your master data records

Automate processes and workflows

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SAP AI Foundation Portfolio Overview

AI Foundation
on Business Technology Platform

AI Services

| Document Processing | Recommendation | Machine Translation |

Generative AI Management

| Toolset | Trust & Control | Access |

AI Workload Management

| Training | Inference |

Business Data & Context

Vector Engine

Data Management

Foundation Models

| Built by SAP | Hosted | Remote | Fine-tuned |

Lifecycle Management

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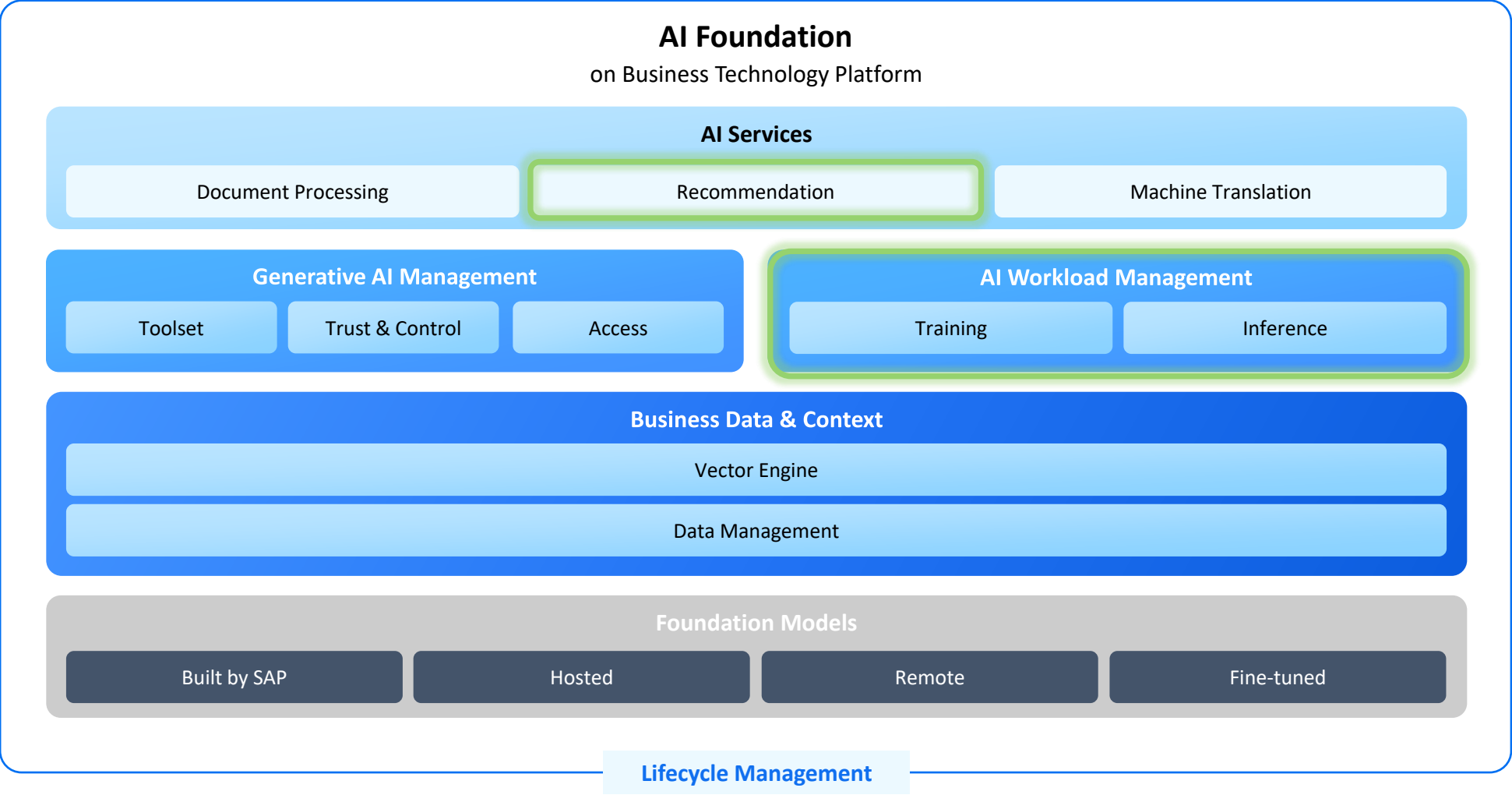
Data Attribute Recommendation

Overview

Unified service for **Classification & Regression** tasks
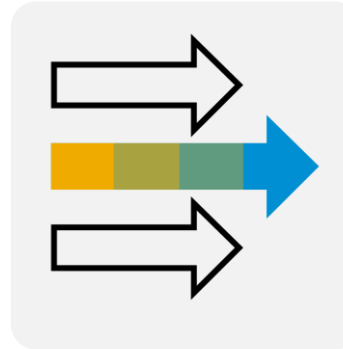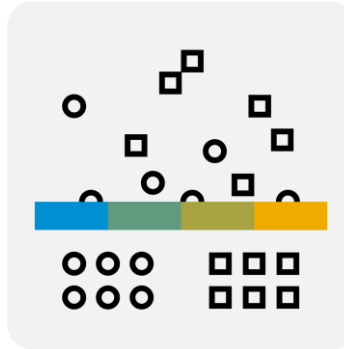
Embedded **AutoML** capabilities to speed up development

Multiple **Model Templates** to tackle different requirements
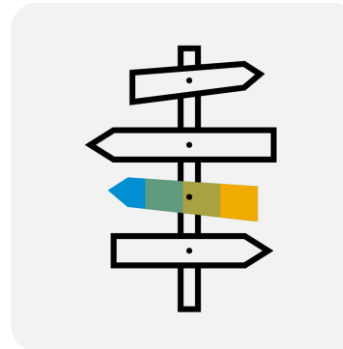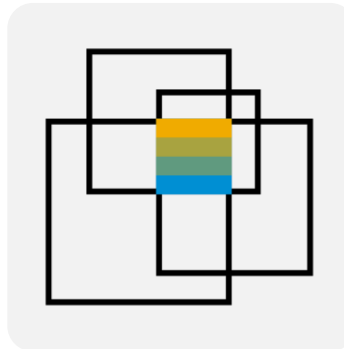
Business Blueprints with dedicated pre-processing for specific use cases

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Data Attribute Recommendation

Model Templates & Business Blueprints

- Based on the business problem, there are multiple pre-defined model templates to choose from.

- Using Business Blueprints, customers can address specific use cases that have specific requirements for pre-processing, training and other tuning options.

Classification

Regression

Blueprints

Generic Template

Deep Learning Model for multi label, multi class classification. General multi-class prediction use case

Hierarchical Template

Deep Learning Model for hierarchical classification. Recommended for multi class prediction that form a hierarchy

AutoML Template

Best Model search and configuration for a particular training data

Regression Template

Predict numerical values

Invoice Object Recommendation

Prediction of general ledger accounts and cost centers of finance invoice documents

Sales Order Completion

Prediction of missing information fields to complete sales orders

Data Attribute Recommendation

Features

Transparent recommendations using explainable AI

Deep Learning technology for better self learning capabilities

Flexible input & output structure
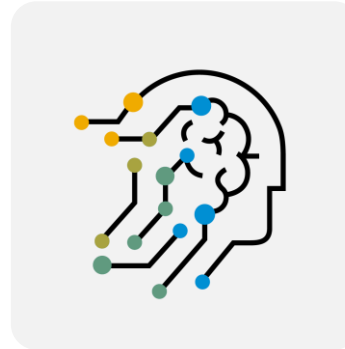
Dynamic allocation of resources tailored to your data

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Data Attribute Recommendation

Lifecycle

Define data structure

Upload training data

Train model with defined dataset & evaluate performance

Deploy evaluated model for productive usage

Send inference requests to deployed model

Evaluate inference predictions

1 **Define** dataset & upload data

2 **Train & deploy** model

3 **Get predictions**

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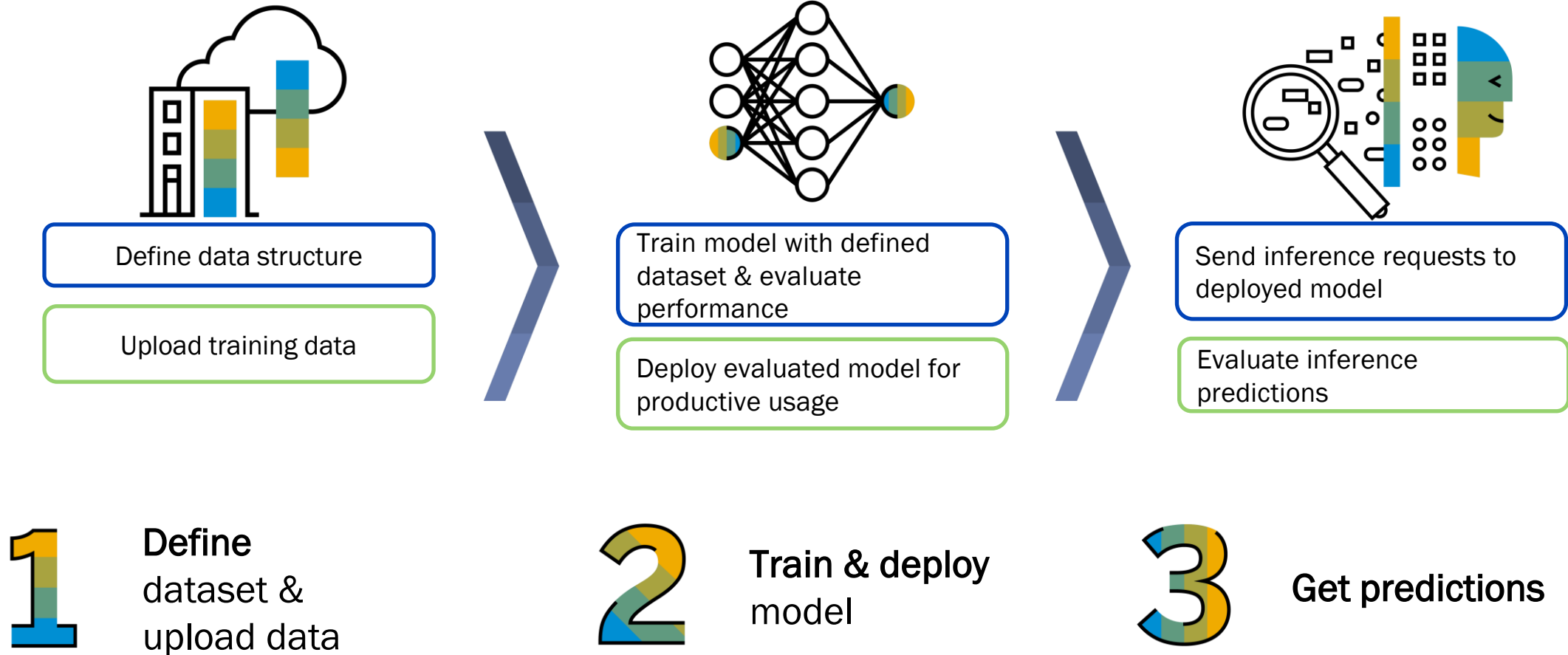
Integration Possibilities

Via Intelligent Scenario Lifecycle Management (ISLM)

SAP S/4HANA

Business application

Intelligent scenario lifecycle management

SAP HANA – ML (PAL & APL)

ML platform and services

SAP AI Core

SAP AI Services

SAP Data Intelligence
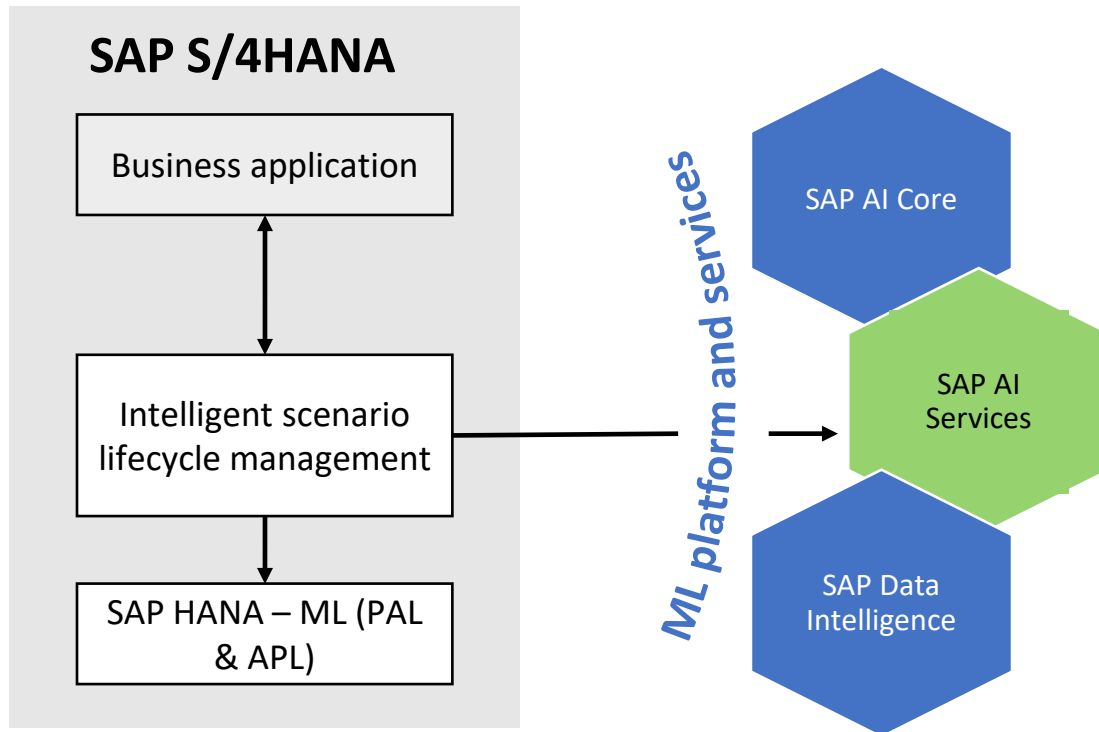
What is ISLM

- Single-entry point within SAP S/4HANA to efficiently integrate and operate ML scenarios
- Standardized framework delivered in SAP BASIS Component; ISLM part of standard license for SAP S/4HANA

Key benefits of ISLM

- Standardizes and streamlines application integration with various ML services and runtimes with minimal coding
- Enables end-to-end lifecycle operations in the context of the business application right from exploration, prerequisite checks, training, and activation

AI Adoption is Accelerating in the Industry

Embedded

Machine learning provider (such as APL and PAL for SAP HANA) runs in the same stack as the business application (SAP S/4HANA).

Side-by-side scenario

Machine learning provider runs in a different stack (for example, SAP AI Core and AI services for SAP BTP) than the business application (SAP S/4HANA).

Standardized consumption and operation of machine learning scenarios for both flavors

1

Discover prebuilt use cases in ISLM

- Explore and identify relevant use cases, for example, LOB-specific; check additional information about business application
- Check readiness requirements for an intelligent scenario on a given system running SAP S/4HANA

2

Operate in ISLM

- Maintain connection for the intelligent scenario
- Train ML model with customer data
- Analyze quality of trained ML model

3

Run productively

- Deploy and activate to specify which trained model to use in business application
- Model consumption in business scenario with SAP S/4HANA

My Home   **Internal Sales** ▾   Billing

Internal Sales Overview

Quick Access

Monitor Sales Order Autocompletion

4

Incomplete Orders

Sales Order Completion in a Nutshell

Simplify the sales process of incomplete sales order documents by predicting missing fields based on historical decisions.

1 Train a Model   **2** Create Sales Order   **3** Get Predictions   **4** Complete Sales Order
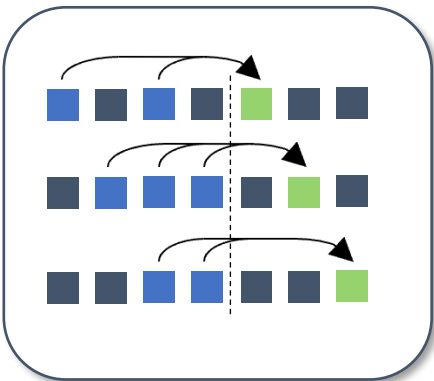
Train a model to derive patterns from past decisions

Missing mandatory fields to process the sales order
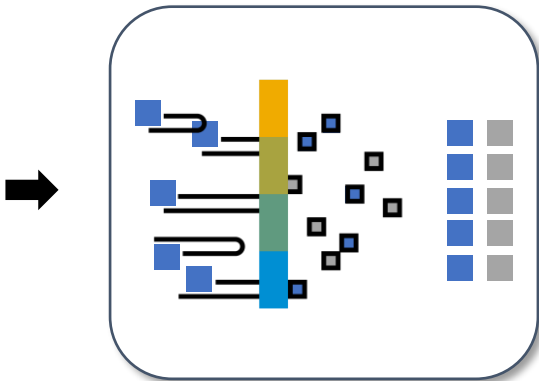
Use existing fields as input for the trained model to get predictions
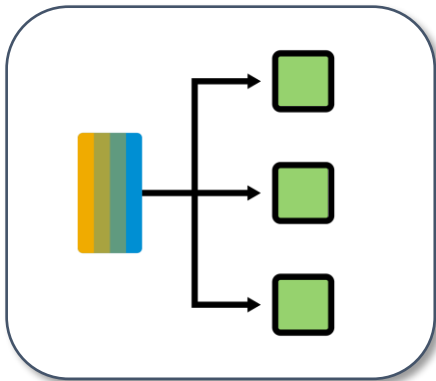
Propose missing field values with a given confidence

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Material Group Proposal

Via Data Attribute Recommendation

Provide accurate material group allocation to get correct assignments of following processes, preventing additional effort for follow-on processes.

1 Train a Model	2 Create PR	3 Get Predictions	4 Complete PR

Free-text items   Material group
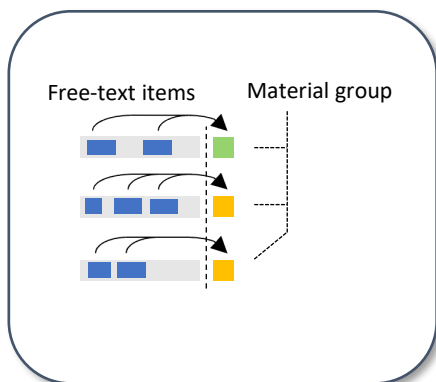
Train a model to derive patterns from past purchase requisitions.
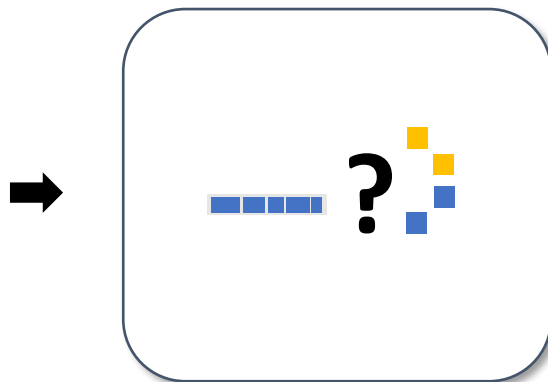
Add **missing** knowledge on possible material group assignments.
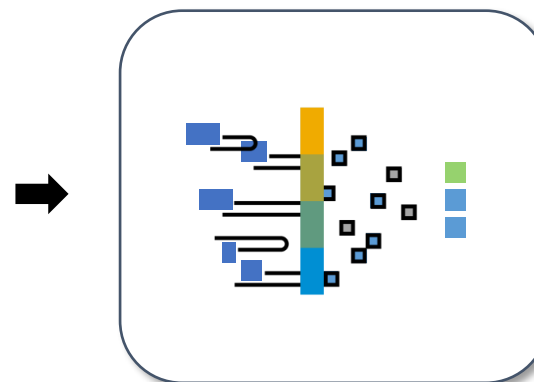
Use **textual input** for the trained model to get predictions.
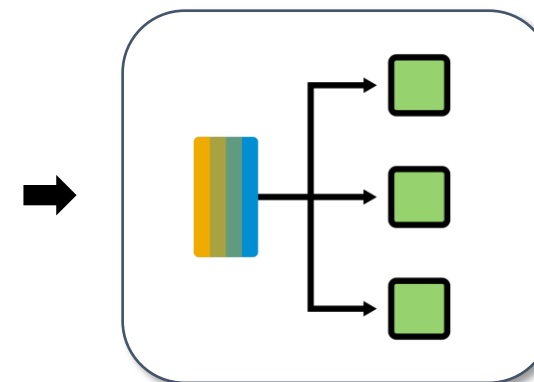
Propose fitting material groups with a given confidence.

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Invoice Object Recommendation

Via Data Attribute Recommendation

Simplify the invoicing process by predicting correct account and cost object assignments based on historical decisions.
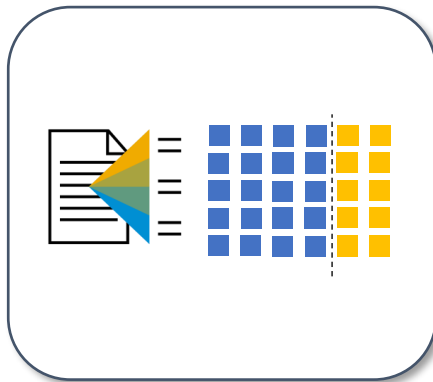
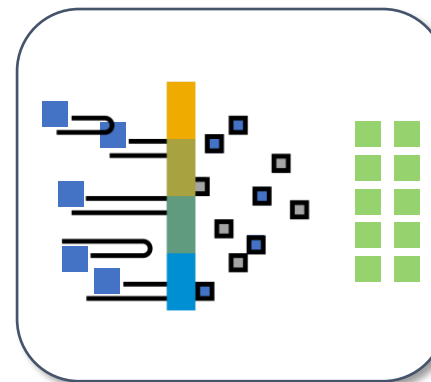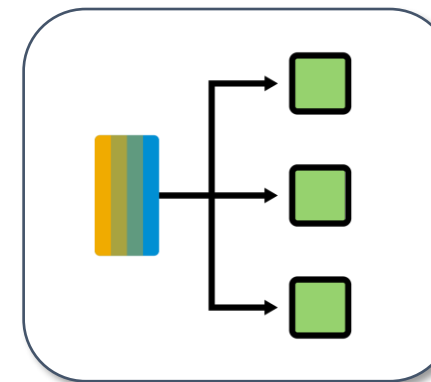| 1 Train a Model	2 Incoming Invoice	3 Get Predictions	4 Post Invoice
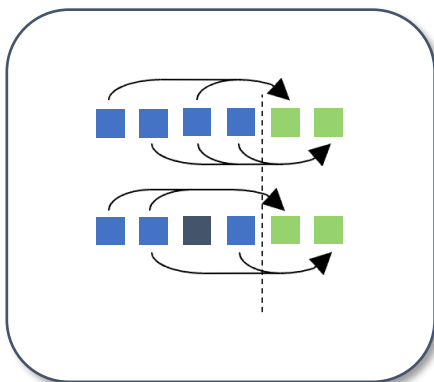
Train a model to derive patterns from past decisions

Missing general ledger account and cost object information

Use existing fields as input for the trained model

Propose accounting objects based on past decisions

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Pre-built AI Use Cases in S/4 HANA

Available use case	Line of business	Scenario type
Sales orders created from unstructured data	Sales	Side-by-side
Material group recommendation	Sourcing & Procurement	Side-by-side
Detect trends of purchase contract quantity consumption	Sourcing & Procurement	Embedded
Supplier delivery prediction	Sourcing & Procurement	Embedded
Prediction of time frame for stock in transit	Supply Chain	Embedded
Early detection of slow- and nonmoving stock	Supply Chain	Embedded
Sales performance prediction	Sales	Embedded
Processing outsorted billing documents	Utilities	Embedded
Behavioral insights	Services	Embedded

AI Scenarios

Finance	Supply Chain	Customer Experience	Procurement	Human Resources	IT and Cross-Function

Finance
- Tax Compliance
- Cash Application
- Intelligent accrual
- Travel expense auditing
- Travel expense verification
- Invoice processing
- Business Integrity screening
- Goods and invoice receipt matching
- Mobile expense entry

Supply Chain
- Stock in transit
- Visual Inspection
- Demand forecasting & sensing
- Project-cost prediction
- Predicted delivery processing
- Demand-driven replenishment
- Forward scheduling
- Field service scheduling
- Asset prediction & optimization
- Slow-moving materials prediction

Customer Experience
- Predicted delivery processing
- Discount recommendations
- Intelligent sales execution
- Relationship intelligence
- Sales route optimization
- Sales order automation
- Opportunity scoring
- Customer insights
- Guided selling
- Lead scoring
- Product recommendations

Procurement
- Guided buying
- Sourcing item and supply prediction
- Material group recommendations
- Invoice object recommendations
- Job matching for contingent workforce
- Resume ranking for contingent workforce
- O'Net labelling

Human Resources
- Skill and career path recommendations
- Learning recommendations
- Job analyzer

IT and Cross-Function
- Joule
- Process automation
- Business rule mining
- Intrusion detection

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Get the latest roadmap information

SAP AI roadmap
2023 & 2024

THE BEST RUN SAP

AI roadmap:
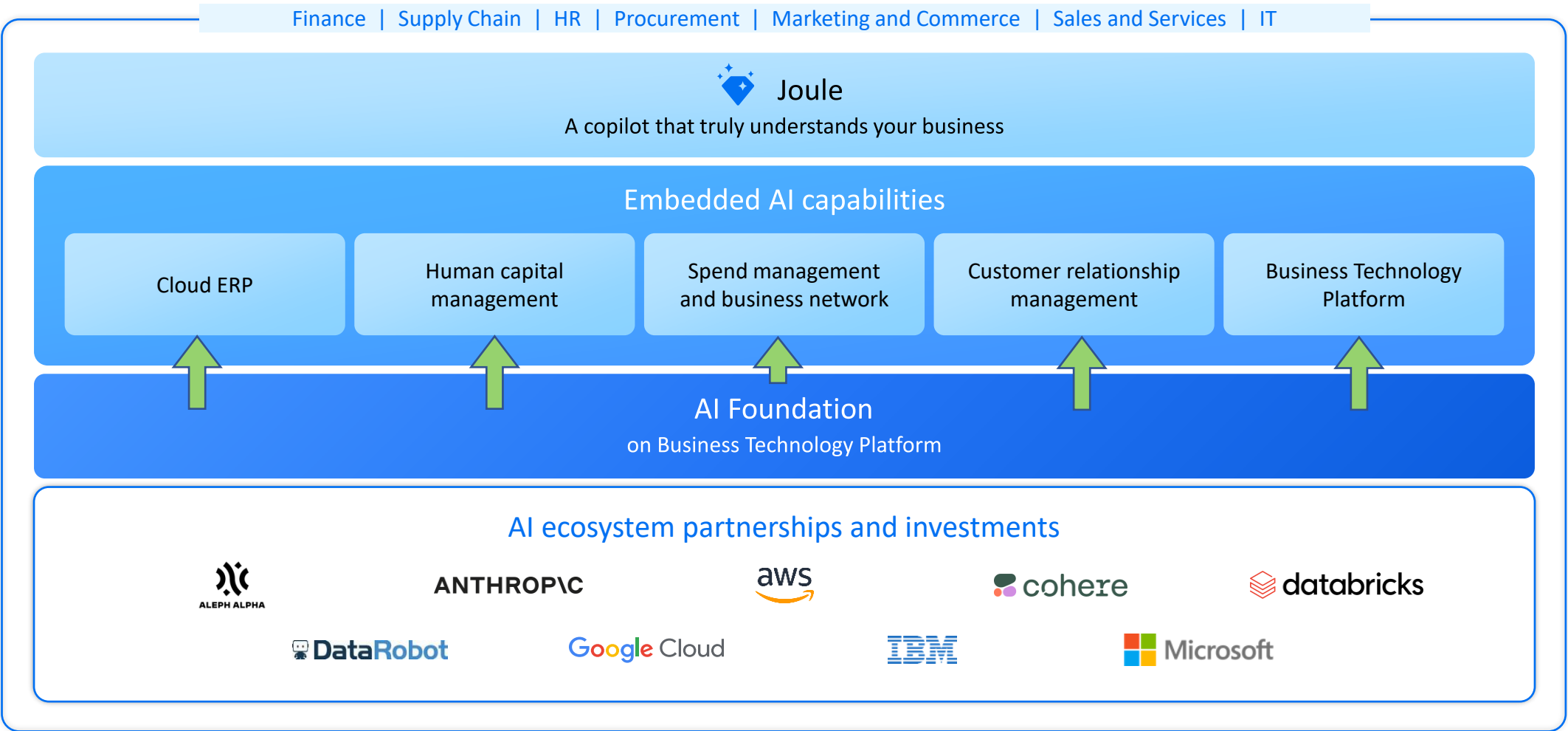https://dam.sap.com/mac/app/p/pdf/asset/preview/MVCpjyr?ltr=a&rc=68

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◆ Joule
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Key Points to Take Home

https://www.menti.com/alnkawnks8pj
Code: 7679 0328

Where to Find More Information

- SAP Business AI Overview:

  - Link

- **Data Attribute Recommendation**

  - Discovery Center

  - Developer Tutorials

  - Try for free

  - Material Group Proposal Demo

  - Invoice Object Recommendation Demo

- **ISLM**

  Prerequisites

  - Initial setup
  - Configuration information
  - Access the SAP FIORI apps for ISLM

  SAP Community blogs and podcast series

  ISLM – SAP Community – Topic page

  ISLM Frequently Asked Questions

  What's New in ISLM?

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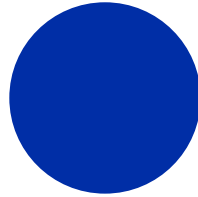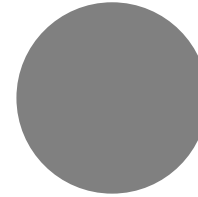# SAPinsider Color Palette

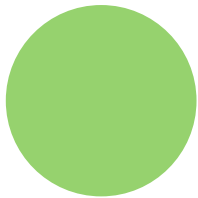**Primary**
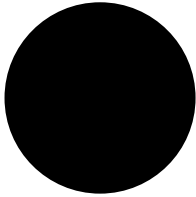
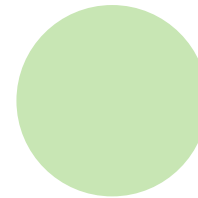Black #000000

Navy Blue #002EA6

Gray #808080

Blue Tint #EFF3F9

Secondary

Bright Blue #24B0FF

Green #96D26E

Green Tint #C8E6B4

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Icons