

# Building, Integrating and Consuming Intelligent Applications using ISLM

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CUSTOMER

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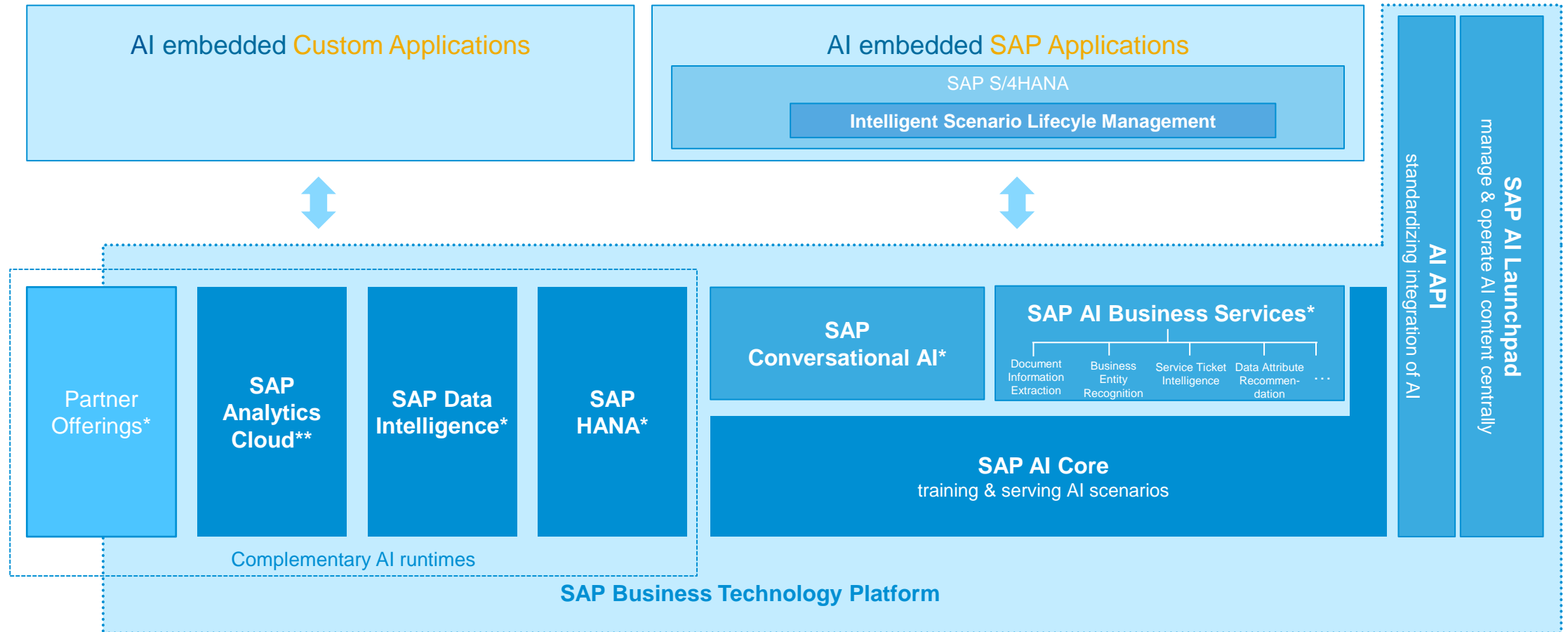
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# Agenda

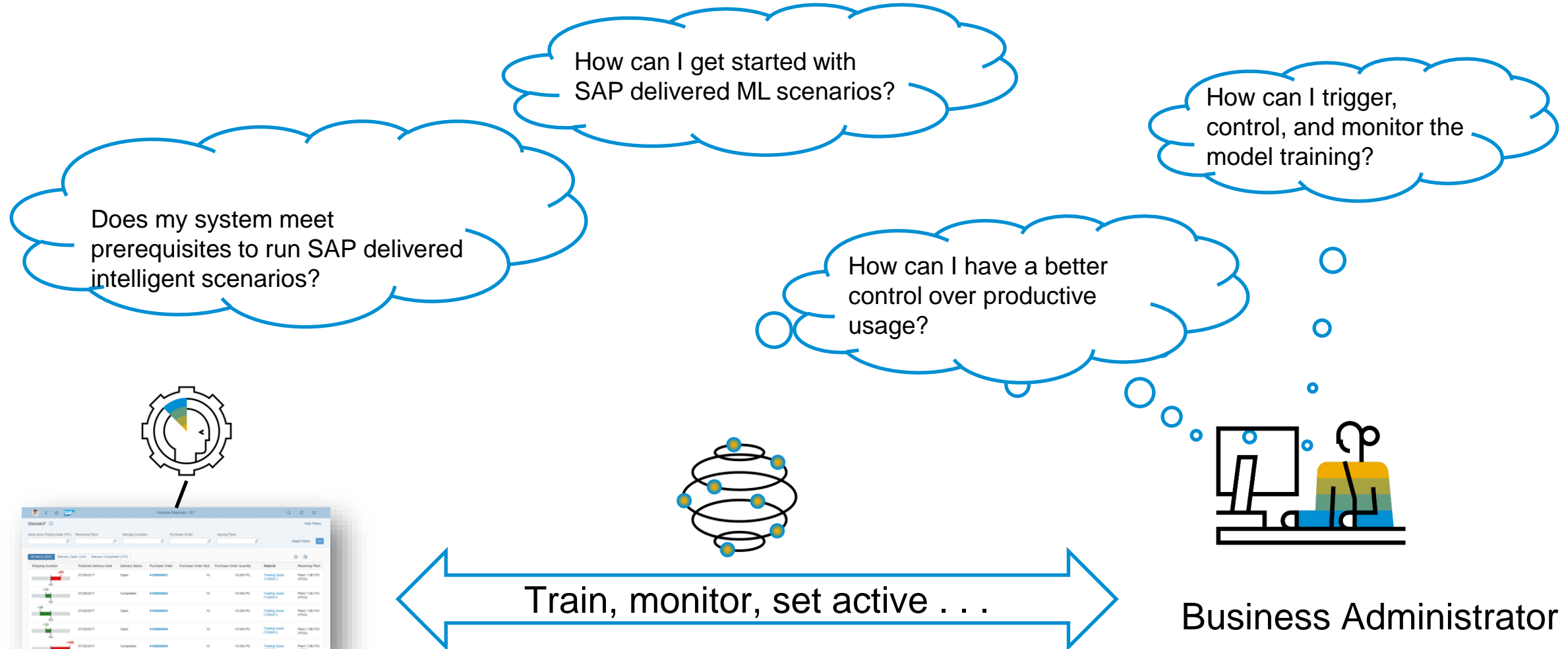
- SAP AI Technology Portfolio
- Motivation: Standardized integration and operation of machine learning scenarios with SAP S/4HANA
- Intelligent scenario lifecycle management (ISLM)
  - ML operations with & without ISLM
  - Standardized integration of AI in SAP S/4HANA with ISLM
  - Delivering and consuming SAP shipped ML scenarios
- Demo
- Further information about ISLM

# SAP AI Technology Portfolio

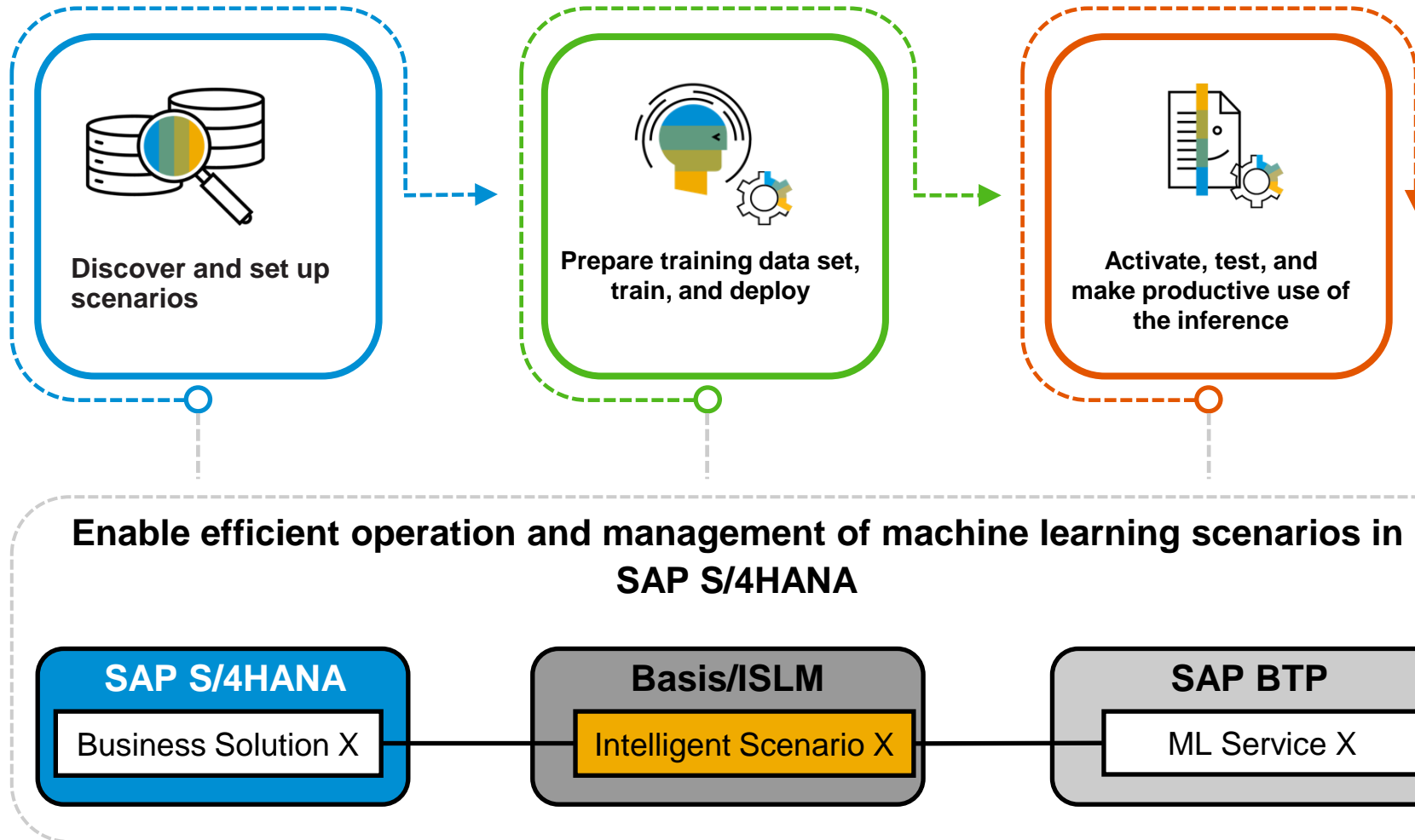


\* Support for AI API and SAP AI Launchpad is planned for the future  
\*\* No integration with AI API and SAP AI Launchpad

# Intelligent business applications: Initial adoption & ML Ops

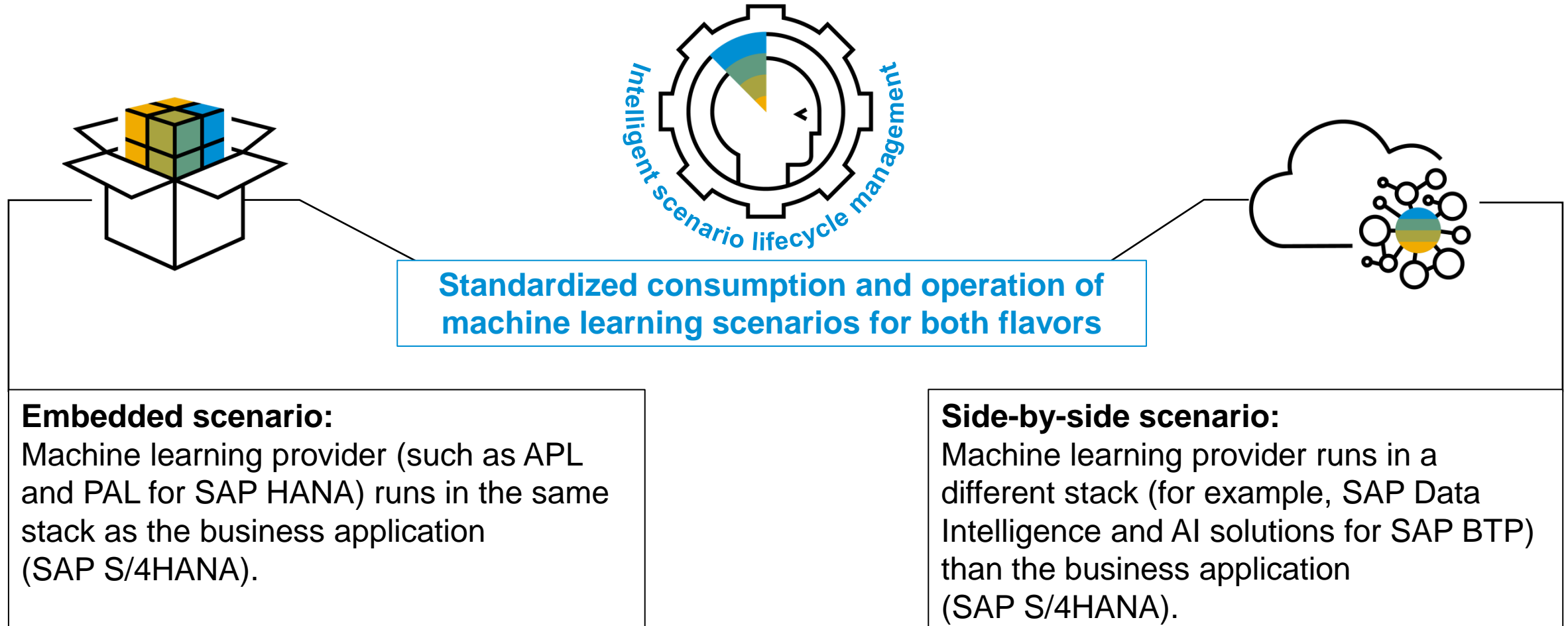


## Motivation: Integrate and operate ML in SAP S/4HANA

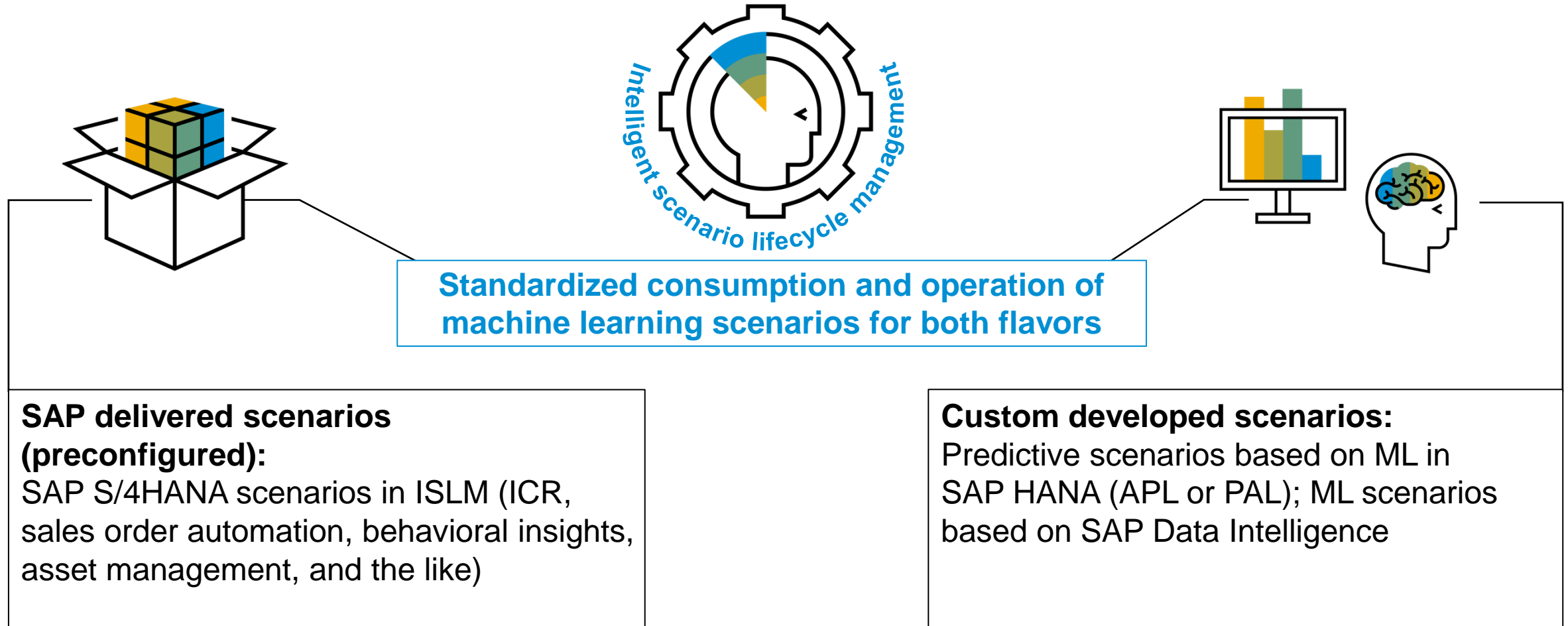




## Goal: Build a harmonized solution for both worlds



## Scope: Same solution for shipped and custom developed scenarios





# ML operations with and without ISLM

## Without ISLM



Additional efforts and cost to deliver the ML use case



Added complexity with usage of multiple tools across different stacks



Cumbersome change management during productive usage



Additional complexity to handle inference consumption

## With ISLM

Leverage **harmonized and standardized** operational experience with ISLM



Central cockpit to operate and manage **within SAP S/4HANA stack**



Control about productive usage with an additional step “**activate**”.



Simplified inference consumption by **ABAP APIs** or **CDS views** for side-by-side & embedded flavors respectively

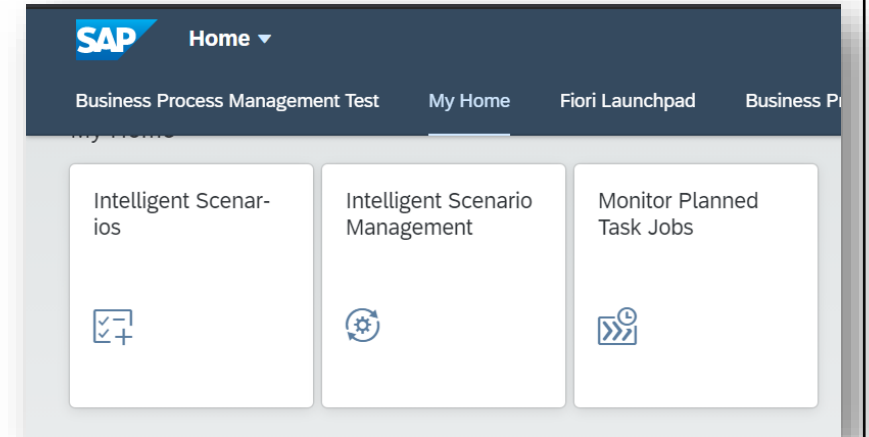


# ISLM: Standardized integration of AI in SAP S/4HANA with ISLM



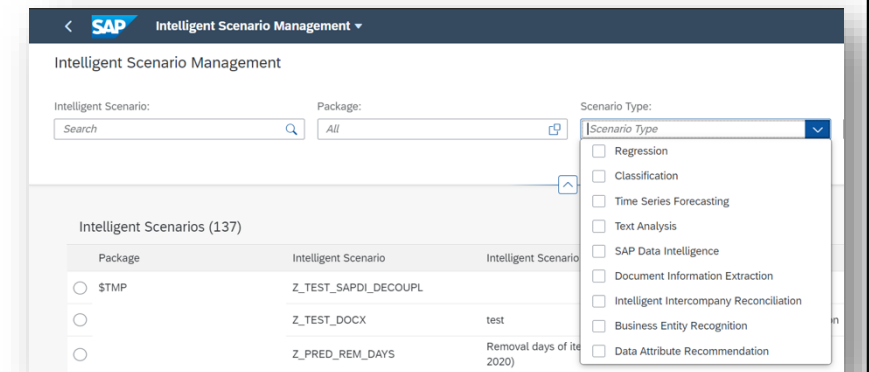
## What is ISLM?

- Single-entry point within SAP S/4HANA stack to efficiently integrate and operate ML scenarios.
- Standardized framework delivered in SAP BASIS. ISLM is part of standard SAP S/4HANA license .
- Focus on customer managed use cases (custom developed & SAP delivered).
- ISLM is the Successor of SAP Predictive Analytics integrator



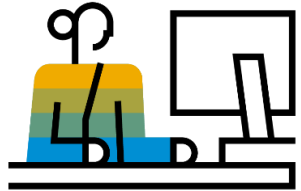
## Key benefits:

- Simplified integration of ML capabilities into business applications with minimal coding
- ISLM enables end-to-end lifecycle operations in the context of the business application right from exploration, prerequisite checks, training and activation .
- Supports auditing requirements and simplifies the change management via explicit activation of models.

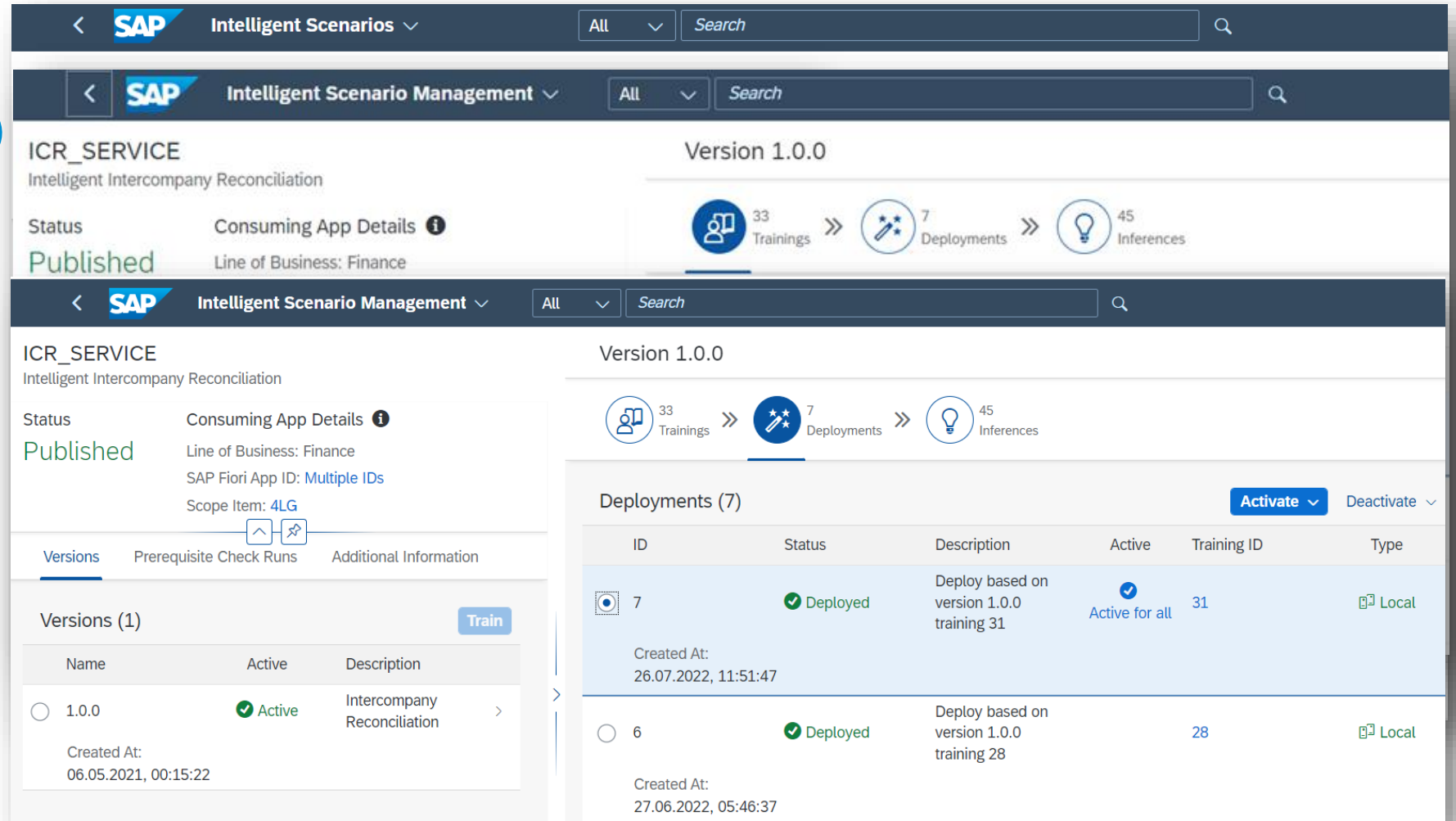


# Initial adoption & ML Ops powered by Intelligent Scenario Lifecycle Management

How can I have a better control over productive usage?



Business Administrator



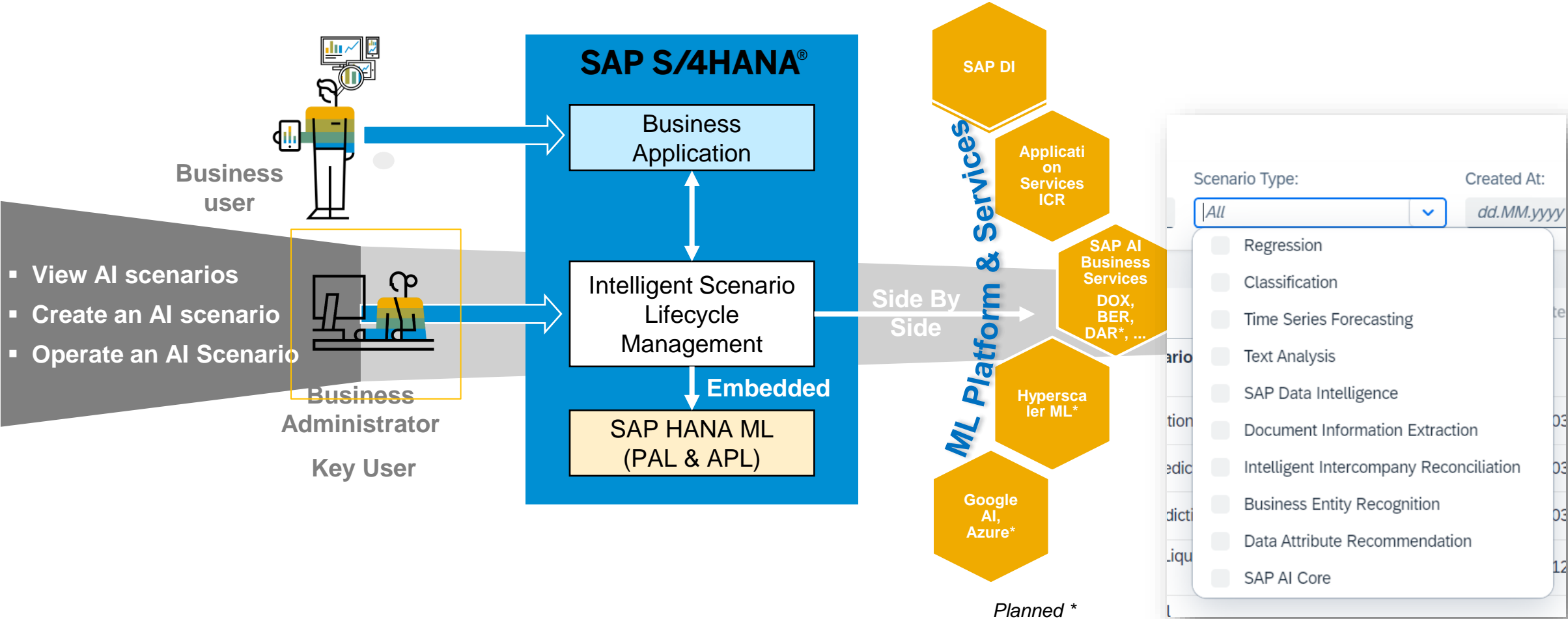
The screenshot displays the SAP Intelligent Scenario Management interface for the 'ICR\_SERVICE' (Intelligent Intercompany Reconciliation) scenario, Version 1.0.0. The interface is divided into several sections:

- Header:** SAP Intelligent Scenarios and Intelligent Scenario Management navigation bars with search filters.
- Scenario Overview:** Shows the status as 'Published', consuming app details, and line of business as 'Finance'. It also displays metrics for 33 Trainings, 7 Deployments, and 45 Inferences.
- Versions:** A table showing the current version (1.0.0) as 'Active'.
- Deployments:** A table showing 7 deployments, with the most recent one (ID 7) being 'Active for all'.

Name	Active	Description
1.0.0	Active	Intercompany Reconciliation

ID	Status	Description	Active	Training ID	Type
7	Deployed	Deploy based on version 1.0.0 training 31	Active for all	31	Local
6	Deployed	Deploy based on version 1.0.0 training 28		28	Local

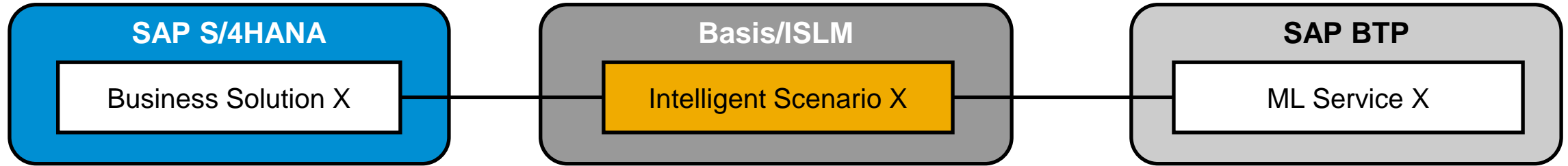
# ISLM: Standardized integration of AI in SAP S/4HANA



- DOX, BER, DAR services supported with SAP shipped scenarios. BER is offered for custom creation
- \* Planned support for SAP AI Core Scenario with SAP shipped scenarios

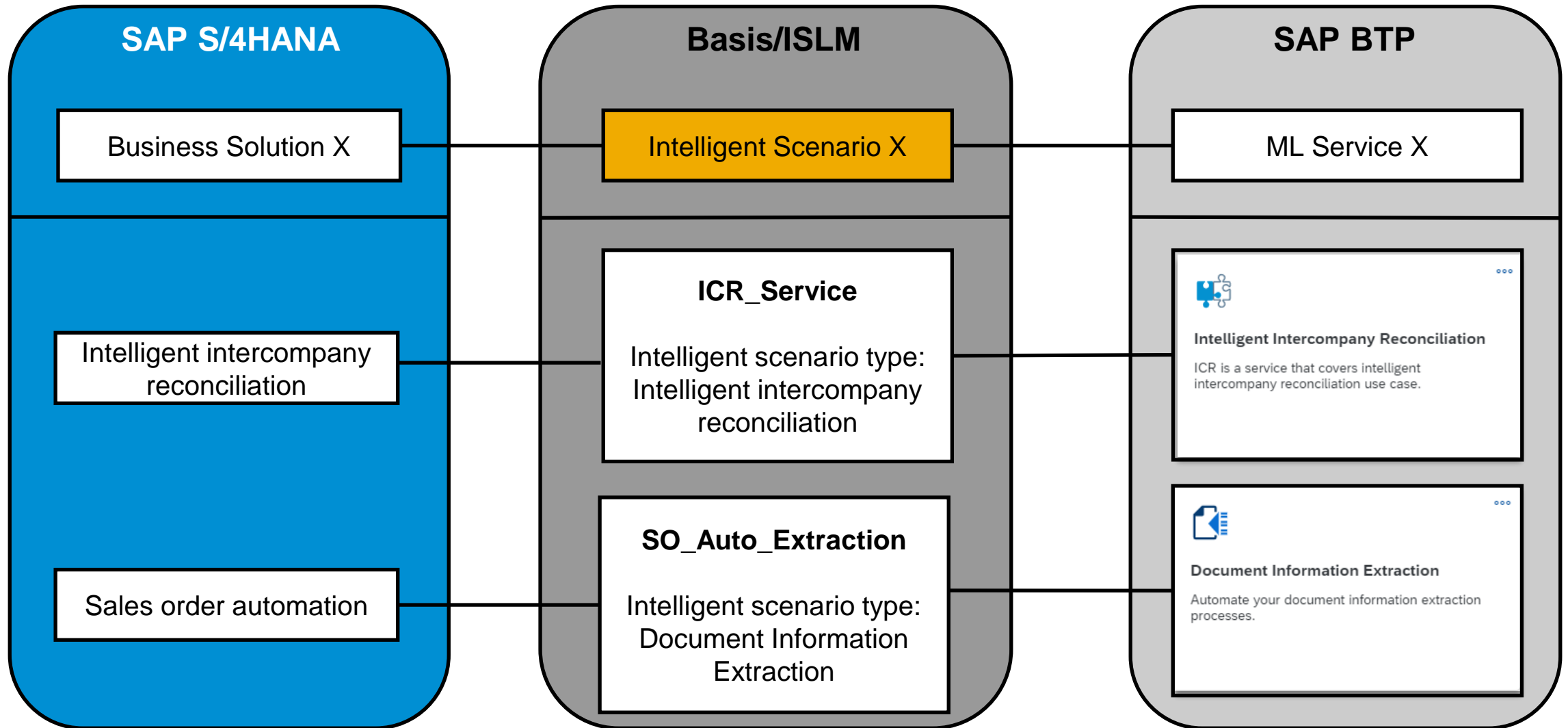
# Standardized integration of AI in SAP S/4HANA

Intelligent scenario – the binding entity



- ISLM introduces a new entity called **intelligent scenario** per use case.
- Intelligent scenarios are **based on one intelligent scenario type** where the behavior is defined.
- For SAP S/4HANA shipped scenarios, **intelligent scenarios are ABAP objects** in your package shipped together with your solution.
- An intelligent scenario **binds** the business application to its consuming ML service such as in SAP BTP.
- ISLM provides customers control over productive usage with an additional step “activate”. This step enables to specify the appropriate trained model to be used in the consuming application.

# Examples of intelligent scenarios released with SAP S/4HANA



# Out-of-the box Intelligent Scenarios

## Intelligent Scenarios (7)

Package	Intelligent Scenario	Line of Business	Status	Intelligent Scenario Description	Scenario Type
<input type="radio"/> BEI_ML	<a href="#">BEI_LATE_FILING</a>	Service	Published	Late Filing Prediction	Classification
<input type="radio"/>	<a href="#">BEI_LATE_PAYMENT</a>	Service	Published	Late Payment Prediction	Classification
<input type="radio"/>	<a href="#">BEI_RECEIVERSHIP</a>	Service	Published	Receivership Prediction	Classification
<input type="radio"/> FIN_ICA_MATCH	<a href="#">ICR_SERVICE</a>	Finance	Published	Intelligent Intercompany Reconciliation	Intelligent Intercompany Reconciliation
<input type="radio"/> EAM_ML_ORDER_DAMAG E_CODE	<a href="#">PREDICTDAMAGECODE</a>	Asset Management	Published	Prediction of Damage Code and Code Group for Maintenance Orders (Based on Maintenance Notifications)	Classification
<input type="radio"/>	<a href="#">PREDICTMAINTOBJPART</a>	Asset Management	Published	Object part prediction in the area of EAM associated to a malfunction in a technical object	Classification
<input type="radio"/> RAP_SD_SLS_AUTOEXTR N	<a href="#">SO_AUTO_EXTRACTION</a>	Sales	Published	Intelligent Scenario of Automatic Extraction for Sales Order Creation	Document Information Extraction



# PAi migrated scenario

Intelligent Scenarios (17)						Prerequisite Checks	↓↑	☰
Package	Intelligent Scenario	Line of Business	Status	Intelligent Scenario Description	Scenario Type	Created At		
<input type="radio"/> PPH_DD_VDM_STLM	<a href="#">INDIV_LEADTIME_STO2</a>	Manufacturing	✔ Published	Predicted Individual Lead Time for Stock Transfer	Regression	16.05.2018, 17:18:44	>	
<input type="radio"/> MM_IM_VDM_STOCK	<a href="#">MATERIAL_OVERDUE_SIT</a>	Supply Chain	✔ Published	Stock in Transit material overdue	Regression	22.06.2017, 21:30:44	>	
<input type="radio"/> ODATA_INVOICE_PAYMENT_SI_ML	<a href="#">MMIV_INVC_QTY_BLK</a>	Sourcing & Procurement	✔ Published	Predictive Scenario for Blocked Invoices with Quantity Variance	Classification	16.02.2018, 21:45:46	>	
<input type="radio"/> ODATA_MM_IM_SLONOMOMAT	<a href="#">MMSLO_CONSUMPTION_01</a>	Supply Chain	✔ Published	[Deprecated - do not use] Consumption Data for Slow or Non-Moving Materials	Regression	10.05.2019, 19:41:11	>	
<input type="radio"/>	<a href="#">MMSLO_CONSUMPTION_02</a>		✔ Published	Consumption Data for Slow or Non-Moving Materials	Regression	22.08.2019, 15:01:43	>	
<input type="radio"/>	<a href="#">MMSLO_STOCK_LEVEL_01</a>		✔ Published	[Deprecated - do not use] Stock Level Data for Slow or Non-Moving Materials	Regression	10.05.2019, 19:44:03	>	
<input type="radio"/>	<a href="#">MMSLO_STOCK_LEVEL_02</a>		✔ Published	Stock Level Data for Slow or Non-Moving Materials	Regression	22.08.2019, 15:19:17	>	
<input type="radio"/> ODATA_SD_PREDICTED_DELIVERY	<a href="#">PRDTDDELIVCRTNDELAY</a>	Sales	✔ Published	S/4HANA Sales: Predicted Delivery Creation Delay	Regression	14.05.2018, 14:30:02	>	
<input type="radio"/>	<a href="#">PRDTDDELIVPROCGDELAY</a>	Sales	✔ Published	S/4HANA Sales: Predicted Delivery Processing Delay	Regression	11.02.2019, 16:31:10	>	

# ISLM: Delivering and consuming ML scenarios with ISLM



- Identify the ML technology & algorithm

- Create Intelligent scenario in ISLM as a binding entity

- Publish/deliver intelligent scenario

- Explore SAP delivered intelligent scenarios

- Identify relevant scenarios e.g. LOB specific, check additional information related to consuming business application

- Check Readiness requirements for an intelligent scenario on a given SAP S/4HANA system

- For SAP BTP service based scenarios, create service instance and service key in SAP BTP

- Maintain connection for the intelligent scenario to connect it to SAP BTP service instance using ISLM

- Train ML model with customer data

- Analyze quality of trained ML model.

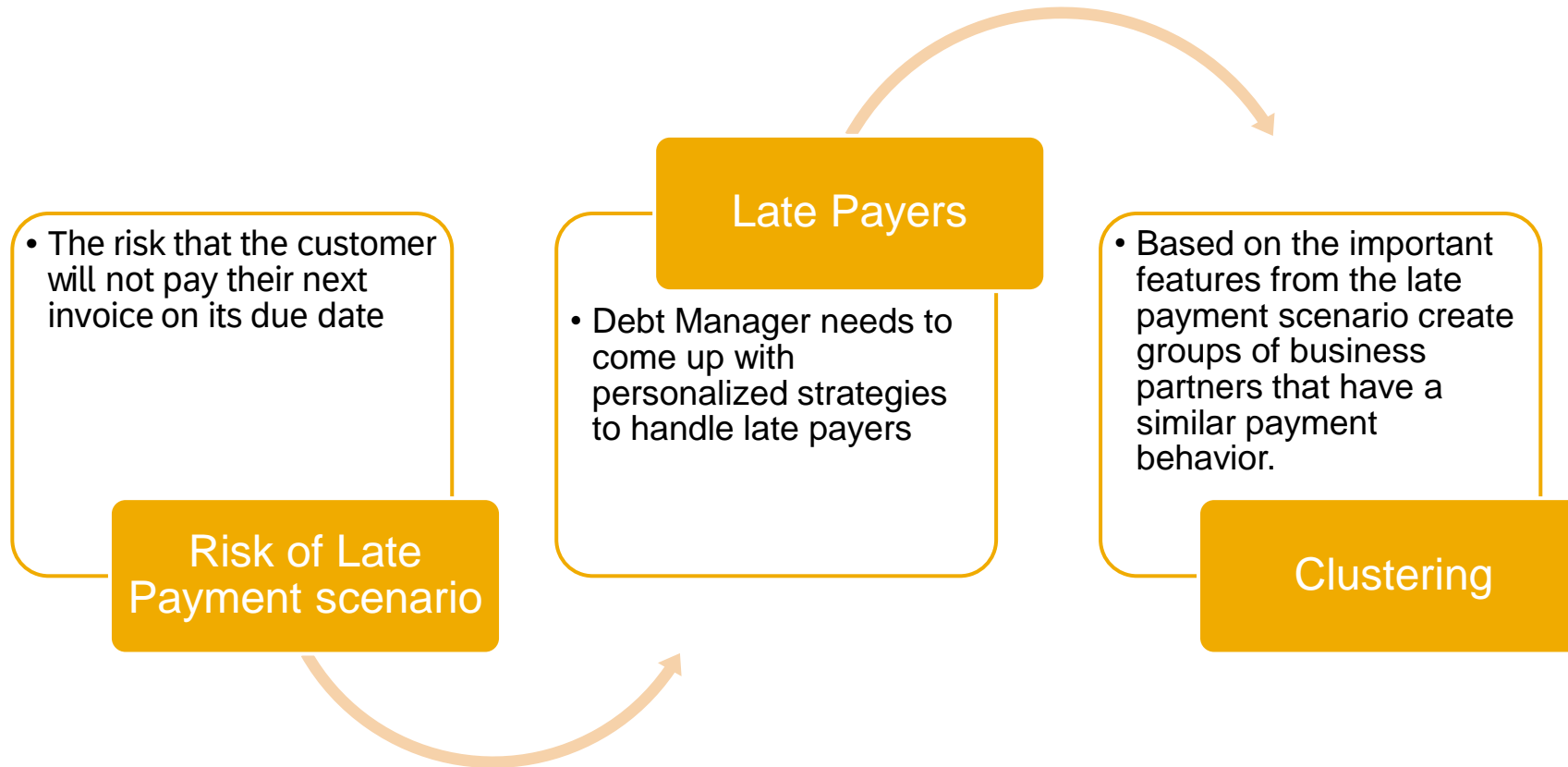
- Deploy & Activate to specify which trained model to use in business application

- SAP S/4HANA model consumption in business scenario

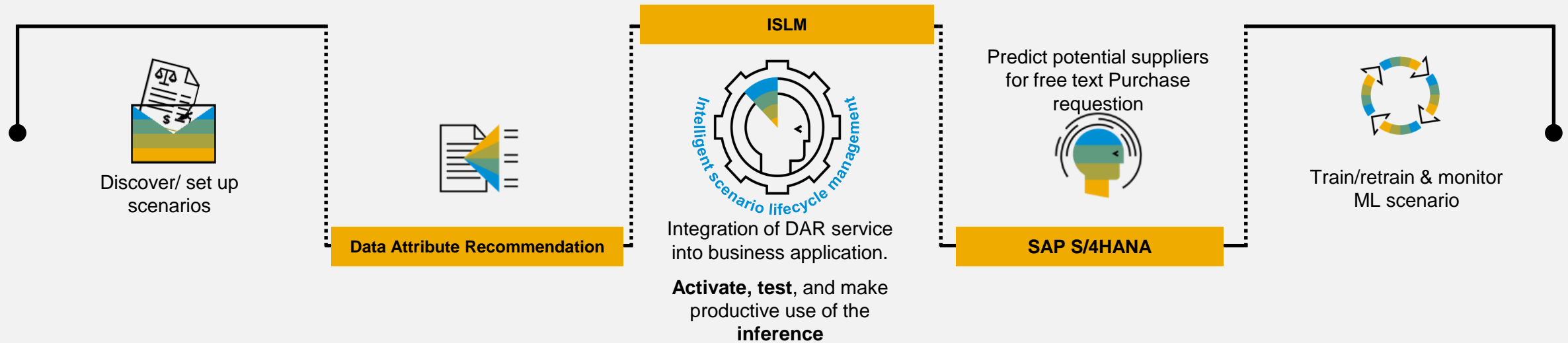


# Demo

# Risk of Late Payment and Clustering



# Automating prediction of potential suppliers



## Business challenge

- Optimization of process by predicting potential suppliers for free text Purchase Request



## Solution

- DAR:** Automates creation, maintenance, and management of structured data
- Create Intelligent Scenario based on DAR service in ISLM, as the binding entity
- Connect the Intelligent Scenario to DAR Service Instance.
- Perform end to end lifecycle operations
- Consume inference from trained ML Model via ISLM provided ABAP API



## Benefits and value

- Minimize repetitive tasks
- Speed up processing
- Improve accuracy
- Predict potential suppliers automatically



# Summary: Further Information



# Intelligent scenario lifecycle management

Further information

## SAP Help links (latest releases)

- [SAP S/4HANA 2021 FPS01](#)
- [SAP S/4HANA Cloud 2202](#)

## Web session replays

- [SAP Community Webinar](#)
- [SAP TechEd 2021 Session Replay](#)

## SAP Community blogs and podcast series

- [ISLM – SAP Community Topic Page](#)
- [ISLM Frequently Asked Questions](#)
- [Resources and journey to machine learning with SAP S/4HANA: Blog series](#)
- [Podcast: Enhancements to the Intelligent Scenario Lifecycle Management aka ISLM](#)

## SAP Road Map Explorer

[SAP Road Map Explorer](#): Search for “Machine Learning Scenario Management

Join ISLM sessions at  
SAP TechEd in 2022



# Thank You.

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