

How to use **SAP Business Technology Platform** to extend SAP solutions and to create innovative applications



PUBLIC

Today's Speakers



Andrea Pagliari

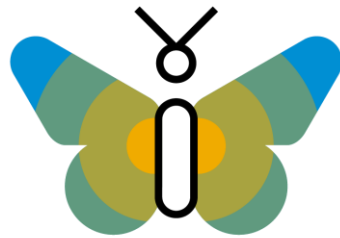
**Head of Business Development
SAP Services EMEA South**



Chiara Cerletti

**Technology Senior Consultant
SAP Services**

The context



Change



Fast

More **agile**

More **intelligently**

More **efficiently**

Resilience to
the new normal

Make
the right **decision**

Execute
the **transformation**

The value



Most **innovative** projects

Most **complex** challenges

Most **creative** solutions

SAP Customers
SAP Services
SAP Partners



Privilege



Duty



**Witness
and share**



Real-life experiences

Difficulties

Solutions

Methods

Accelerators

Tools



Make **SAP**
innovation
easy to
consume

Let's Build the Intelligent Enterprise Together – March, April, May

Business Technology Platform



An ocean of **corporate data**: diving in to discover hidden worlds. **Data management** and **priorities** in the Intelligent Enterprise
January 12th



SAP Analytics Cloud.
The innovation of the Analytics App
January 26th



How to use the **SAP Cloud Platform** to **extend** SAP solutions and to **create innovative applications**
March 23rd

SAP S/4HANA



S/4 innovation cannot wait – the **system conversion**
February 9th



Three reasons why **SAP S/4HANA Private Cloud Edition** is an unmissable opportunity
April 20th

Customer Experience



The right **Customer Experience platform** for your business
April 6th



How to leverage the **Analytics** embedded in **SAP Customer Experience Solutions**
February 23rd



CX, commerce, performance: do not let your customers wait!
May 4th

Industry 4.Now



Secrets From The Field: benefits and ingredients for **Asset Management, Predictive Maintenance** and **Productive Quality Control**
March 9th



Demand Driven MRP: a key ingredient for an intelligent and resilient Supply Chain
May 18th

Let's Build the Intelligent Enterprise Together – Q1: Adoption Success



Discover SAP Learning Hub
January 25th



Discover SAP Enable Now
January 27th



Overview of SAP Commerce
Business User
January 28th



Overview of SAP Commerce
Business User
February 3rd



Overview of Training for SAP
S/4HANA Logistics
February 4th



Overview of Training for SAP
S/4HANA Logistics
February 4th



SAP Business Objects Web
Intelligence: Overview of
BOW320 ILT
February 16th



Discover SAP Learning Hub
February 23th



SAP Marketing Cloud:
Overview of C4H260 ILT
February 23rd



Discover SAP Enable Now
February 24th



Overview of SAP
SuccessFactors Education
Offerings – Start your Learning
Journey
March 4th



Overview of SAP Marketing
Cloud Key Features &
Extensibility ILT
March 16th

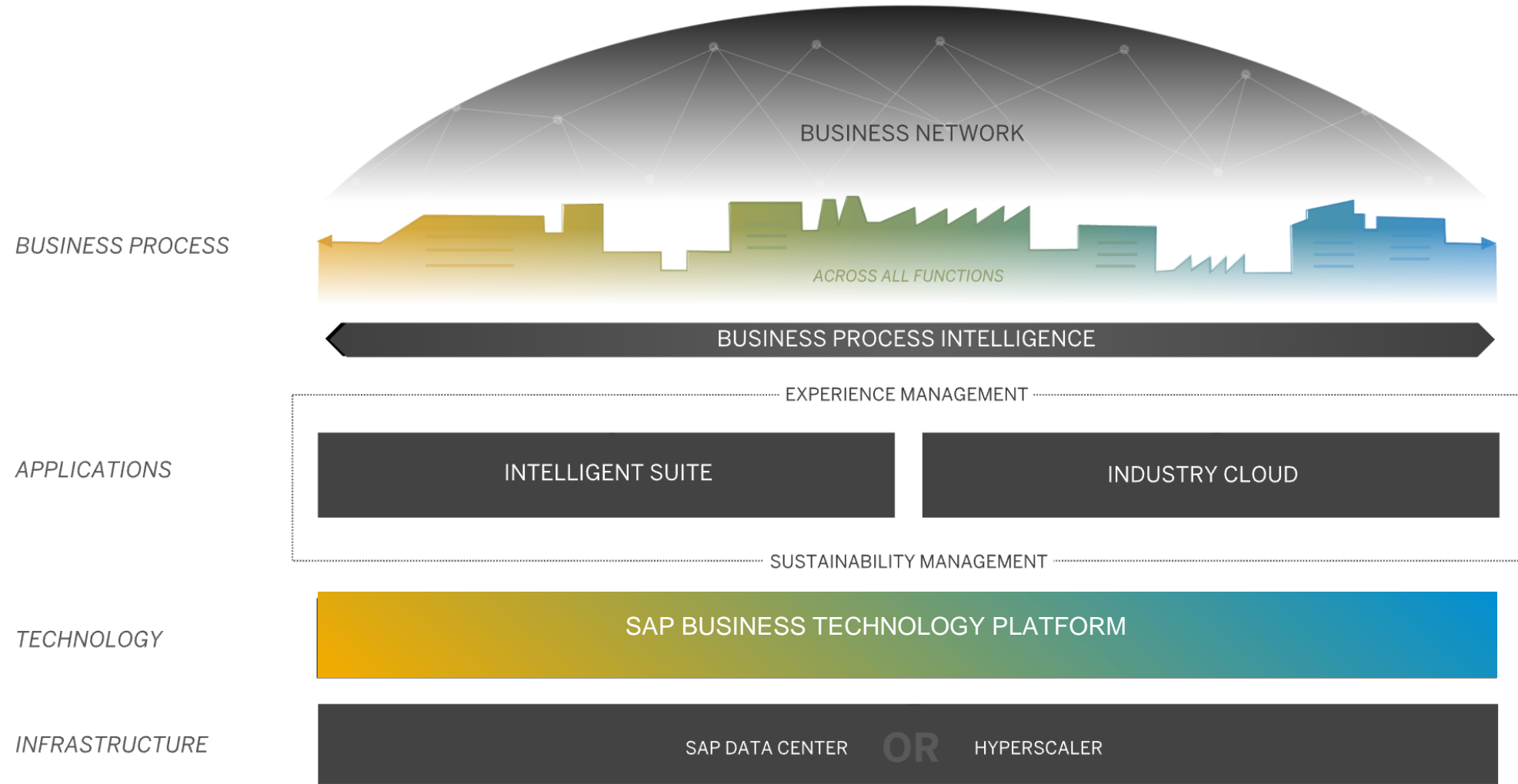


Overview of Training for SAP
Analytics Cloud
March 23rd

“To win in the next-normal environment, companies will need to achieve step-change in resilience without unsustainable increases in their costs. **The acceleration of end-to-end operations digitalization** will be critical in resolving the long-standing trade-off between efficiency and resilience.”

Edward Barriball, Kay George, Ignacio Marcos, Phillipp Radtke, “Jump-Starting Resilient and Reimagined Operations”
McKinsey & Company, May 2020

Intelligent Enterprise Framework



SAP Business Technology Platform

as Platform for the Intelligent Enterprise

SAP BUSINESS TECHNOLOGY PLATFORM



DATABASE AND DATA MANAGEMENT



Capture, manage, and govern your data to drive better business outcomes



ANALYTICS



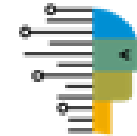
Analyze all your data to accelerate insights and transform the data you have into the answers you need



APPLICATION DEVELOPMENT AND INTEGRATION



Integrate and extend applications – build new ways to access and interact with your data



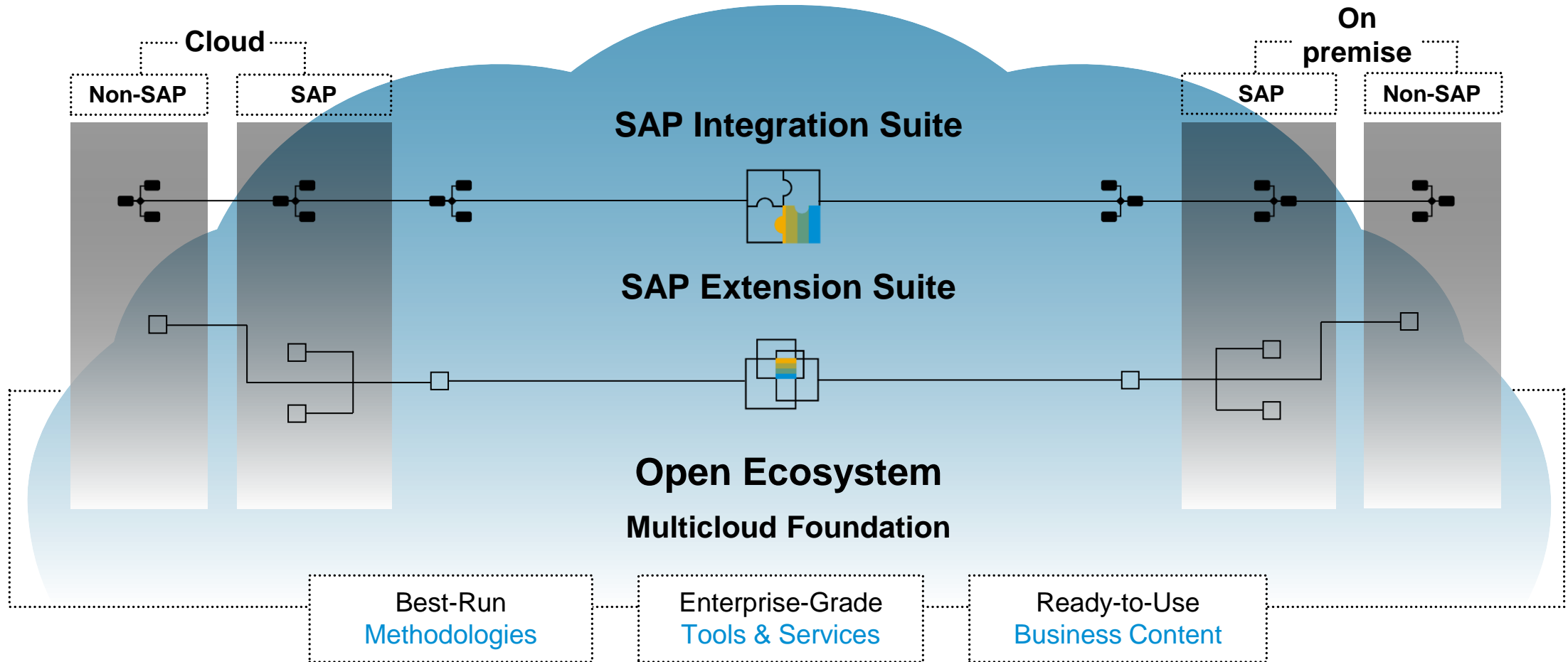
INTELLIGENT TECHNOLOGIES



Data is the fuel propelling intelligent technologies forward – optimizing processes, and igniting innovation

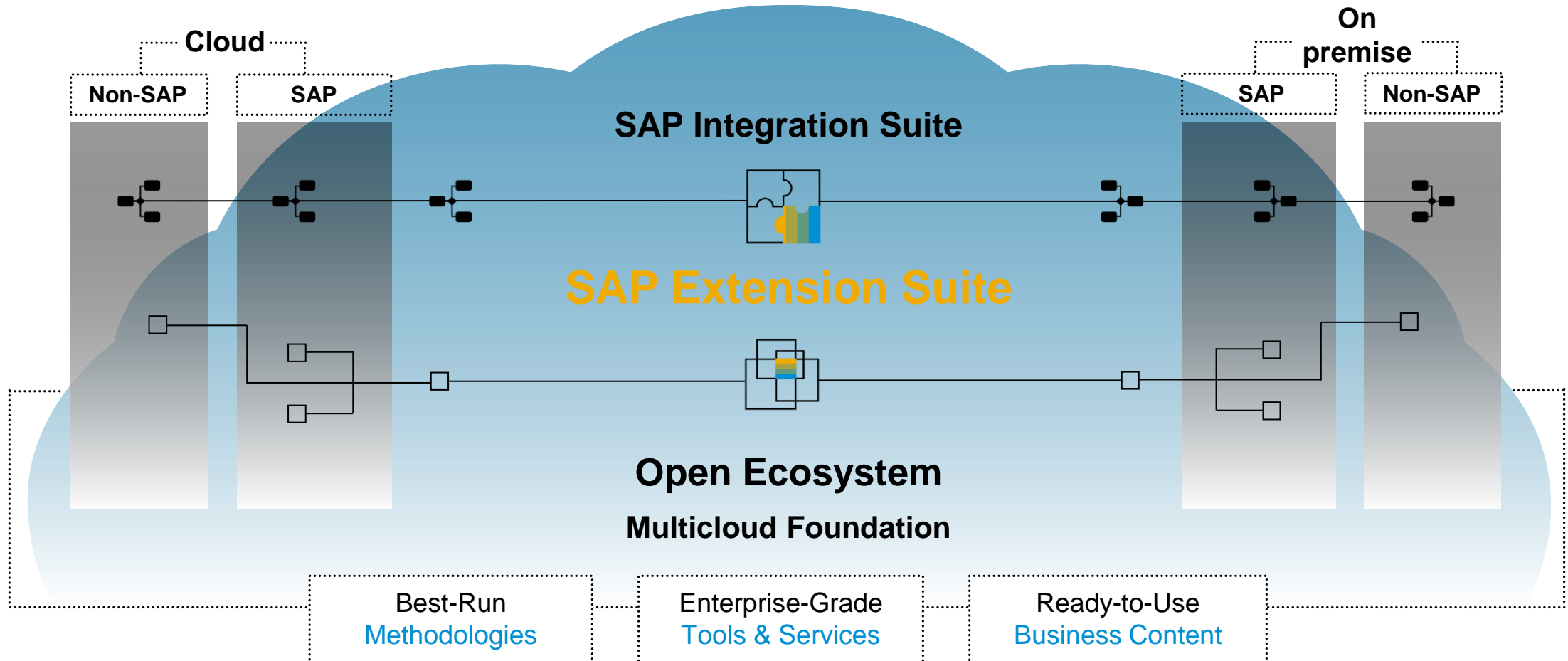
SAP Business Technology Platform

for Application Development and Integration



SAP Business Technology Platform

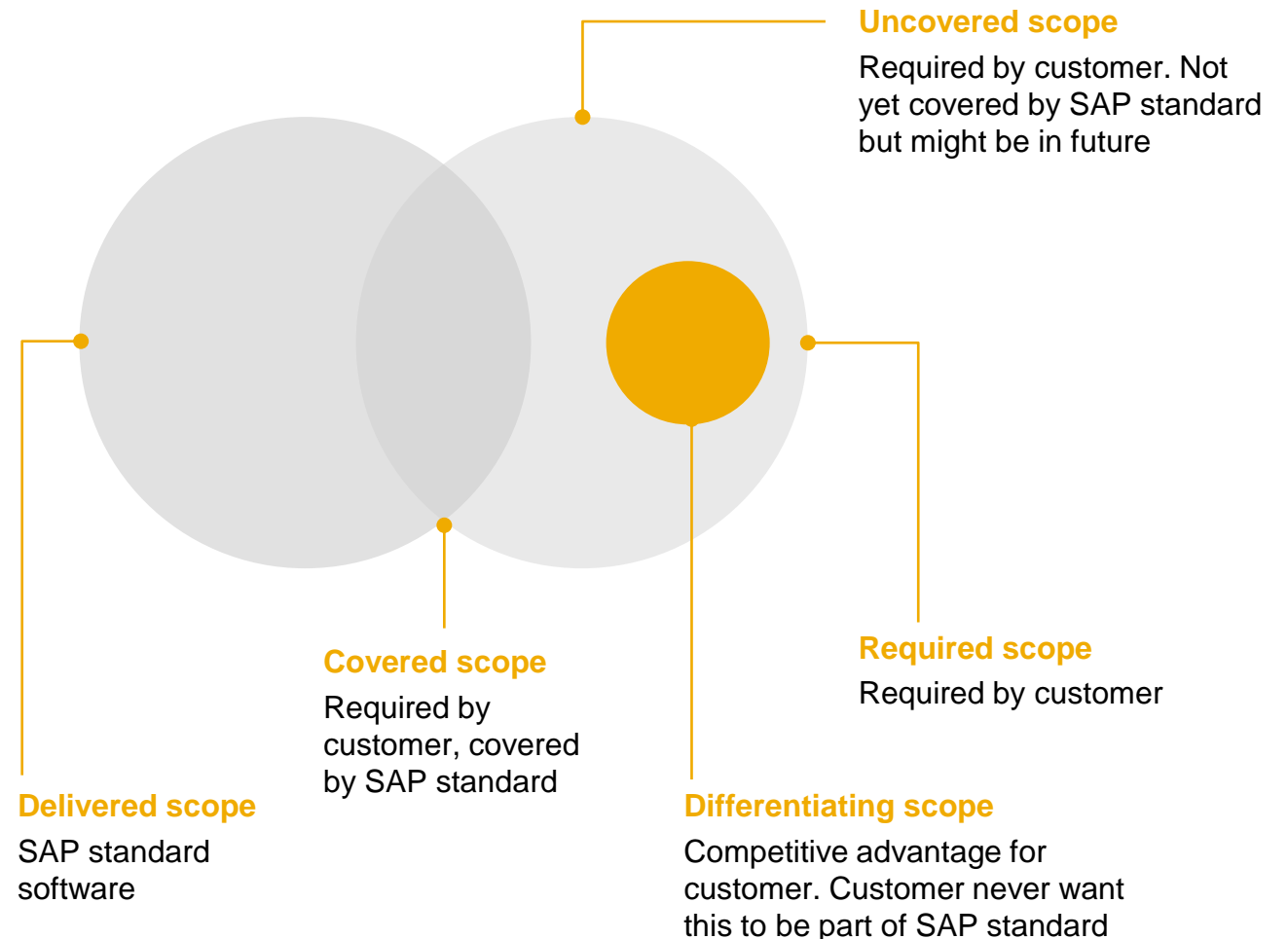
with a focus on SAP Extension Suite



Adaptable and efficient extensibility capabilities are essential

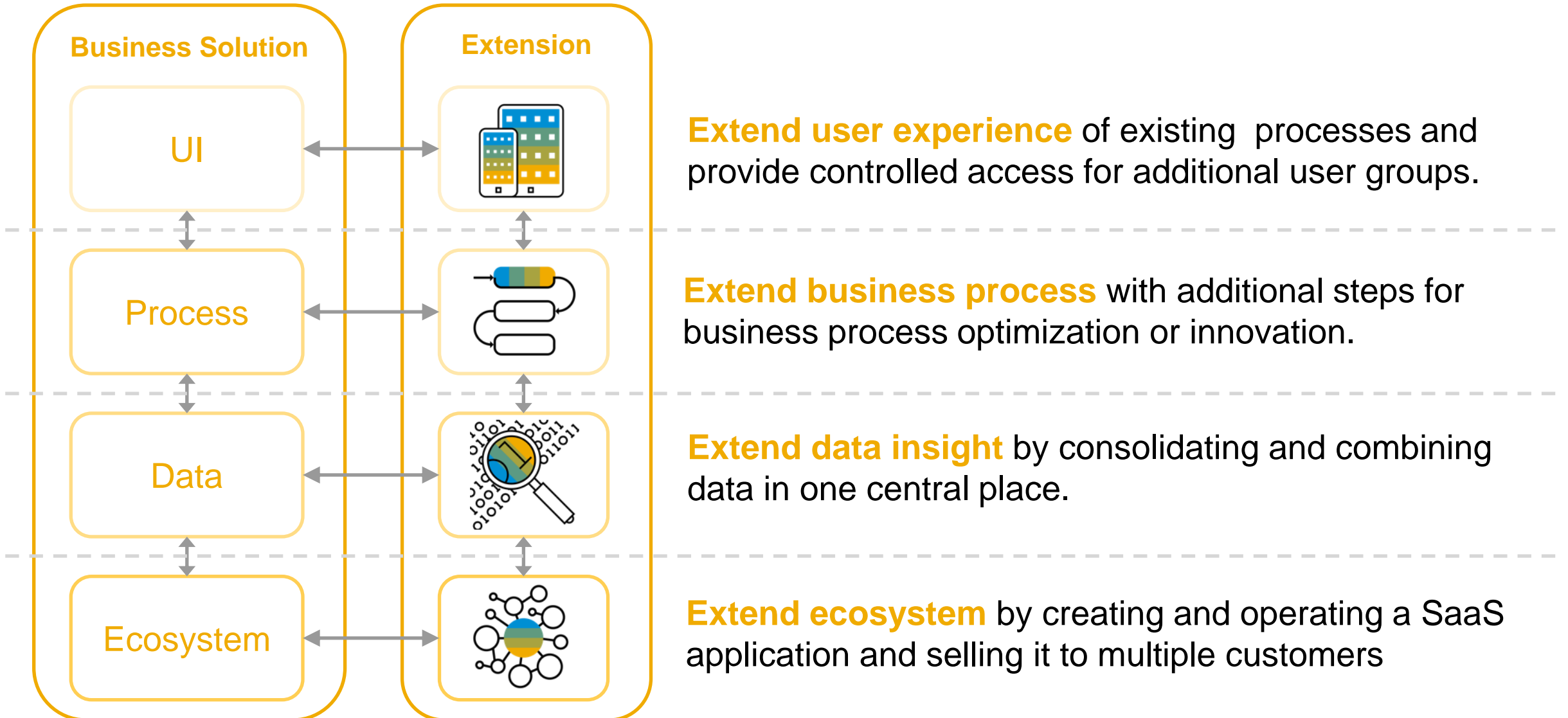
SAP Extension Suite

- **Spend money to save money**
Increase efficiency of existing business processes and models.
 - Easy migration with low TCD
 - Lower TCO than before
 - At least same reliability
- **Spend money to make money**
Innovate to increase productivity and revenue with new and differentiating business processes and models.
 - Agility & flexibility to innovate fast
 - Profitability of business case
 - Sufficient reliability & scalability



Different business scenarios for extensions

SAP Extension Suite



Extend user experience of existing processes and provide controlled access for additional user groups.

Extend business process with additional steps for business process optimization or innovation.

Extend data insight by consolidating and combining data in one central place.

Extend ecosystem by creating and operating a SaaS application and selling it to multiple customers

Extensibility options for SAP S/4HANA

SAP Extension Suite

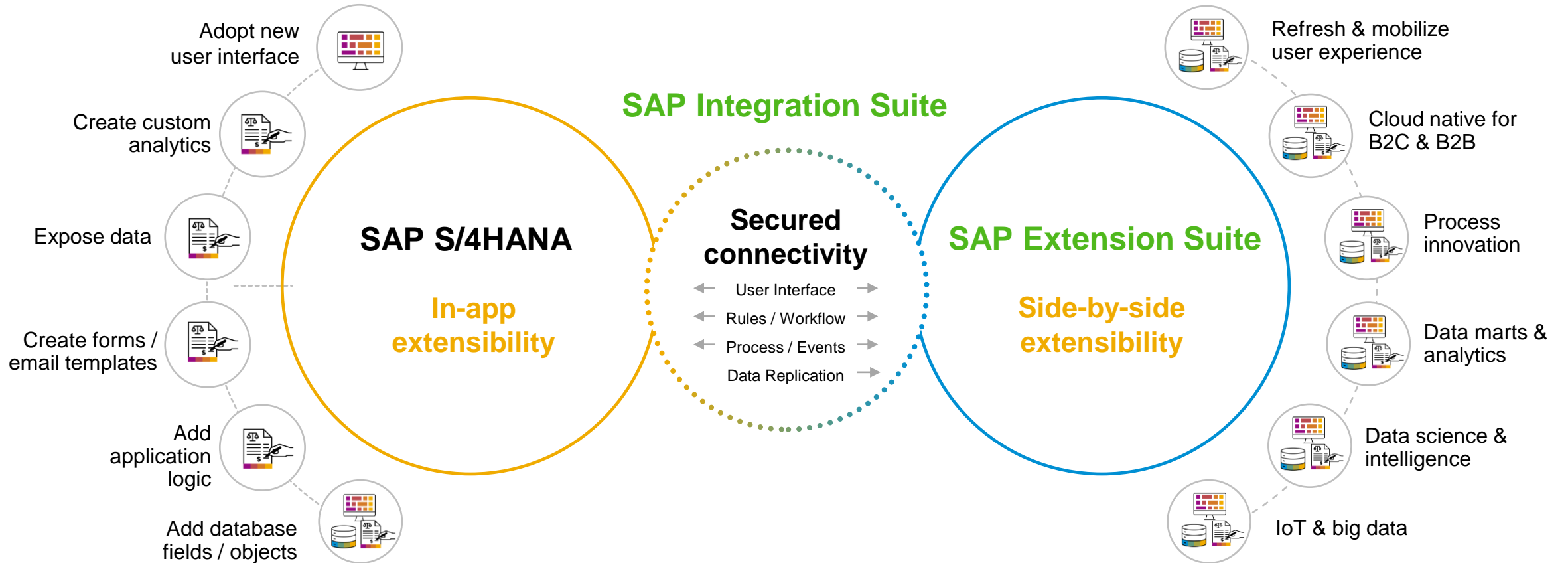
User Interface Layer



Application Layer



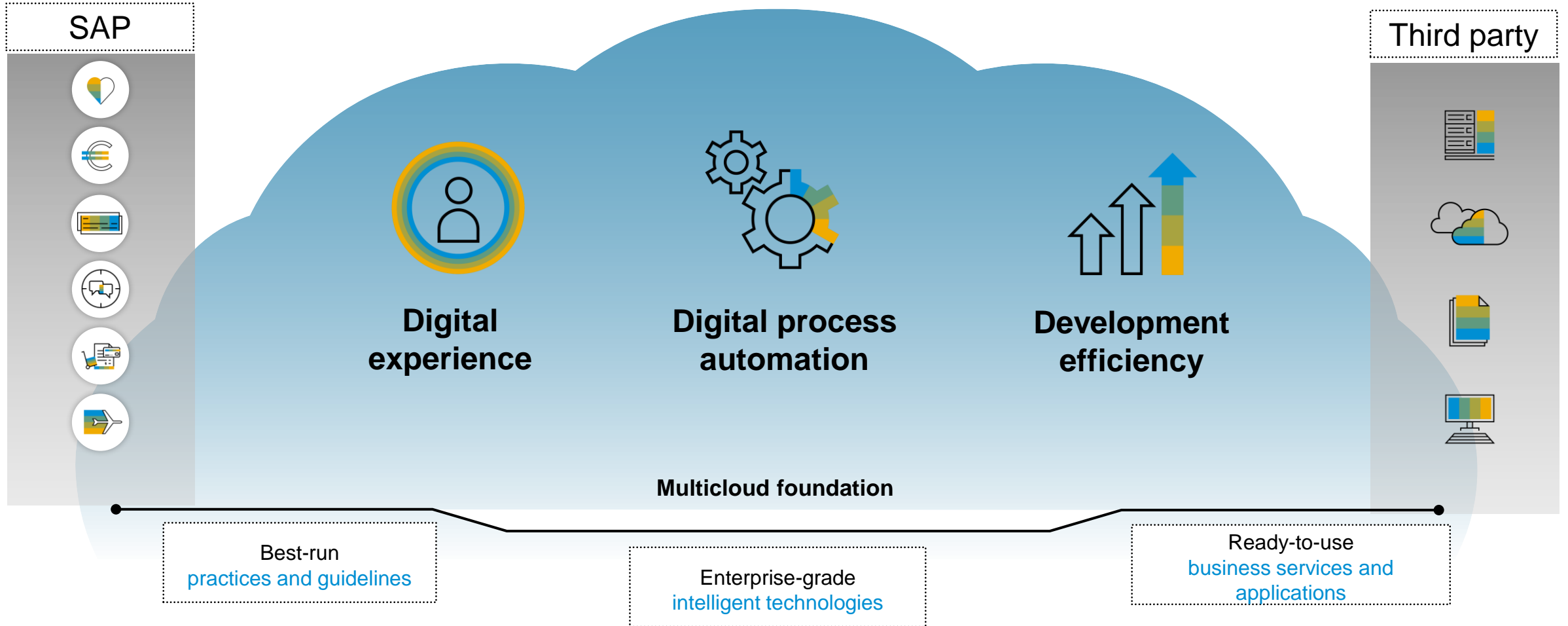
Database Layer



E2E Security / E2E Lifecycle Management

Pillars

SAP Extension Suite



Pillars

SAP Extension Suite



DIGITAL EXPERIENCE

Connect people, data, and process
with engaging experiences



DIGITAL PROCESS AUTOMATION

Automate, enhance, and adapt
business processes beyond
standard solutions

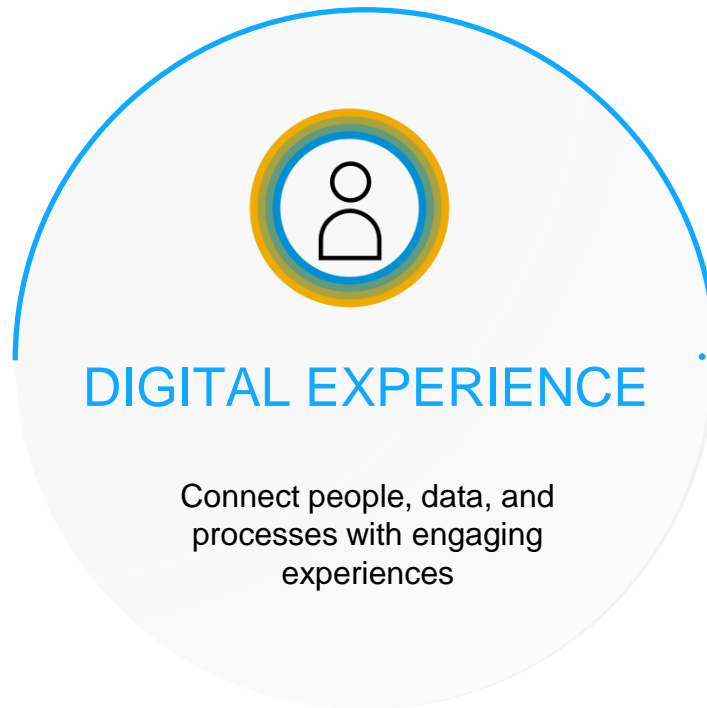


DEVELOPMENT EFFICIENCY

Empower everyone to rapidly build
and enhance apps, process and
experiences with clicks or code

Digital Experience

Connect people, data, and processes with engaging experiences



- Provide **consistent, contextual, and personalized** access to the information you need, when you need it, wherever you need it
- Empower business users with a **simplified digital workplace experience** to foster increased engagement, and a better overall experience for your people, customers and partners.
- Jumpstart experience development with **prebuilt templates, conversational bots, and connected services** for SAP solutions

Improve people **engagement**, resource **efficiency**, and employee **productivity**

Digital Experience Services



[See all Digital Experience services in the SAP Discovery Center](#)



SAP Mobile Services

Quickly develop, configure, and run enterprise-grade mobile apps that provide access to enterprise data with services, such as app lifecycle management, synchronization, push notifications, security, monitoring, and usage reporting.



SAP Work Zone

Create an outstanding user experience for business application users that intelligently surfaces application content, contextual recommendations, and collaborative processes to drive employee engagement, focus, and productivity.



SAP Launchpad

Establish a central point of access to SAP (e.g. SAP S/4HANA), custom-built, and third-party applications and extensions, both on the cloud and on-premise.

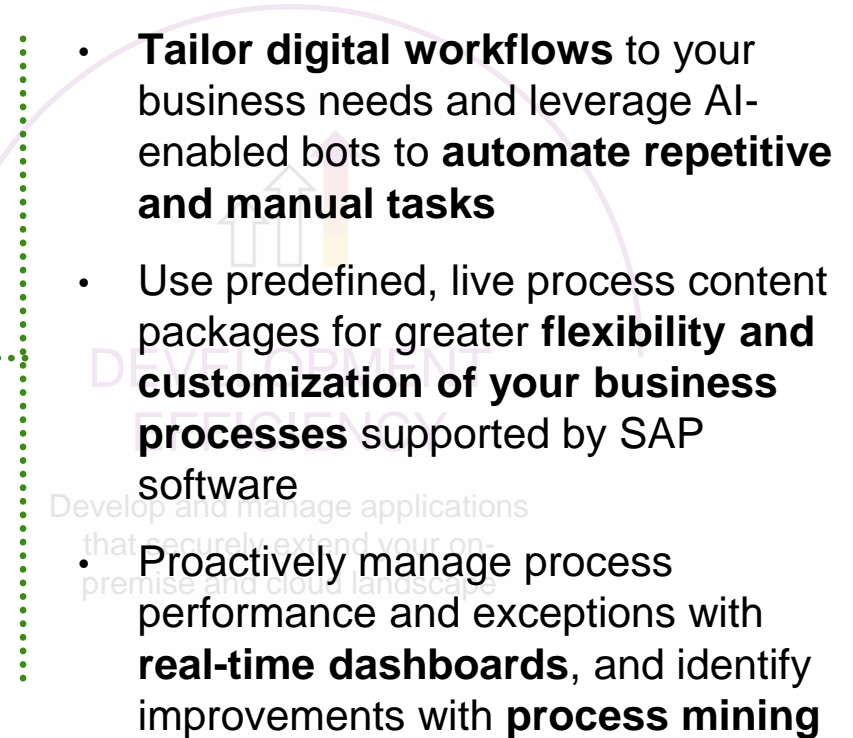
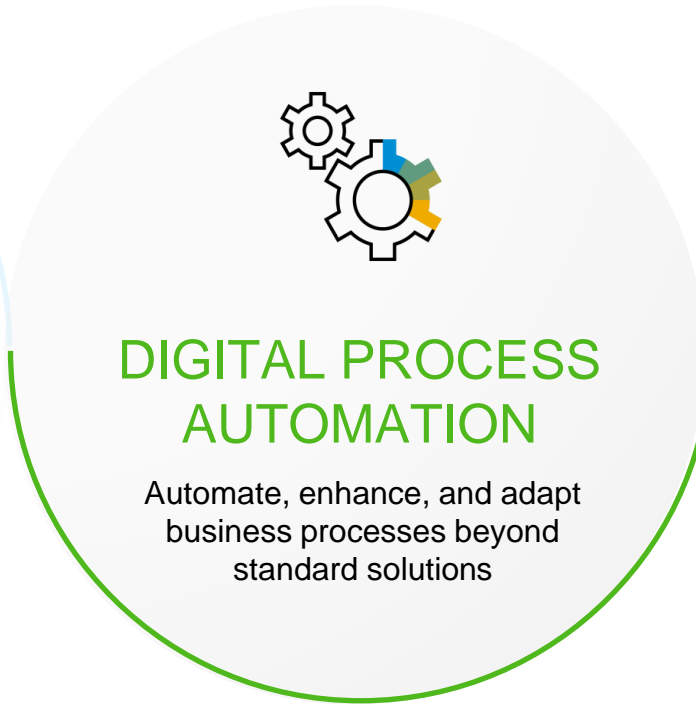
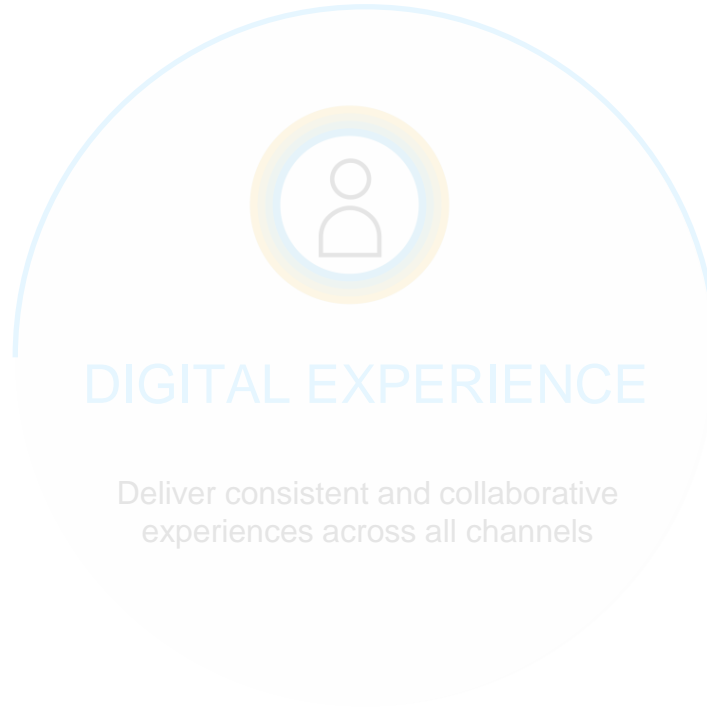


SAP Conversational AI

Transform customer and employee experiences by building enterprise-grade chatbots in a heartbeat. Leverage an end-to-end bot building platform as well as a digital assistant made for the enterprise.

Digital Process Automation

Automate, enhance, and adapt business processes beyond standard solutions



Increase process **efficiency**, **flexibility**, and **quality**

Digital Process Automation Services



[See all Digital Process Automation services in the Discovery Center](#)



SAP Workflow Management

Digitize workflows, manage decisions, gain end-to-end process visibility, and configure processes in a low-code approach.



SAP Intelligent RPA

Automate high-volume, standardized, and repetitive manual tasks by creating, scheduling, managing, and monitoring intelligent bots.



SAP Live Process Content

Offers discovery of pre-defined content, real-time authoring and launch (publish to production) of non-complex business processes without coding.

Development Efficiency

Rapidly build and enhance enterprise applications, processes, and innovations using clicks or code

- Out-of-the-box tooling for **simplified development** that works with your choice of approach and runtime
- Ready-to-use services and preconfigured templates for **faster development and time to value**
- **Easily manage your application lifecycle** by decoupling application extensions from the core

Deliver consistent and collaborative experiences across all channels

Automate, enhance, and adapt business processes beyond standard solutions




DEVELOPMENT EFFICIENCY

Rapidly build and enhance enterprise applications, processes, and innovations using clicks or code

Improve **productivity**, accelerate **time-to-value**, and streamline **development**

Development Efficiency Services

 [See all Development Efficiency services in the Discovery Center](#)

SAP Business Application Studio



A modular-driven environment, tailored for efficient development of business applications.

Low-Code Tools



RAD by Mendix supports various developer types and expertise, from no code business developers, to full IT professionals.

Program Models/Runtimes



Integrated framework of tools, languages, and libraries for building extension applications in a full-stack development approach. Deploy extensions in the runtime of your choice.

DevOps



Offers a rich set of services supporting the development and operations of cloud-native and hybrid solutions.

Enterprise Messaging



Enables applications to communicate asynchronously through messages and events to seamlessly extend digital core with responsive applications.

Extensions step by step

SAP Extension Suite



Provides an integrated toolkit for extending and enhancing standard SAP solutions efficiently and economically



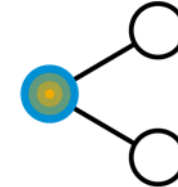
Connect

on-premise and cloud systems to SAP BTP to extend standard SAP solutions.



Create endpoint

extension applications based on your existing skillset.



Add channels

Web, mobile, conversational, others.



Deploy & operate

in your organization.

Architecture

SAP Extension Suite

SAP® S/4HANA

SAP ECC

SAP Customer Experience

SAP® S/4HANA Cloud

SAP Ariba 

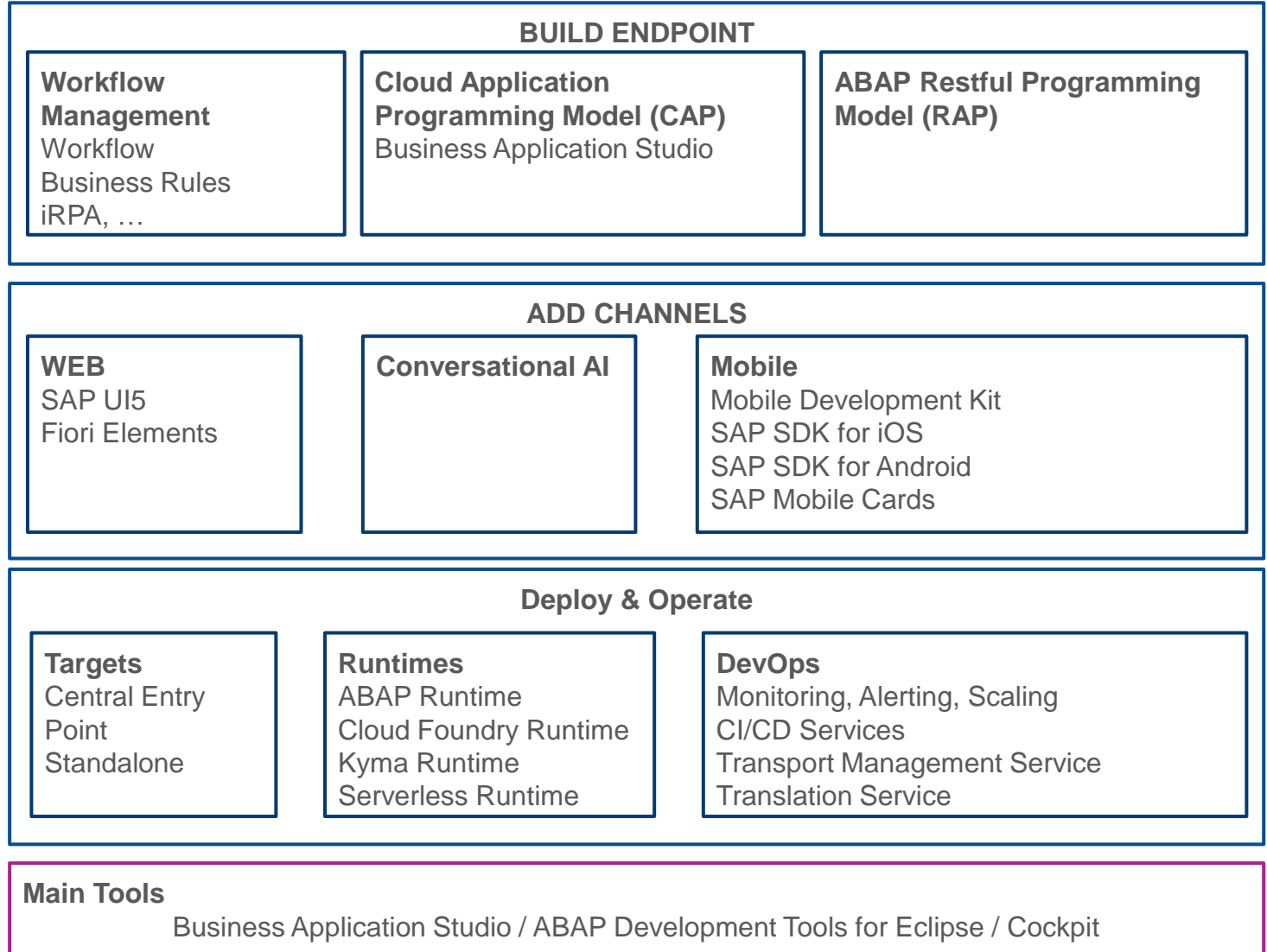
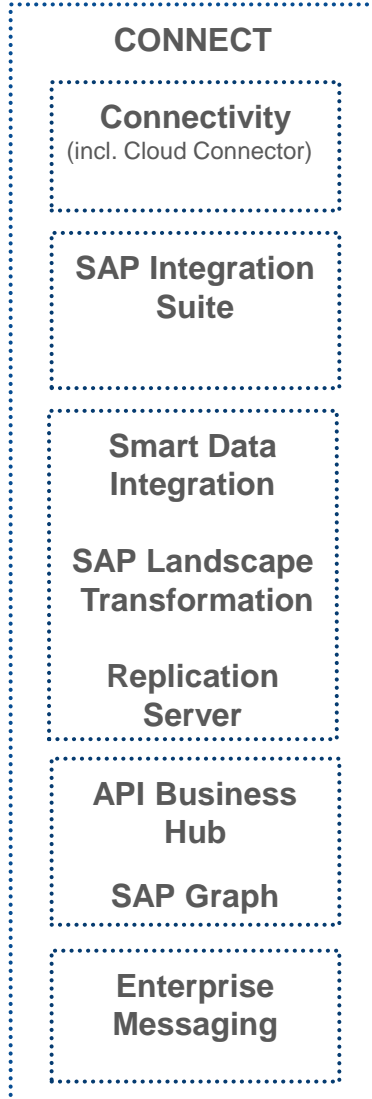
SAP SuccessFactors 

SAP Concur 

SAP Fieldglass 

SAP Business One

3rd Party Solutions



Cloud Application Programming Model

SAP Extension Suite

SAP® S/4HANA

SAP ECC

SAP Customer Experience

SAP® S/4HANA Cloud

SAP Ariba 

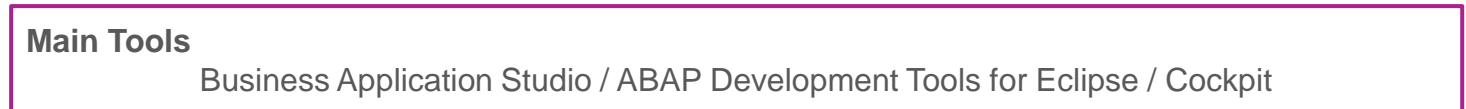
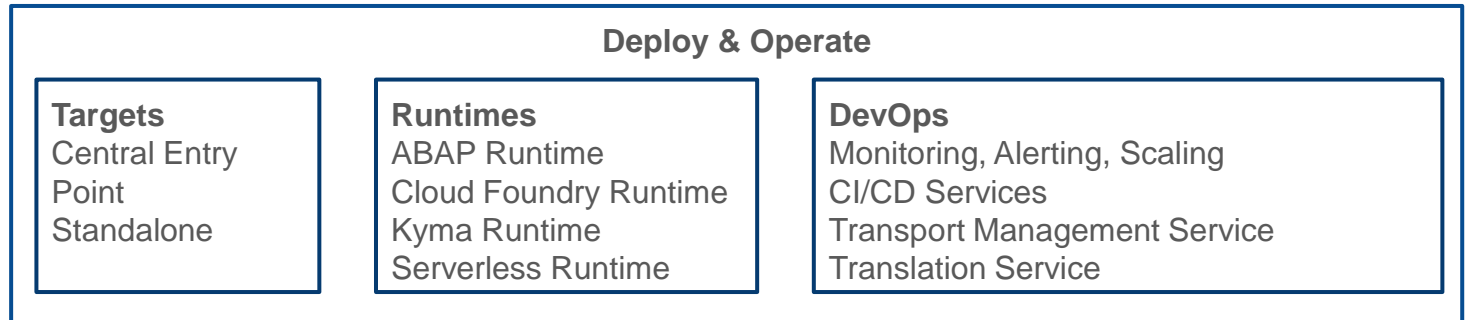
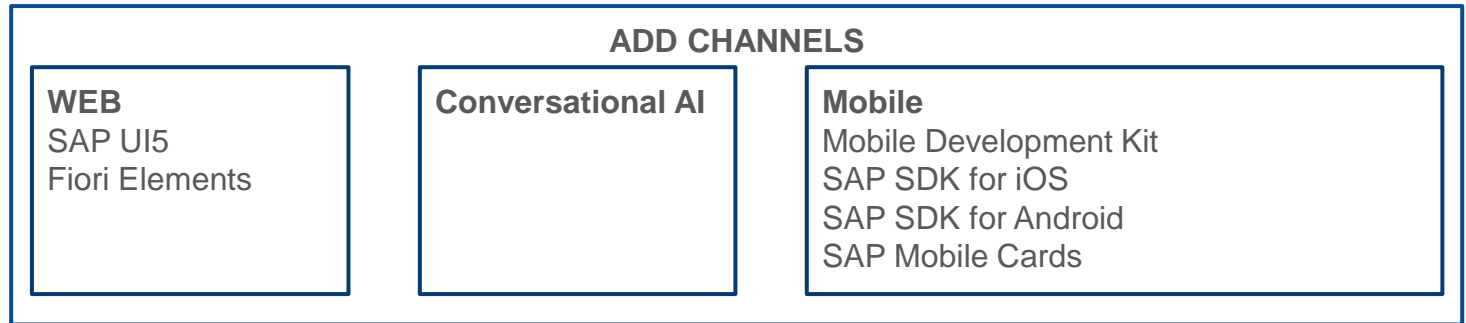
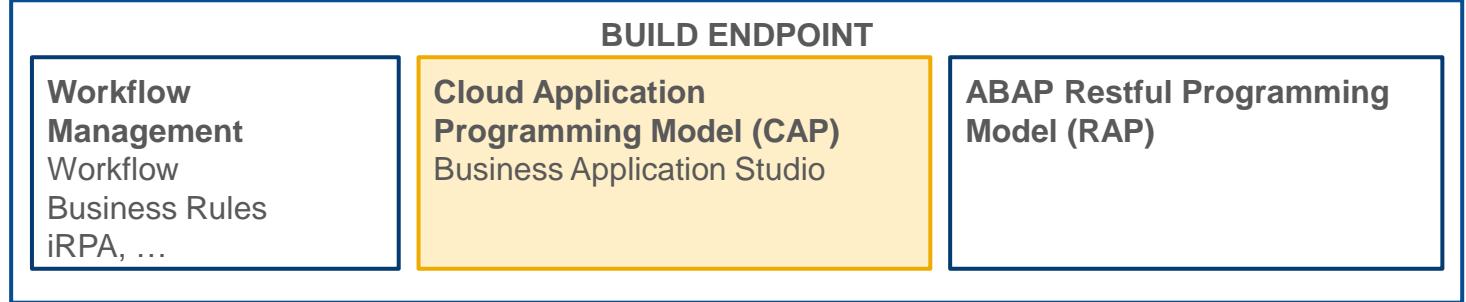
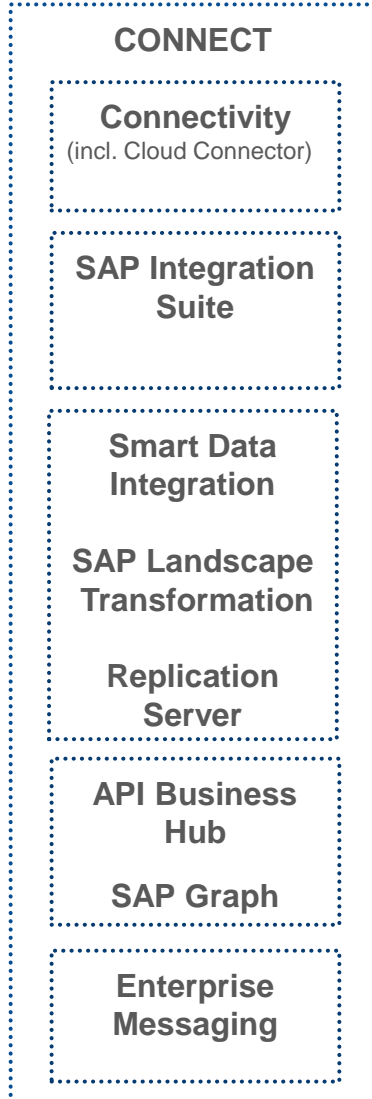
SAP SuccessFactors 

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SAP Business One

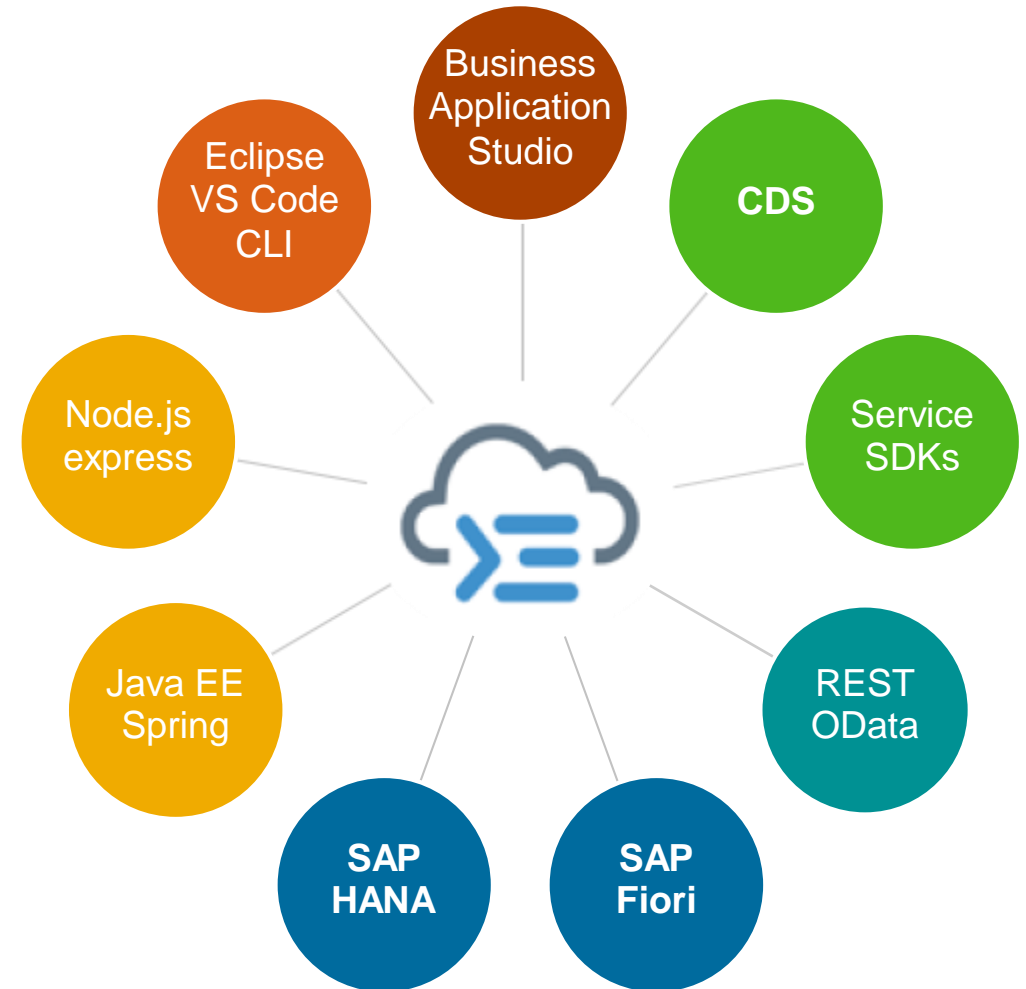
3rd Party Solutions



SAP Cloud Application Programming Model

SAP Extension Suite Programming Models

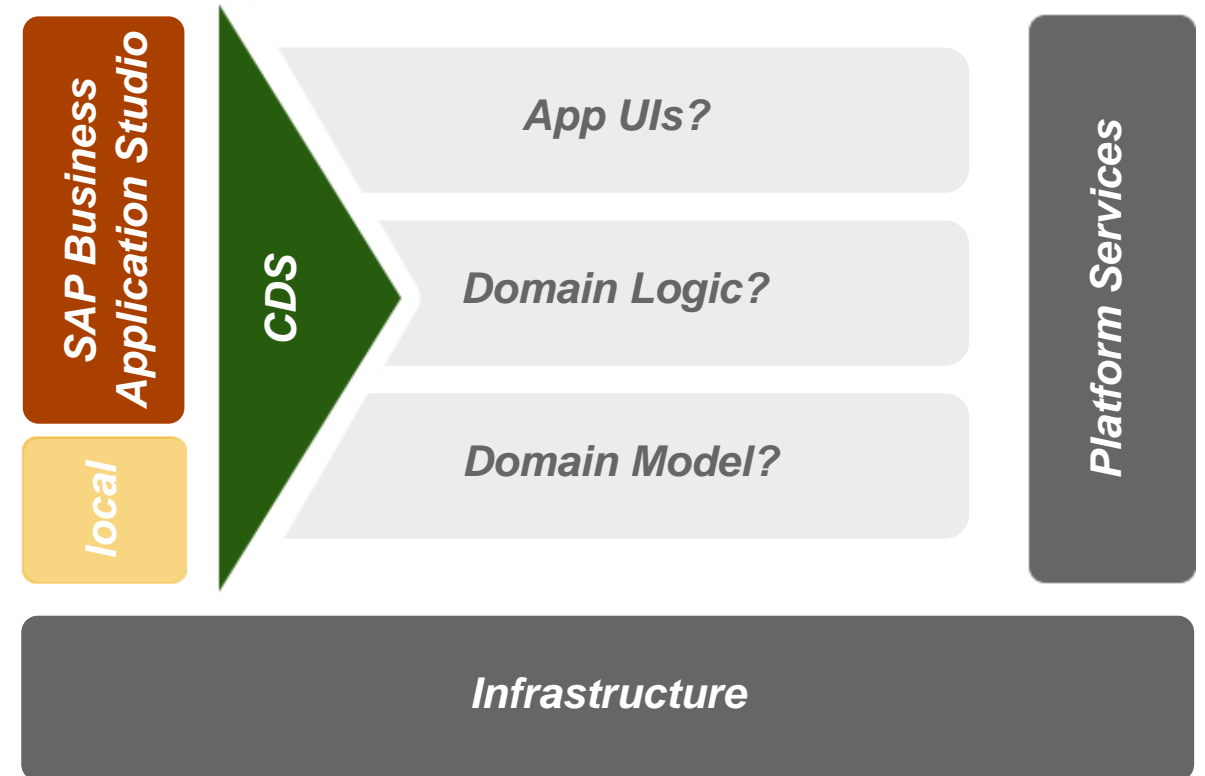
- **Opinionated**, yet **open** framework of tools, languages, and libraries to efficiently build
- Guide for developers along a 'golden path' of proven best practices, while minimizing boilerplate so they can **focus on their domain** problems at hand
- Mix of broadly adopted **open-source** and **SAP** tools and technologies



SAP Cloud Application Programming Model

SAP Extension Suite Programming Models

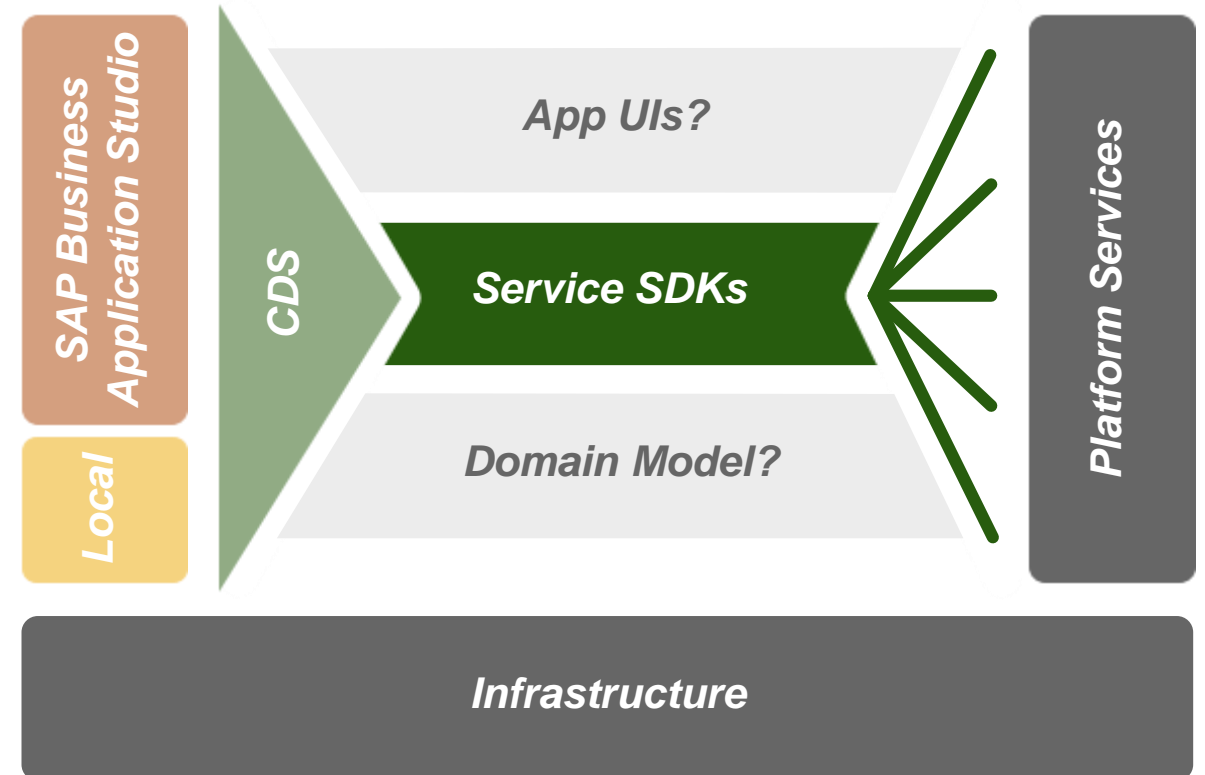
- **Core Data Services (CDS)** is a data modeling infrastructure
- You can use CDS to define data models and service definitions



SAP Cloud Application Programming Model

SAP Extension Suite Programming Models

- Choose between **Java** and **Node.js**
- Provide and consume services
- Easy access to libraries provided by SAP
- High-level integration to low-level platform

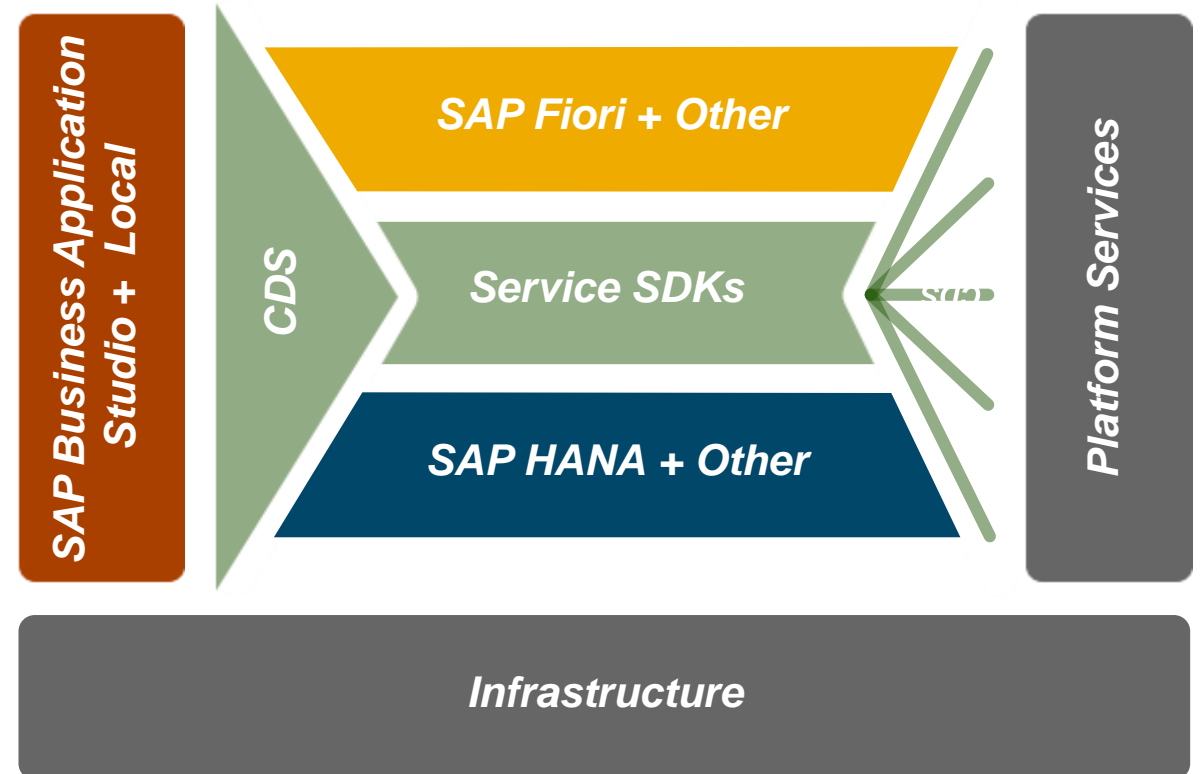


SAP Cloud Application Programming Model

SAP Extension Suite Programming Models

Get 1st-class support for...

- **SAP Business Application Studio** with tailored tools
- **SAP Fiori Elements**
- **SAP HANA**



ABAP Restful Programming Model

SAP Extension Suite

SAP® S/4HANA

SAP ECC

SAP Customer Experience

SAP® S/4HANA Cloud

SAP Ariba 

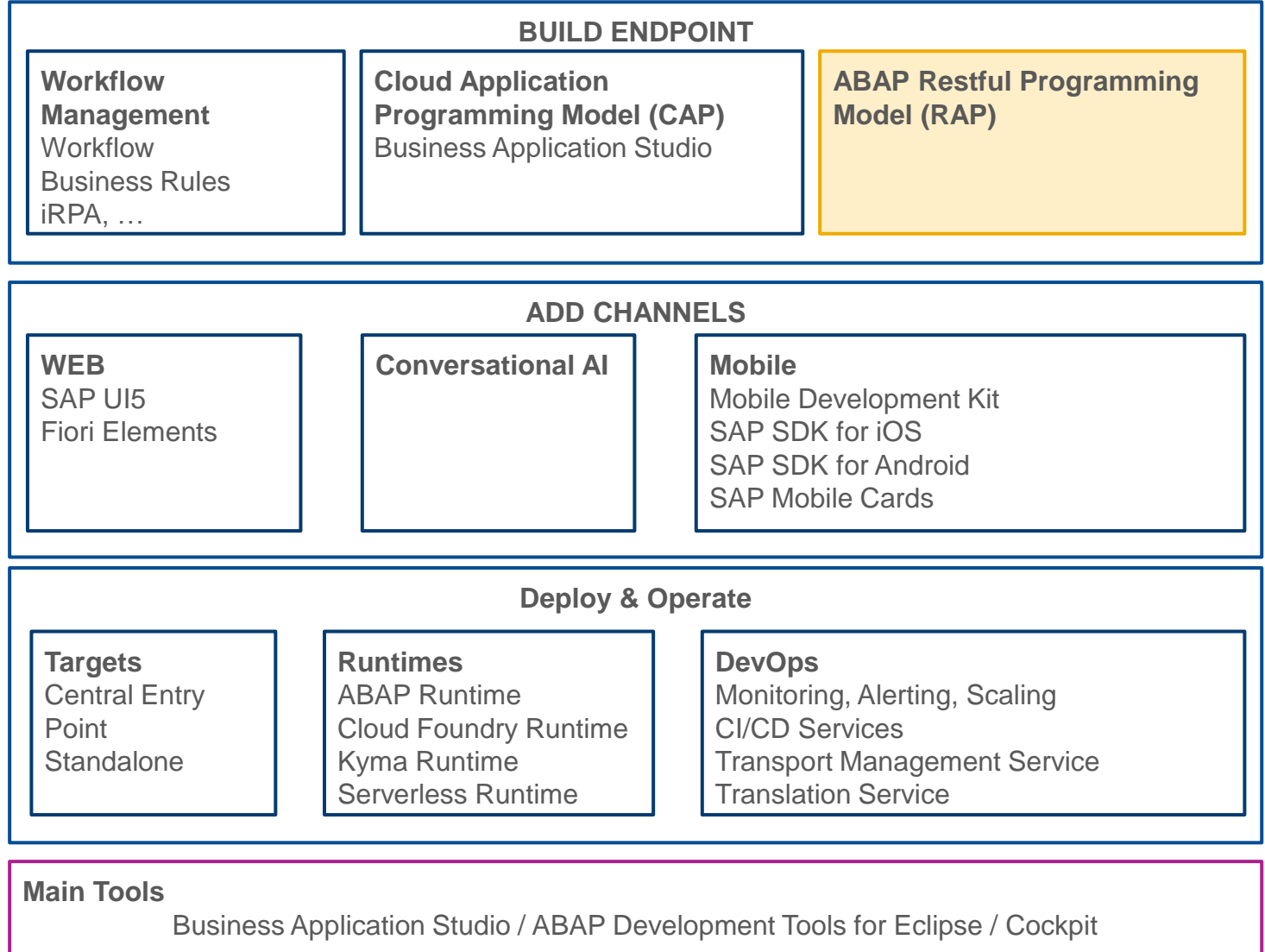
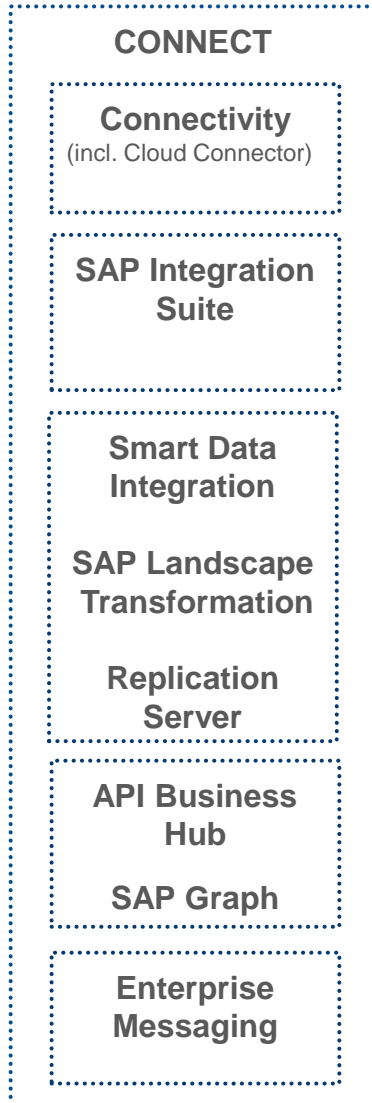
SAP SuccessFactors 

SAP Concur 

SAP Fieldglass 

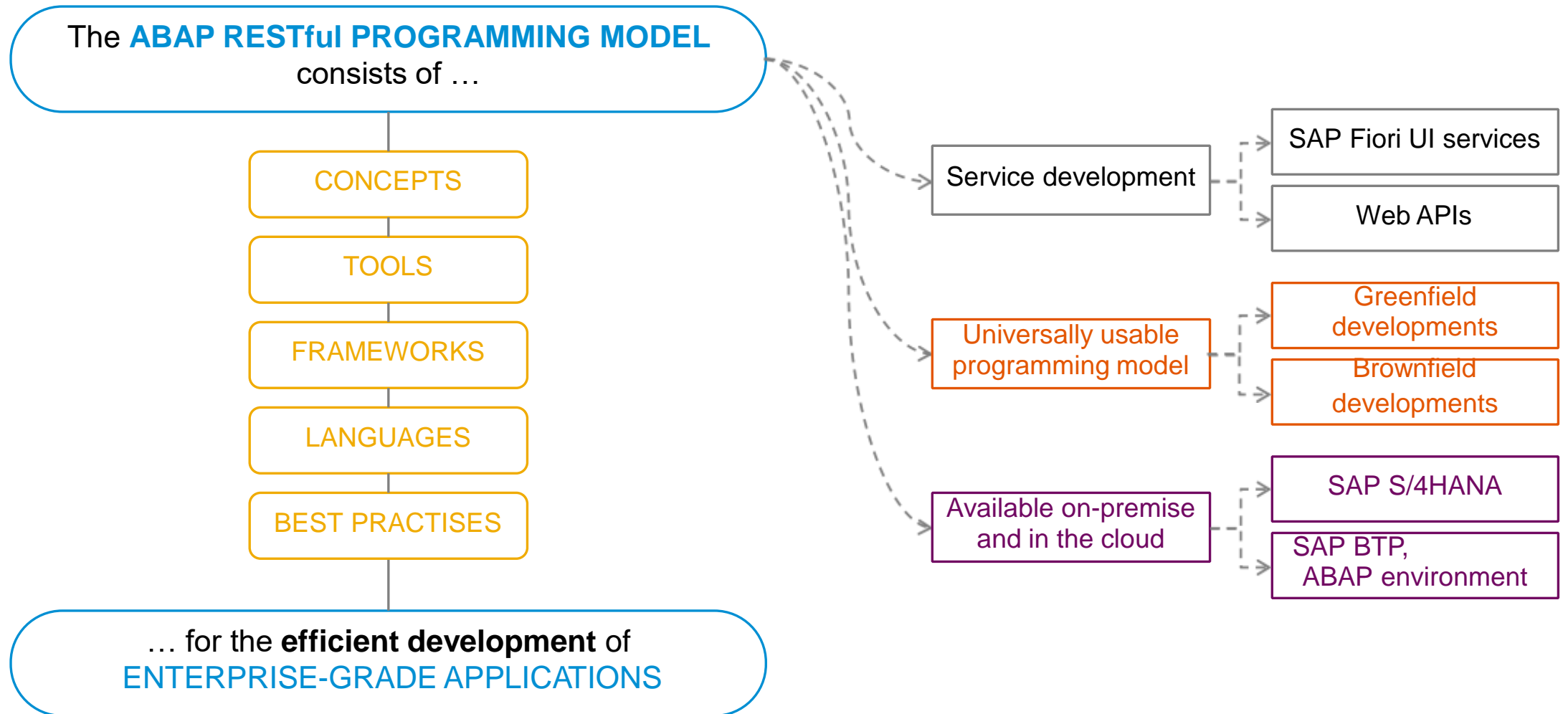
SAP Business One

3rd Party Solutions



SAP ABAP Restful Programming Model

SAP Extension Suite Programming Models



SAP ABAP Restful Programming Model

SAP Extension Suite Programming Models



ABAP Development Tools in Eclipse for all development tasks

Easy developer onboarding
End-to-end development flow



Languages: ABAP and CDS

Standard implementation tasks via typed APIs supporting
static code checks, auto-completion, element info

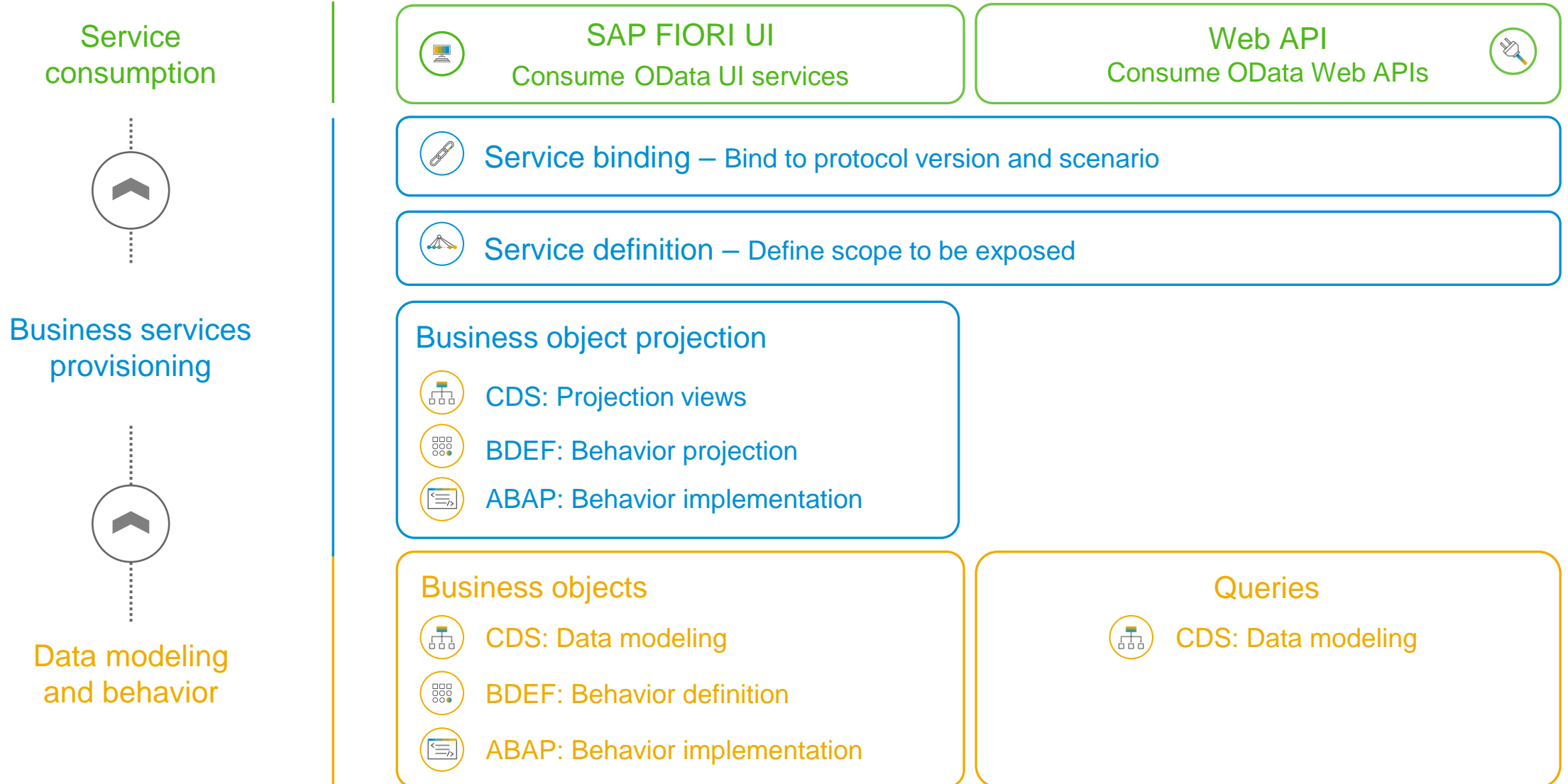


Powerful frameworks

Take over technical implementation tasks
Business logic added in code exits on protocol-agnostic layers

SAP ABAP Restful Programming Model

SAP Extension Suite Programming Models



Use Case

Machine monitoring Fiori-like app



Context

Machine Monitoring Fiori-like app

Models

By Customer

Customer 1001

6-Models Deployed

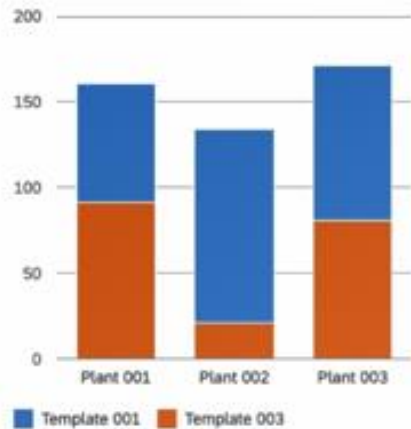
Customer 1000

4-Models Deployed

Running Time by Plant and Template

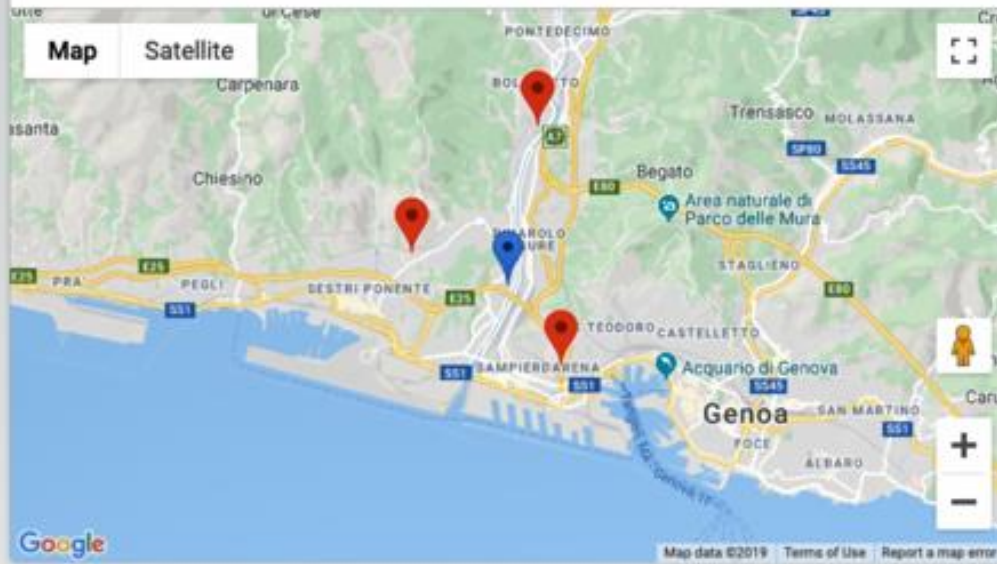
Running Time by Plant and Template in seconds

Total Running Time by Plant Name an...



Machines

By Location



Models

3 of 10

By Running Time

Model 01

Plant 001-Customer 1000

98 sec

Model 06

Plant 001-Customer 1000

86 sec

Model 03

Plant 003-Customer 1001

68 sec

Machines

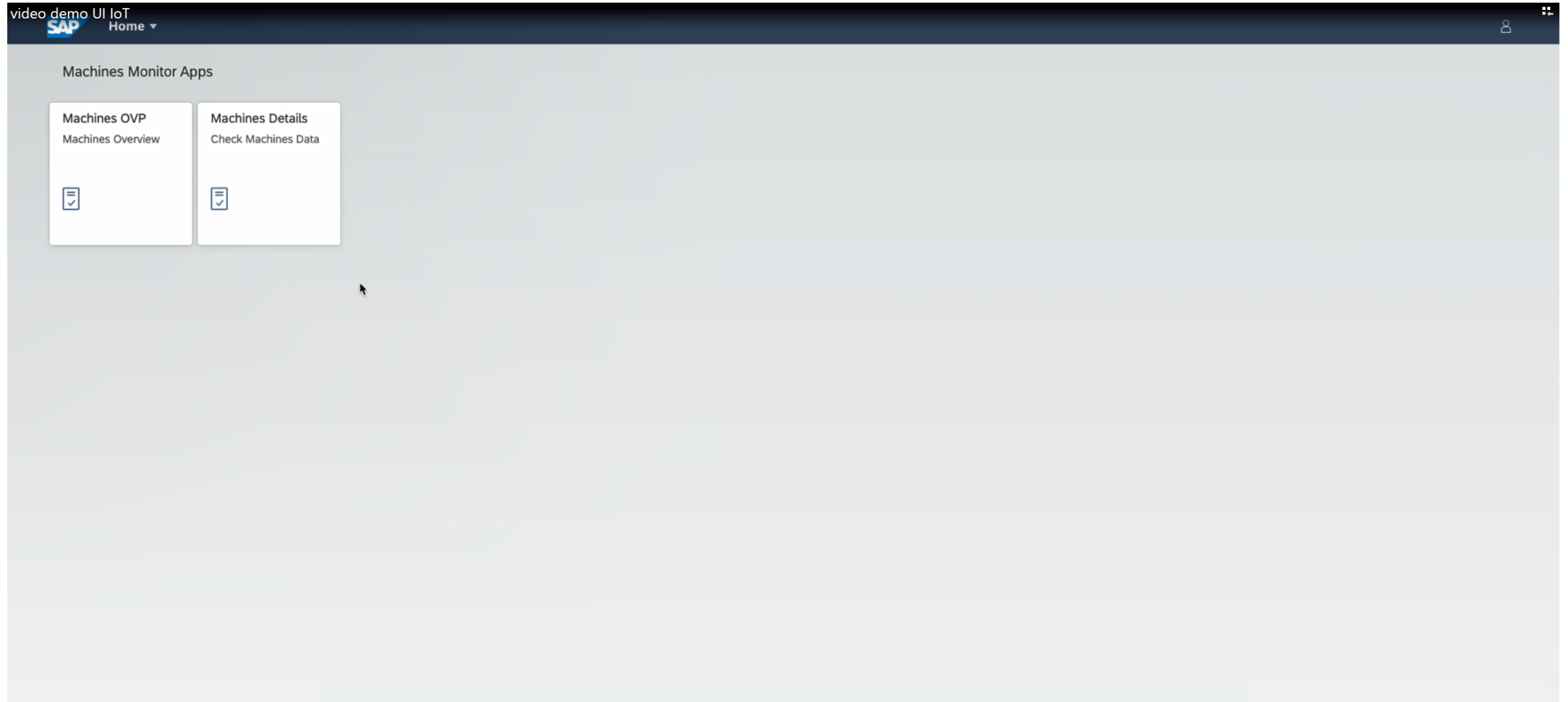
List of Available Machines

10
of
10



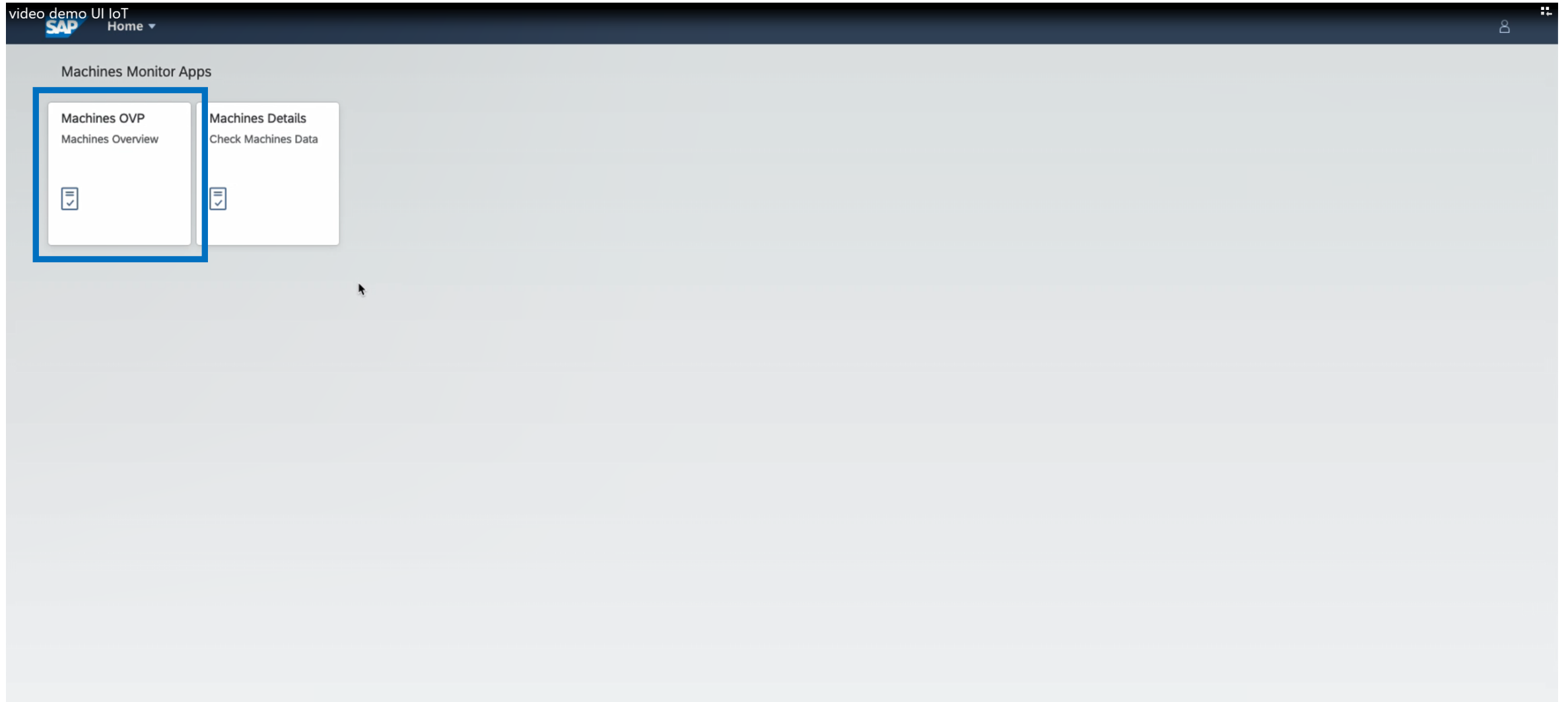
Demo

Machine Monitoring Fiori-like app



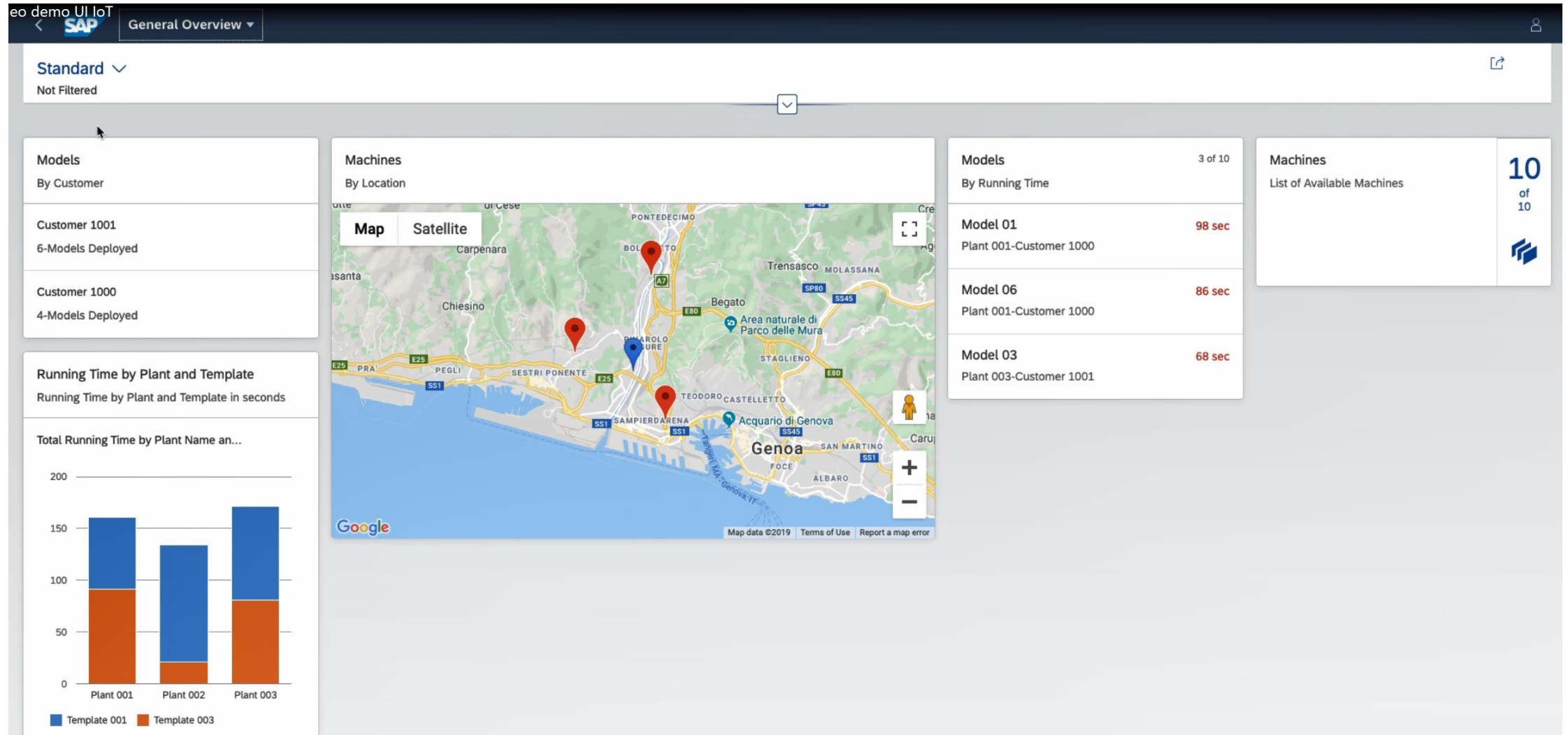
Demo

Machine Monitoring Fiori-like app



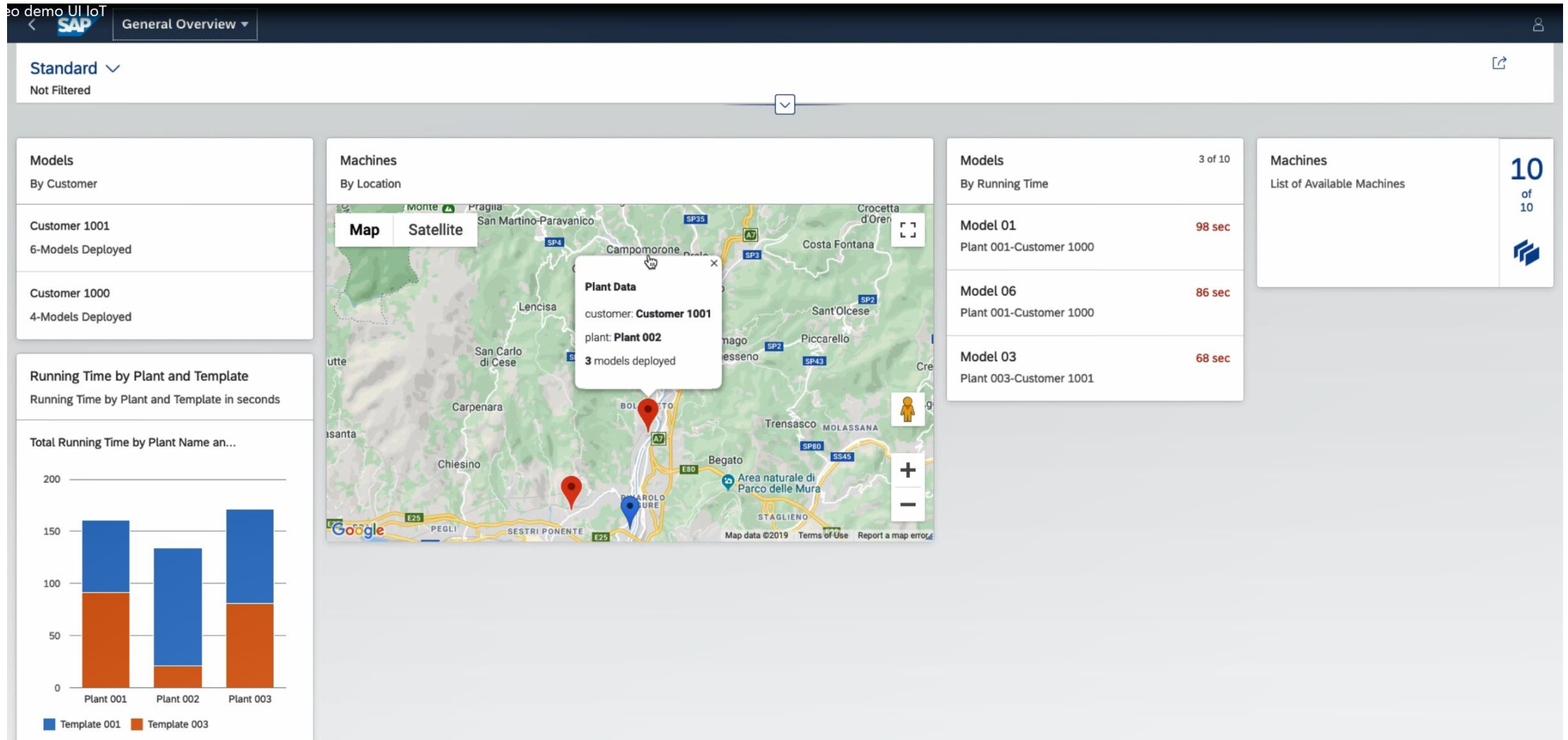
Demo

Machine Monitoring Fiori-like app



Demo

Machine Monitoring Fiori-like app



Demo

Machine Monitoring Fiori-like app

Standard
Not Filtered

Models
By Customer

Customer 1001
6-Models Deployed

Customer 1000
4-Models Deployed

Running Time by Plant and Template
Running Time by Plant and Template in seconds

Total Running Time by Plant Name an...

Plant	Template 001	Template 003
Plant 001	~70	~90
Plant 002	~110	~20
Plant 003	~90	~80

Machines
By Location

Map Satellite

Models
By Running Time

Model	Running Time
Model 01 Plant 001-Customer 1000	98 sec
Model 06 Plant 001-Customer 1000	86 sec
Model 03 Plant 003-Customer 1001	68 sec

Machines
List of Available Machines

10 of 10

Demo

Machine Monitoring Fiori-like app

eo demo UI IoT General Overview

Standard Not Filtered

Models

By Customer

Customer 1001	6-Models Deployed
Customer 1000	4-Models Deployed

Machines

By Location

Map Satellite

Models

By Running Time

Model 01	Plant 001-Customer 1000	98 sec
Model 06	Plant 001-Customer 1000	86 sec
Model 03	Plant 003-Customer 1001	68 sec

Machines

List of Available Machines

10 of 10

Running Time by Plant and Template

Running Time by Plant and Template in seconds

Total Running Time by Plant Name an...

Plant	Template 001	Template 003
Plant 001	~70	~85
Plant 002	~110	~20
Plant 003	~90	~80

Demo

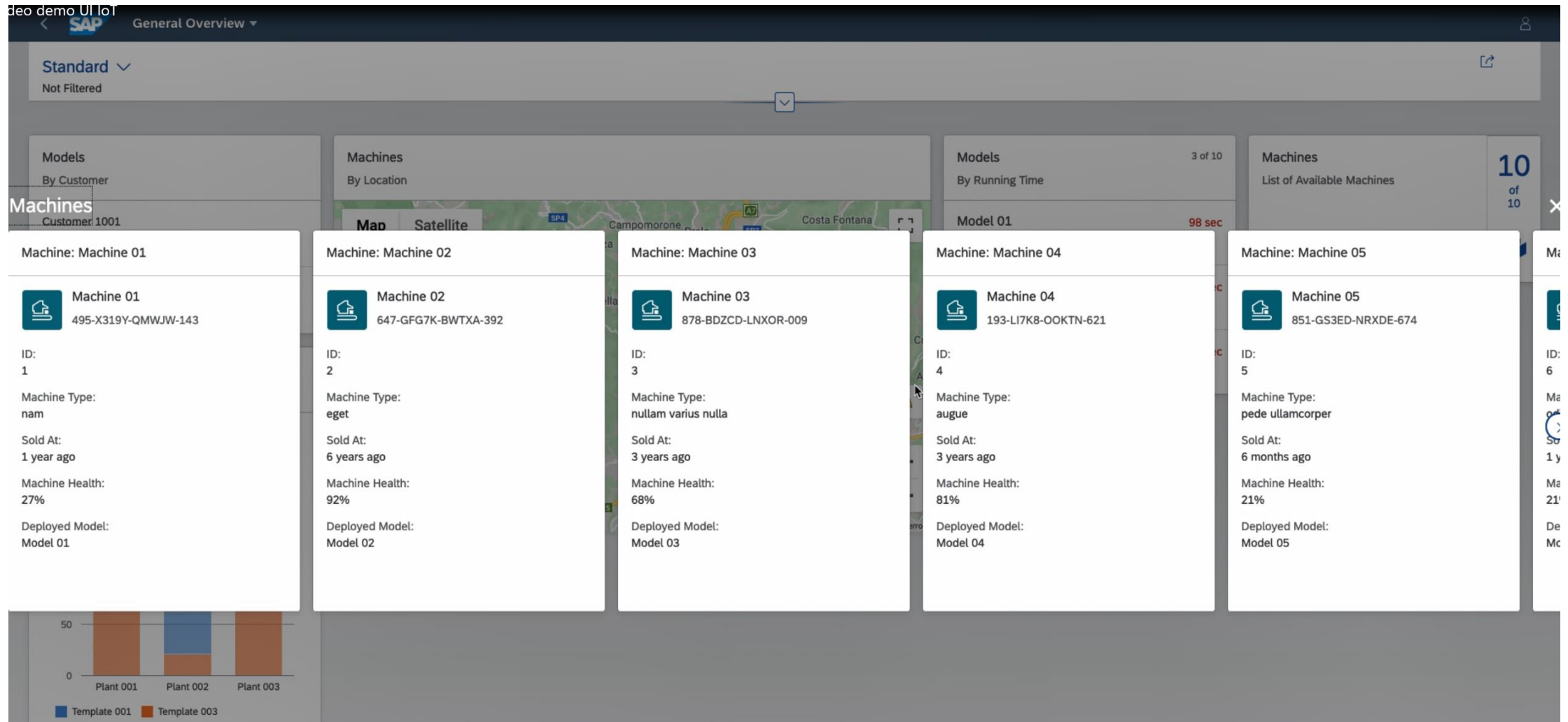
Machine Monitoring Fiori-like app

The screenshot displays a SAP Fiori-like Machine Monitoring application interface. The top navigation bar shows 'General Overview' and a filter dropdown set to 'Standard'. The main content area is divided into several panels:

- Models By Customer:** Lists Customer 1001 (6-Models Deployed) and Customer 1000 (4-Models Deployed).
- Running Time by Plant and Template:** A bar chart showing total running time by plant name and template. The chart has three bars for Plant 001, Plant 002, and Plant 003. Each bar is composed of two segments: Template 001 (blue) and Template 003 (orange).
- Map:** A Google Map of Genoa showing machine locations marked with red and blue pins. The map includes controls for 'Map' and 'Satellite' views, a location pin, and a zoom in/out button.
- Models By Running Time:** A list of models with their running times: Model 01 (98 sec), Model 06 (86 sec), and Model 03 (68 sec).
- Machines List of Available Machines:** A panel showing a list of available machines, currently displaying 10 of 10 machines.

Demo

Machine Monitoring Fiori-like app



Demo

Machine Monitoring Fiori-like app

eo demo UI IoT
SAP General Overview

Standard
Not Filtered

Models
By Customer

- Customer 1001
6-Models Deployed
- Customer 1000
4-Models Deployed

Machines
By Location

Map Satellite

Machines
List of Available Machines

10 of 10

Models
By Running Time

- Model 01
Plant 001-Customer 1000
98 sec
- Model 06
Plant 001-Customer 1000
86 sec
- Model 03
Plant 003-Customer 1001
68 sec

Running Time by Plant and Template
Running Time by Plant and Template in seconds

Total Running Time by Plant Name an...

Plant	Template 001	Template 003
Plant 001	~70	~85
Plant 002	~110	~20
Plant 003	~90	~80

Demo

Machine Monitoring Fiori-like app

The screenshot displays a Fiori-style application interface for machine monitoring. At the top, a dark blue header bar contains the SAP logo and the text "Customers and Plants Monitor". Below the header, the app shows a filter section with "Standard *" and "Filtered By (1): customer_name". A table titled "Plants (2)" lists two entries. The first entry, "Plant 002", has a health indicator of 69% shown as an orange donut chart. The second entry, "Plant 003", has a health indicator of 2% shown as a grey donut chart. The table columns are "Customer Name", "Plant Name", "Plant Health", and "Models Deployed".

Customer Name	Plant Name	Plant Health	Models Deployed
Customer 1001	Plant 002	69%	3 >
Customer 1001	Plant 003	2%	3 >

Demo

Machine Monitoring Fiori-like app

The screenshot shows a Fiori-style application interface for machine monitoring. At the top, there is a dark blue header with the SAP logo and the text "Customers and Plants Monitor". Below the header, the app displays a filter "Standard *" and "Filtered By (1): customer_name". A table titled "Plants (2)" lists two entries. The first entry, "Plant 002", has a health indicator of 69% shown as an orange donut chart. The second entry, "Plant 003", has a health indicator of 2% shown as a grey donut chart. The second row is highlighted with a blue border. The table columns are "Customer Name", "Plant Name", "Plant Health", and "Models Deployed".

Customer Name	Plant Name	Plant Health	Models Deployed
Customer 1001	Plant 002	69%	3 >
Customer 1001	Plant 003	2%	3 >

Demo

Machine Monitoring Fiori-like app

eo demo UI IoT SAP Plant Plant Plant Plant

Plant 003 Customer 1001

General Data Running Models: 3 Plant Efficiency

Address: Corso Onofrio Scassi
Street Number: 1
City: Genova

9%

Machines Customer Data

Model ID	Machine Name	Serial Num.	Model Name	Model Version	Machine Health
2	Machine 02	647-GFG7K-BWTXA-392	Model 02	1.7	4%
3	Machine 03	878-BDZCD-LNXOR-009	Model 03	1.6	31%
8	Machine 08	487-Q6THH-VRQXI-255	Model 08	1.8	23%

Customer Data

General Data


Customer Name: Customer 1001
Address: Via Ugo Polonio
City: Genova
Phone: 02453245324

Demo

Machine Monitoring Fiori-like app

eo demo UI IoT

< SAP Plant ▾

Plant 003 

Customer 1001

General Data Running Models: 3 Plant Efficiency

Address: Corso Onofrio Scassi
Street Number: 1
City: Genova

9%

Machines Customer Data

Model ID	Machine Name	Serial Num.	Model Name	Model Version	Machine Health
2	Machine 02	647-GFG7K-BWTXA-392	Model 02	1.7	4%
3	Machine 03	878-BDZCD-LNXOR-009	Model 03	1.6	31%
8	Machine 08	487-Q6THH-VRQXI-255	Model 08	1.8	23%



Customer Data




General Data

Customer Name: Customer 1001 Address: Via Ugo Polonio City: Genova Phone: 02453245324


Demo



Machine Monitoring Fiori-like app

eo demo UI IoT  Machine 

Plant 003 / Machine 03   


nullam varius nulla

General Data	Machines Health	Model's Data
Machine ID: 3	 99%	Model Deployed: Model 03
Serial Number: 878-BDZCD-LNXOR-009		Model Version: 1.6
Sold At: Mar 26, 2016, 9:49:26 PM		Model Last Run: Jun 20, 2019, 2:00:00 AM

Model's Data History Data

General Data Deploy Model Run Inference Schedule Exec.

Model Name: Model 03 

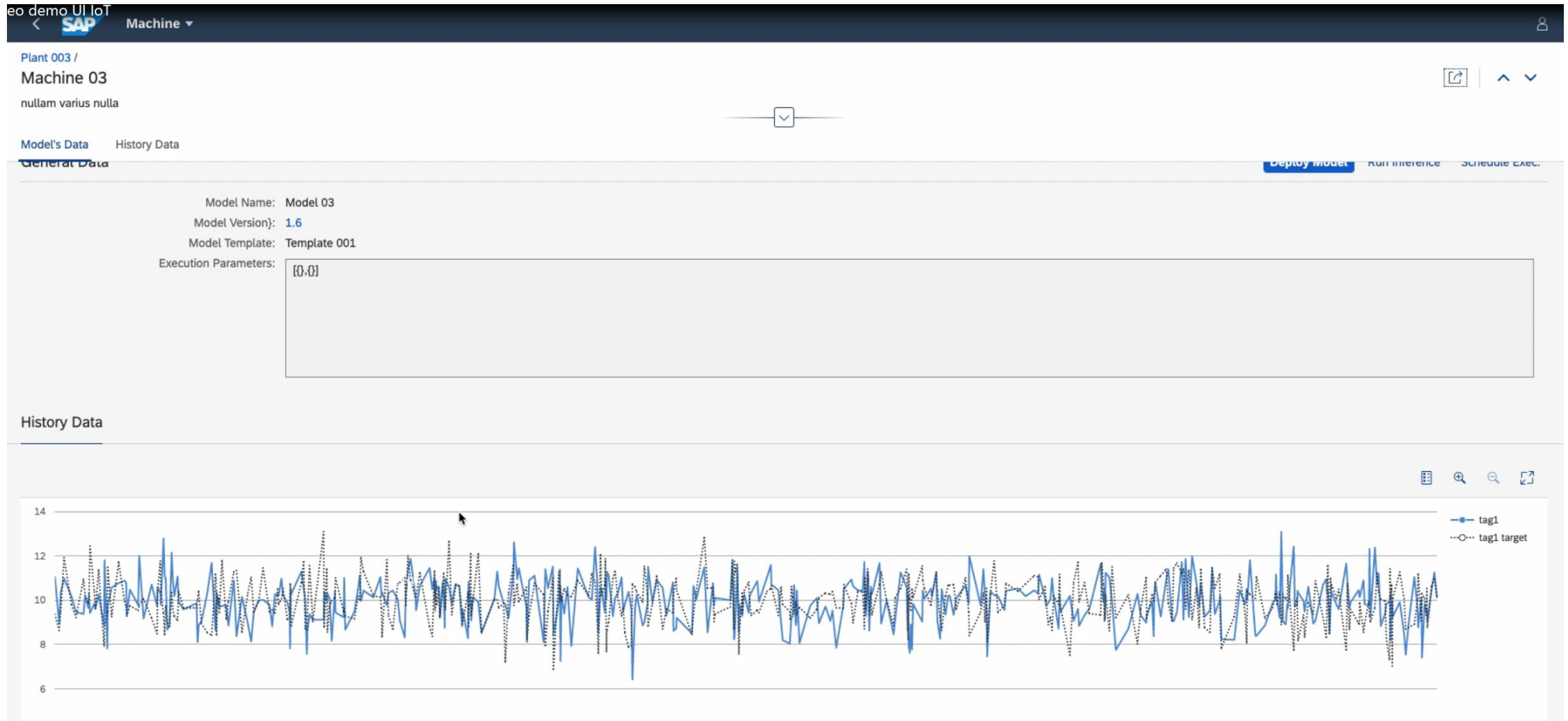
Model Version: 1.6

Model Template: Template 001

Execution Parameters: `[{}]`

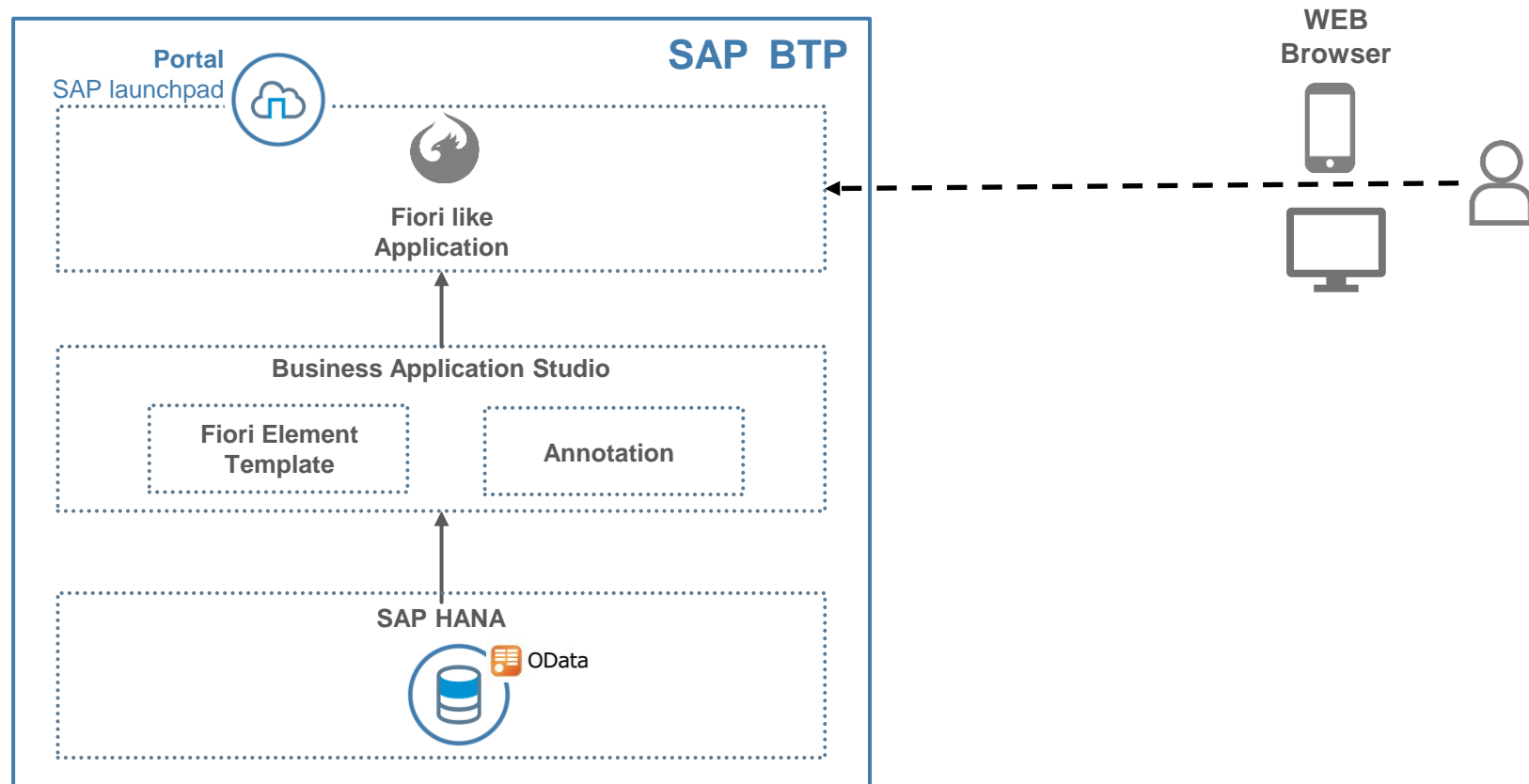
Demo

Machine Monitoring Fiori-like app



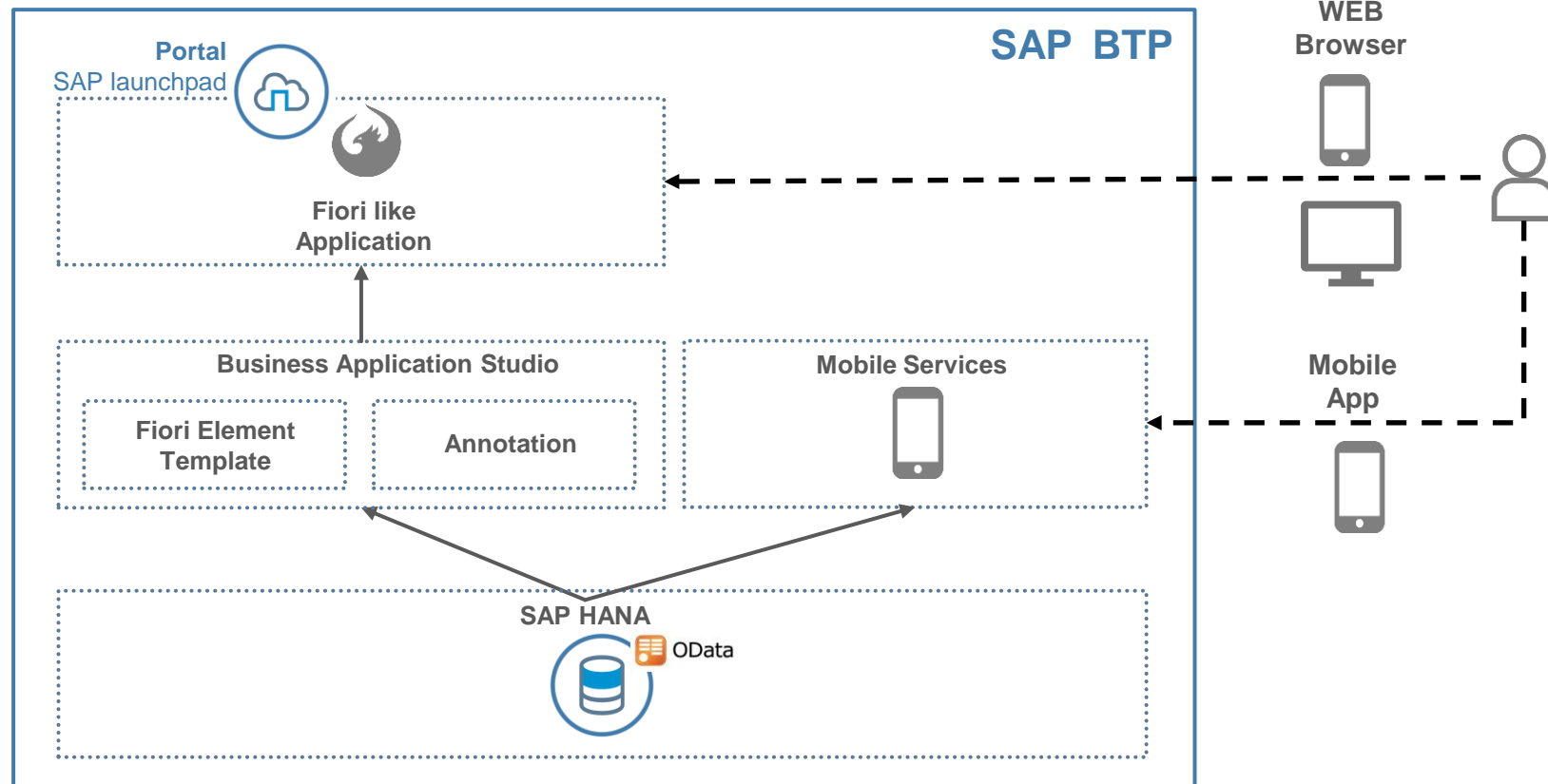
Architecture

Machine Monitoring Fiori-like app



Architecture Variant

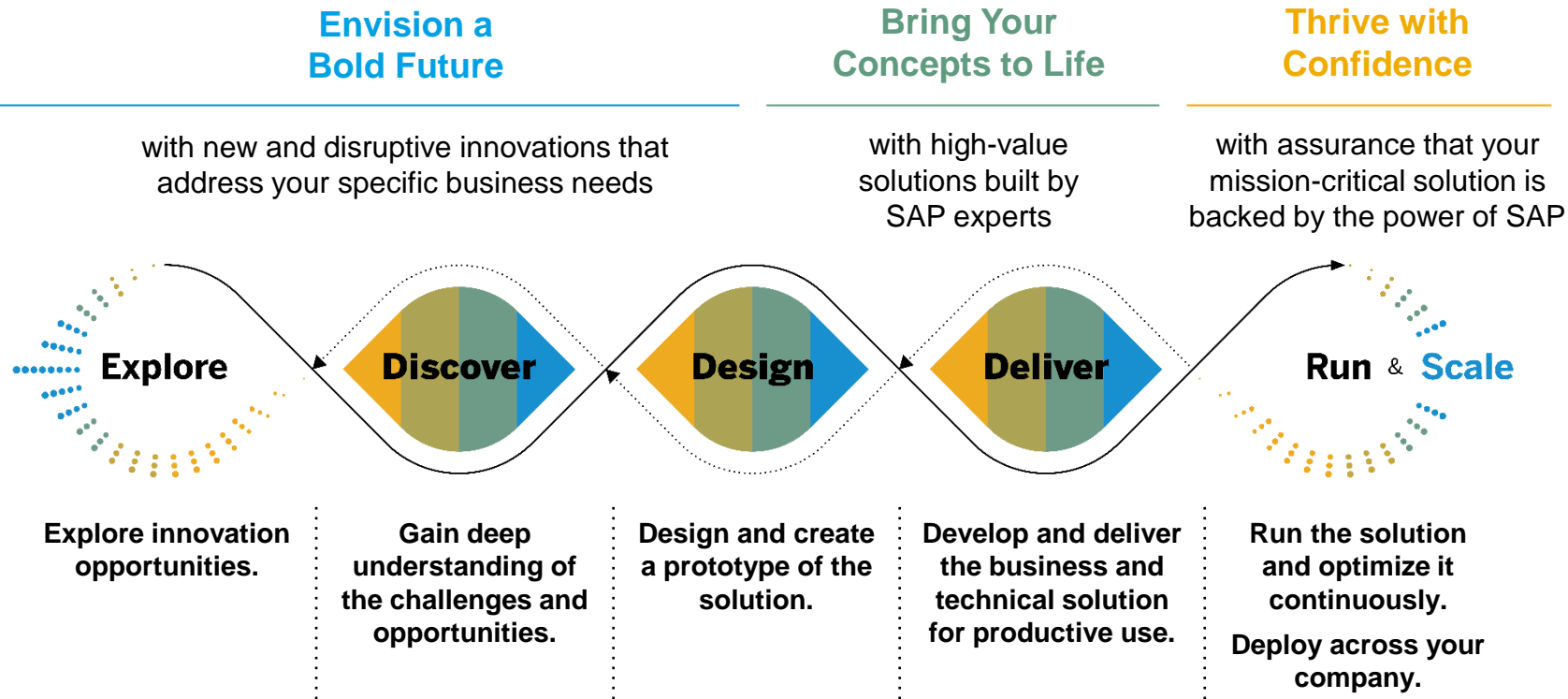
Machine Monitoring Fiori-like app



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Thank you.

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