A Hitchhiker's Guide to
SAP Fiori User Experience and its Technologies 2.0

Oliver Graeff, Director – Product Management, SAP UI Technology
September 15, 2022

PUBLIC

THE BEST RUN **SAP**

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Flow of this session (2h)

1. A Hitchhiker's Guide to SAP Fiori UX (1)

2. Break / Exercise (10 min)

3. A Hitchhiker's Guide to SAP Fiori UX (2)

4. Q&A

5. Survey

Please share your feeback
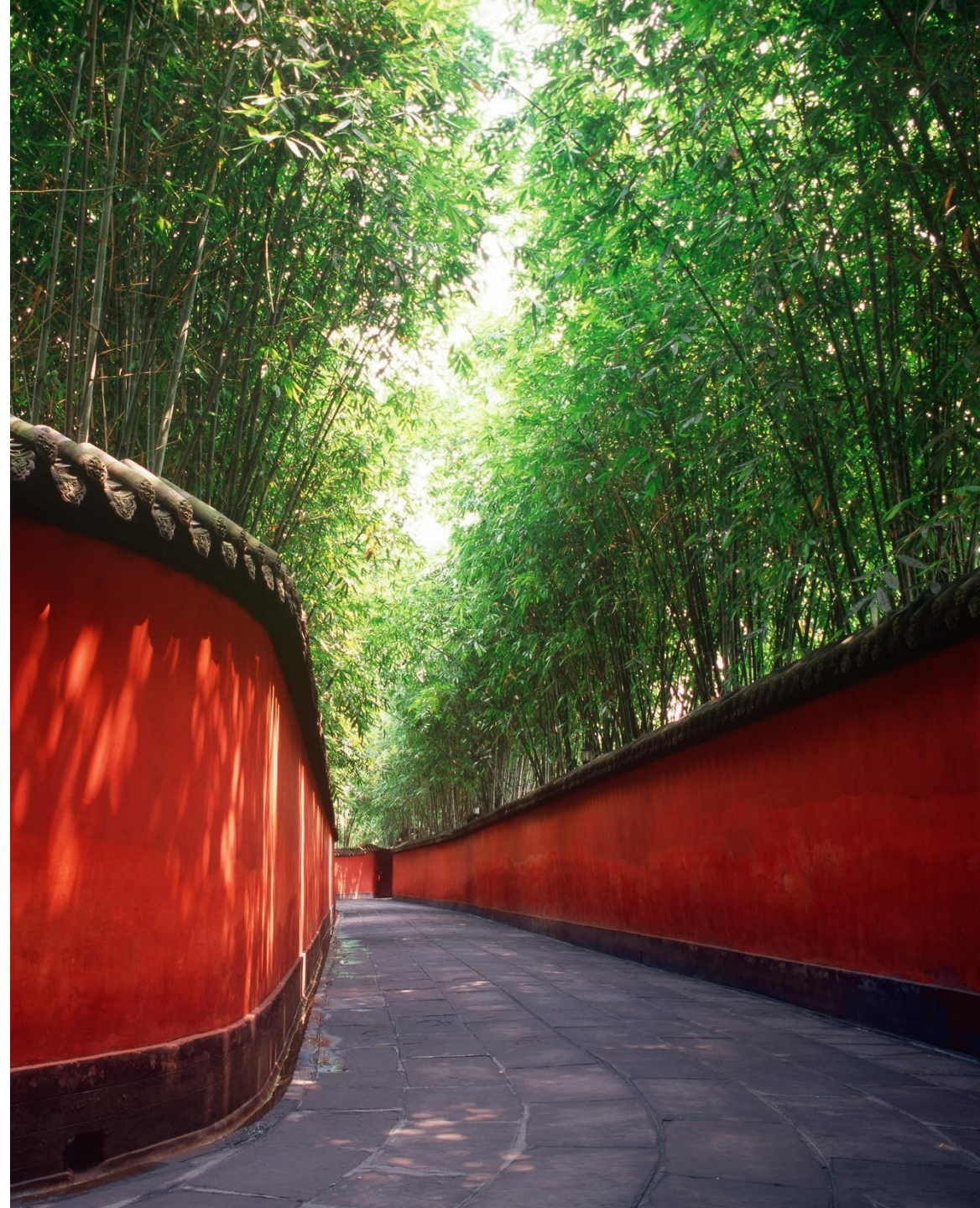
The Hitchhiker's Guide to the Galaxy

A comedy science fiction story created by Douglas Adams. Originally a 1978 radio comedy broadcast on BBC Radio 4, it was later adapted to other formats, including stage shows, novels, comic books, a 1981 TV series, a 1984 text-based computer game, and 2005 feature film.

The broad narrative of Hitchhiker follows the misadventures of the last surviving man, Arthur Dent, following the demolition of the Earth by a Vogon constructor fleet to make way for a hyperspace bypass.

Dent is rescued from Earth's destruction by Ford Prefect—a human-like alien writer for the eccentric, electronic travel guide The Hitchhiker's Guide to the Galaxy—by hitchhiking onto a passing Vogon spacecraft.

Following his rescue, Dent explores the galaxy ...

SAP Fiori User Experience

"**User Experience** is the corner stone of **user productivity**, **satisfaction** & **adoption**. This is the most important factor in realizing **customer value** from the Intelligent Enterprise."

Thomas Saueressig
Member of the Executive Board of SAP
Head of SAP Product Engineering

How we live determines how we want to work.

We care about your needs

"If you start with a **technology** then it just becomes a **feature list**, but when you start with a **person** then really **amazing things happen**."

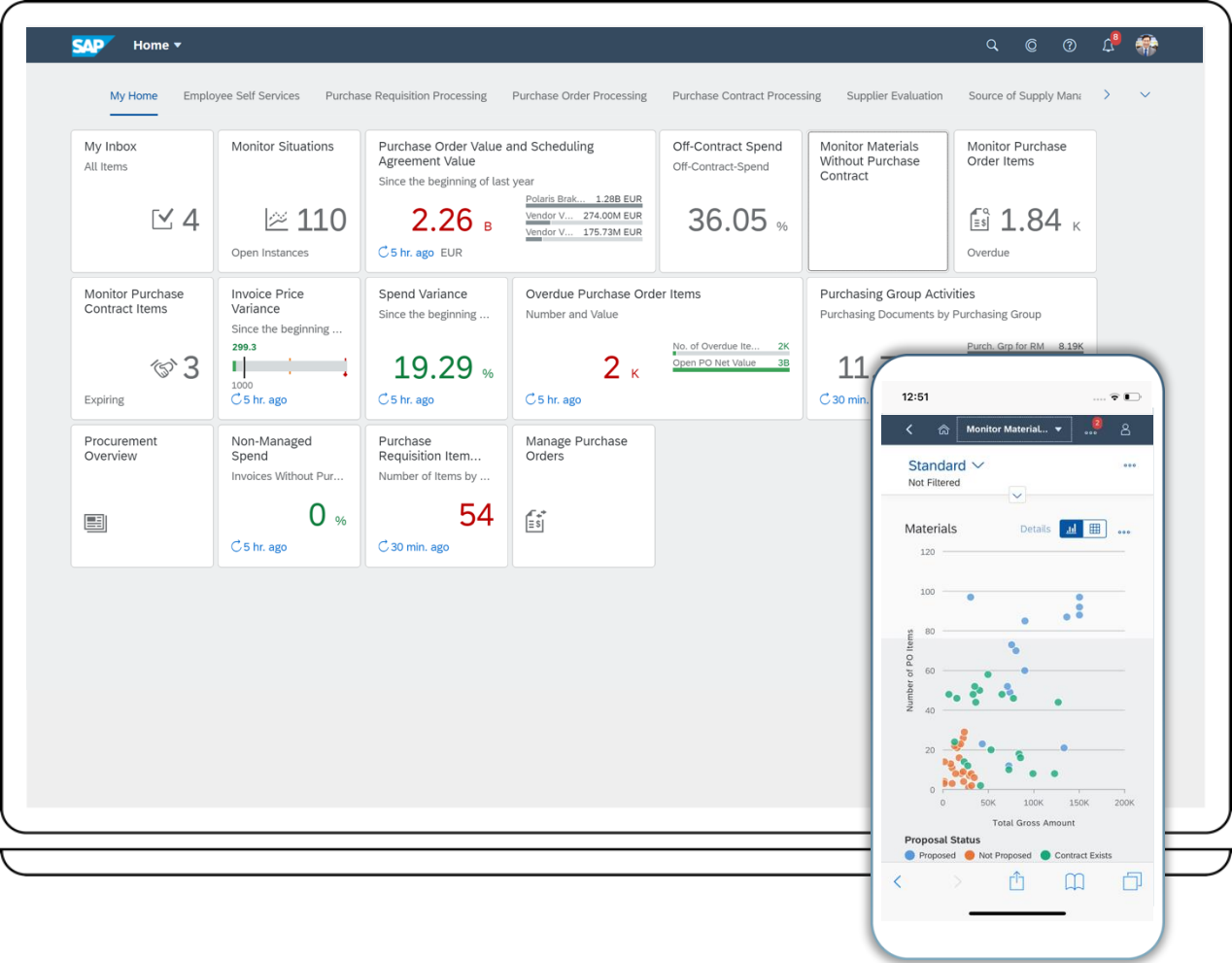Mike Vanis - Interaction Designer

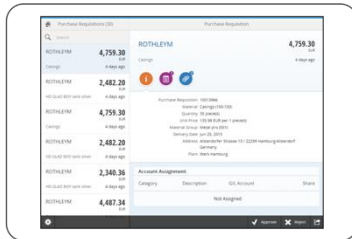# SAP Fiori big picture
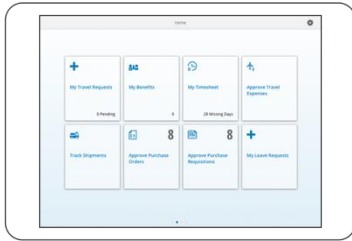
Design System

Technologies & Tools

Portfolio of apps

SAP Fiori 3 the latest evolution

Casual users
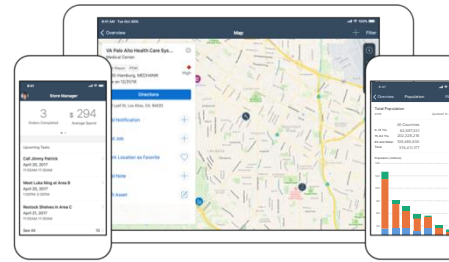Self-service apps

Power user
The new face of S/4HANA
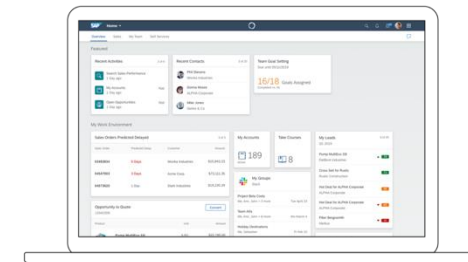
Native mobile
for iOS & Android

Conversational

Next steps of the Fiori evolution
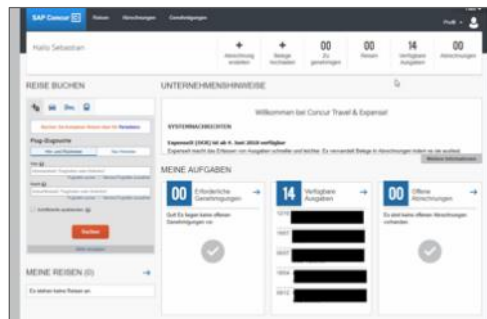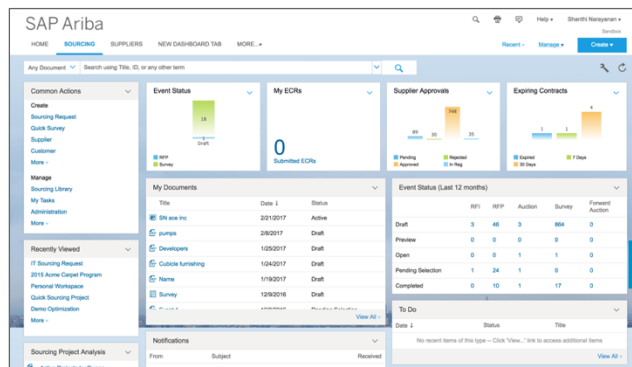Fiori Design System

Design principles

Consistent

Intelligent

Integrated

2013

2016

2019+

SAP Fiori

SAP Fiori 2.0
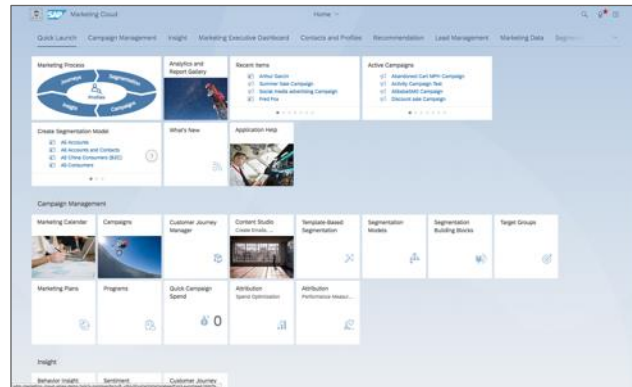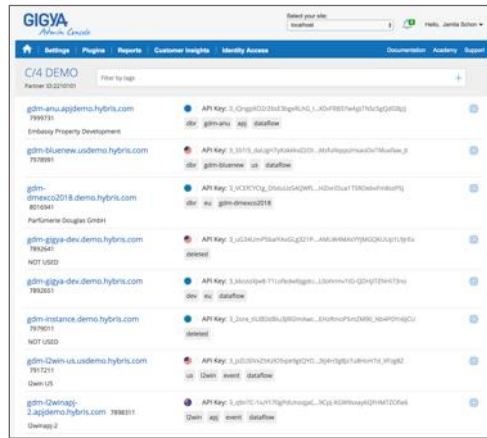
SAP Fiori 3

Fiori 3 provides UX Consistency
Current home page designs

SAP Labs preview
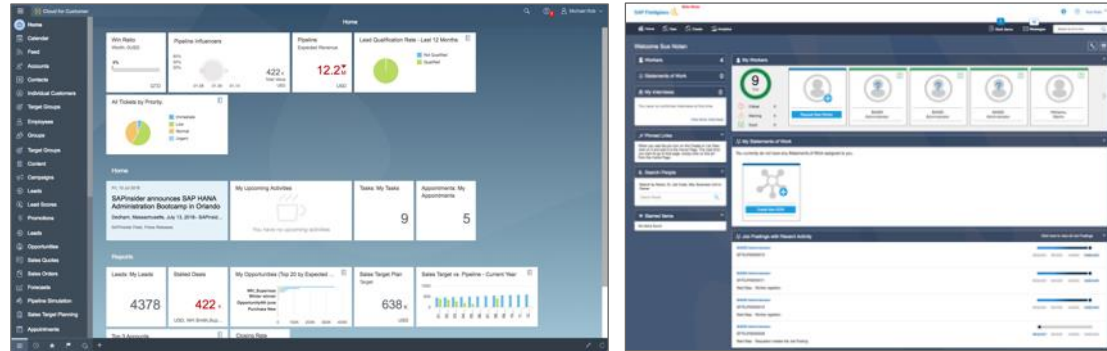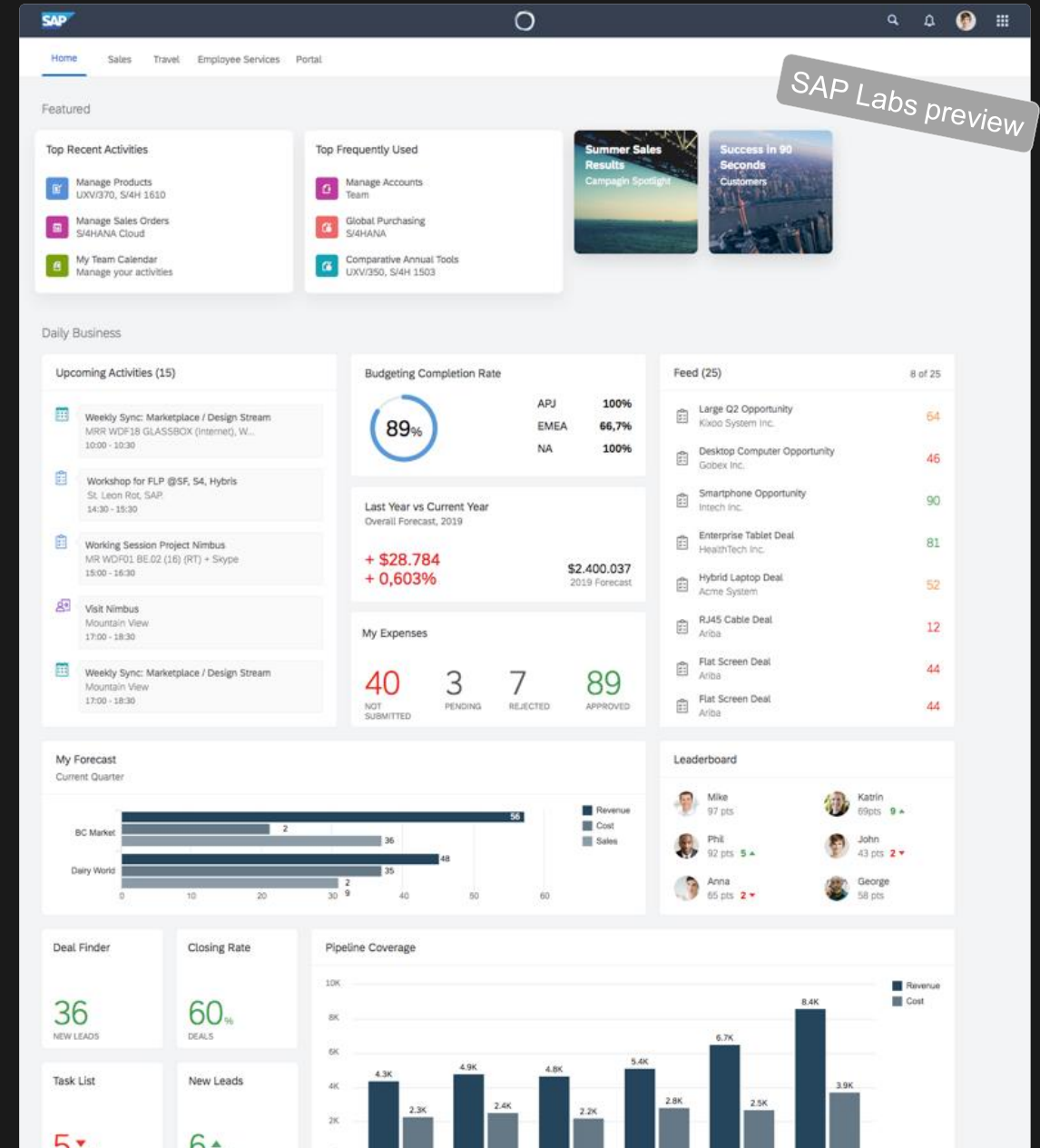
Introducing the Horizon Theme

We know that first impression matter. That's why we're driving the next evolution for SAP Fiori by focusing on fresh new themes in order to make our products more approachable and delightful for our everyday users.

Our user insights-informed transformation will continue in the coming months with improvements across all four of our design pillars:

- Aesthetics

- Performance

- Accessibility

- Product Usability

SAP DESIGN PREVIEW
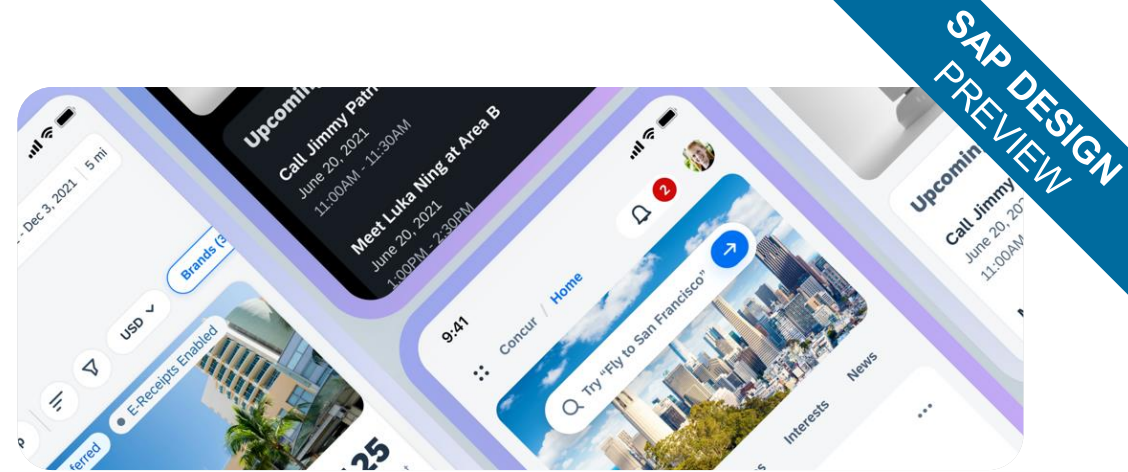
Availability of Horizon themes of SAP Fiori

Horizon is available in SAP S/4HANA Cloud 2208
- SAP Fiori Update: Major Horizon Next Steps Available Now – SAP S/4HANA Cloud 2208 and More

Developers can use Horizon on SAP Business Technology Platform
- Horizon theme of SAP Fiori: productive usage for web applications

Horizon themes in SAP Launchpad service and SAP Work Zone
- Horizon themes now available with the SAP Launchpad service and SAP Work Zone

Horizon themes in UI Theme Designer
- Video

Horizon themes for Android & iOS mobile applications
- SAP Fiori for Android & iOS: An all-new user experience for enterprise-ready mobile applications
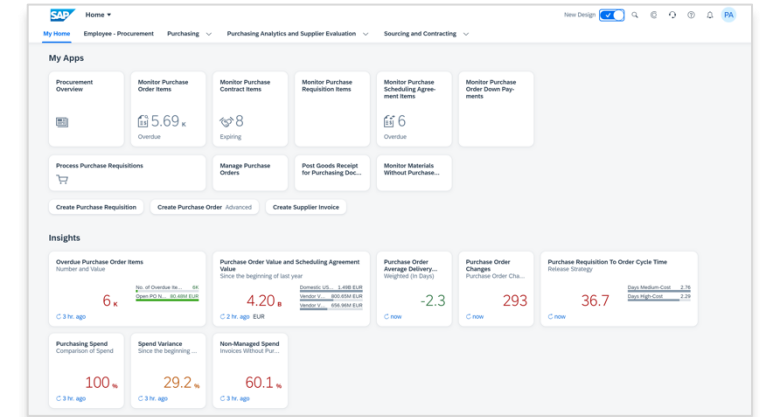
SAP Fiori Design System

SAP Fiori Design Guidelines

SAP Fiori's Horizon visual theme in SAP S/4HANA Cloud 2208 (video)

Source: https://en.wikipedia.org/wiki/Marvin_the_Paranoid_Android
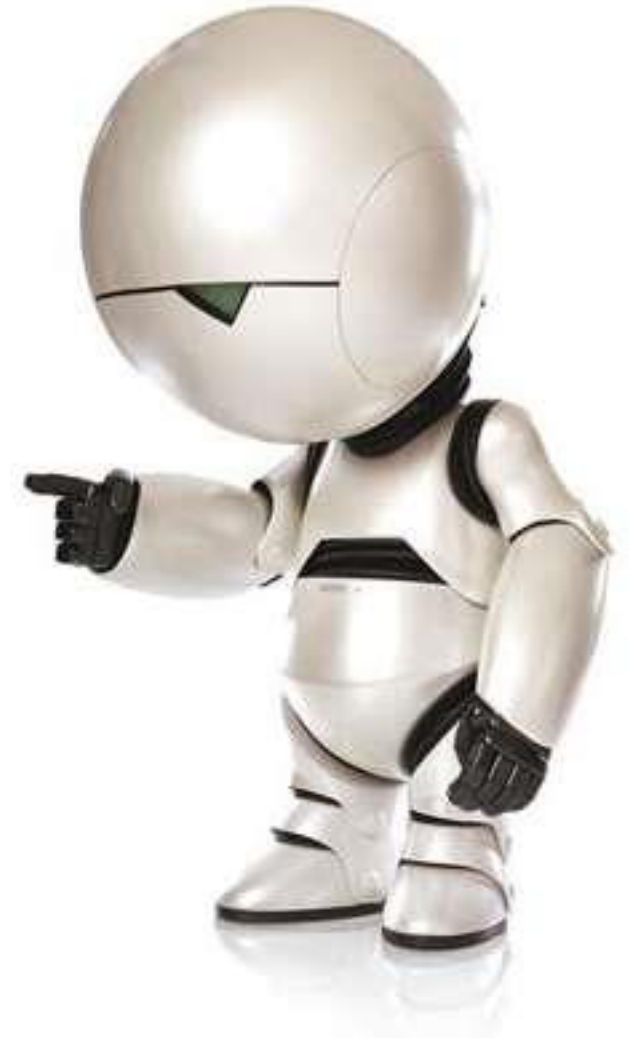
Learn more

General information on SAP User Experience

- ➤ [SAP Fiori Design Guidelines](#)

- ➤ [SAP Fiori product page](#)

- ➤ [SAP Fiori topic page in the SAP community](#)

Additional information

- ➤ [openSAP course "SAP Fiori overview"](#)

- ➤ [SAP Fiori Road Map](#), as [storyboard](#)

- ➤ [The Experience Mindset: Redesigning How We Build Products at SAP](#)

- ➤ [Horizon demo video](#)

- ➤ [SAP Fiori apps reference library](#)

- ➤ [SAP Fiori lighthouse scenarios with SAP S/4HANA](#)

SAP Fiori User Experience Enabled by Technologies & Tools

	Citizen Developer		Key User	Business User	
Developer					

Pro-Code

Develop/ Extend/ Deploy

Low-Code No-Code

Adapt

Desktop / Web
SAPUI5
SAP GUI for HTML, Web Dynpro

Run

Mobile
Native
Android / iOS

Visual Studio Code (non-ABAP)	SAP Business Application Studio	SAP AppGyver	SAPUI5 Flexibility	SAP Work Zone / SAP Fiori launchpad	SAP Mobile Start
SAP Fiori tools	SAP Fiori tools				
ABAP Development Tools in Eclipse	SDK for iOS / Android / Mobile Development Kit		SAP Screen Personas (SAP GUI / WD ABAP)		
Local Laptop	**SAP Business Technology Platform**			**SAP Business Technology Platform**	

SAP S/4HANA Cloud	SAP S/4HANA	SE80	ECC	SE80
ABAP	ABAP	ABAP

Backend

SAP Fiori User Experience Enabled by Technologies & Tools

Business User

Desktop / Web
SAPUI5
SAP GUI for HTML, Web Dynpro

Run

SAP Work Zone

SAP Fiori launchpad

SAP Business Technology Platform

SAP S/4HANA Cloud		SAP S/4HANA	SE80	ECC	SE80
ABAP		ABAP		ABAP	

Backend

Digital Experience for SAP Fiori:
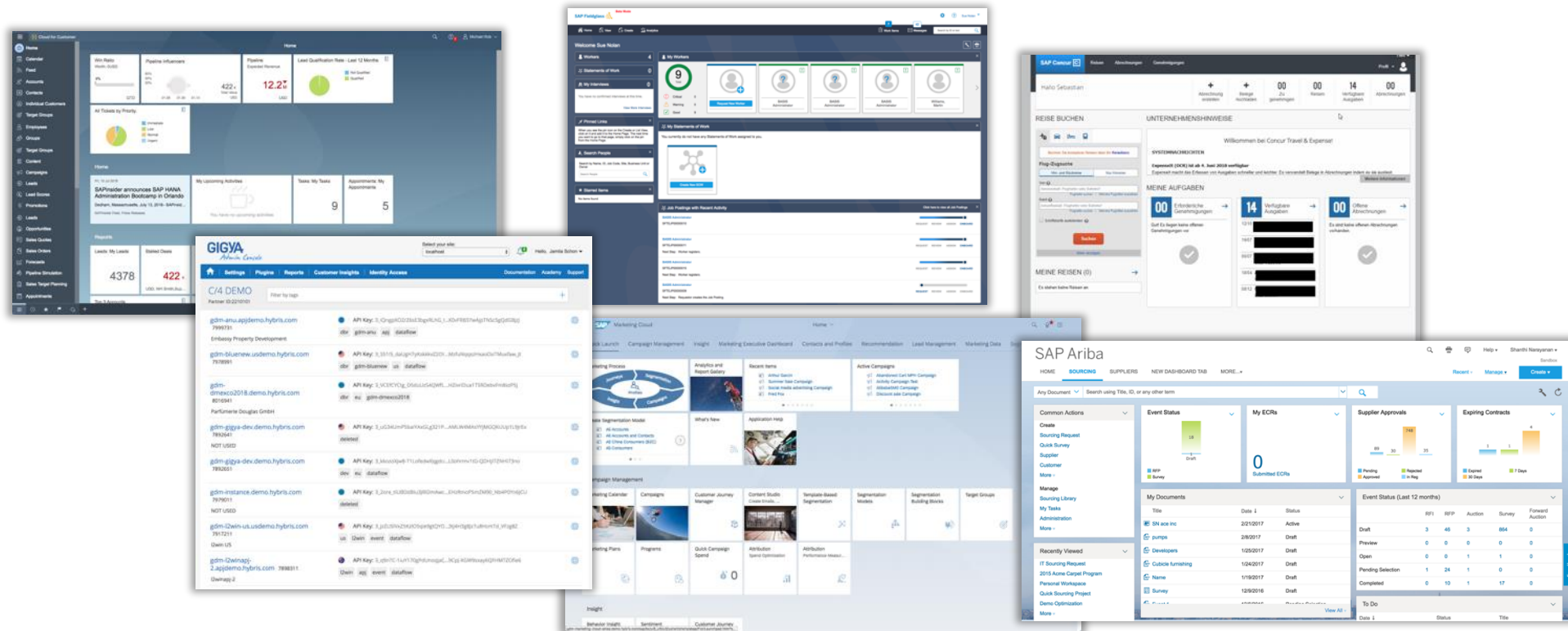# SAP Work Zone & SAP Fiori launchpad

Increase **user productivity** by intelligently providing access to **applications**, **processes**, and **information** anywhere on any device

How can business users easily access relevant applications and services to get their job done more efficiently?

Consistency through harmonized user experience | UX integration via a central point of access

Search

Todos (5 tasks)

Join next Meeting
Already in progress (4 min)

CEP Engineering Sprint - Show & Tell 1
06:00 pm - 07:00 pm

Michael Redford + 21

Details   Join

Julia Percel
Time Sheet

46.5 +6.5

Julia entered yesterdays numbers one hour ago

Reject   Approve

John Miller
Leave Request

03 May 2021 - 07 May 2021 (5 days)
Vacation

John has still 17 day vacation left in his account

Reject   Approve

My Interests

Your IT Top 7 Products   7 of 20
These are the top sellers this month

Comfort Easy
Delivery Tomorrow, 32 GB Digital Assistant with high-…

ITelO Vault
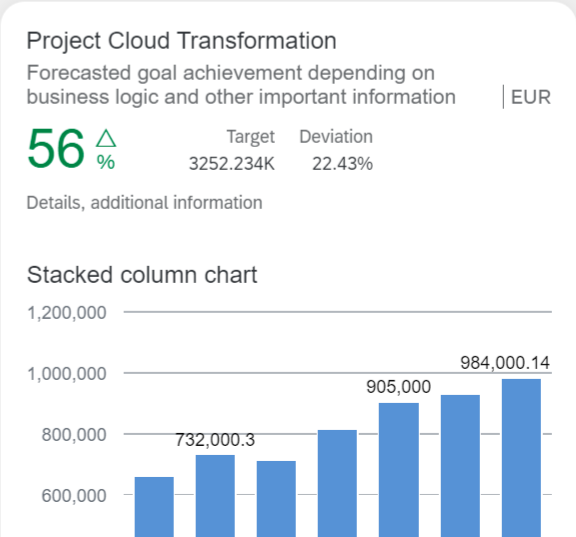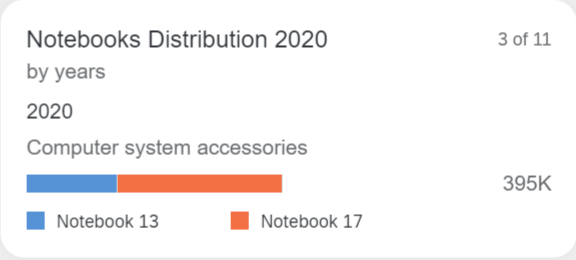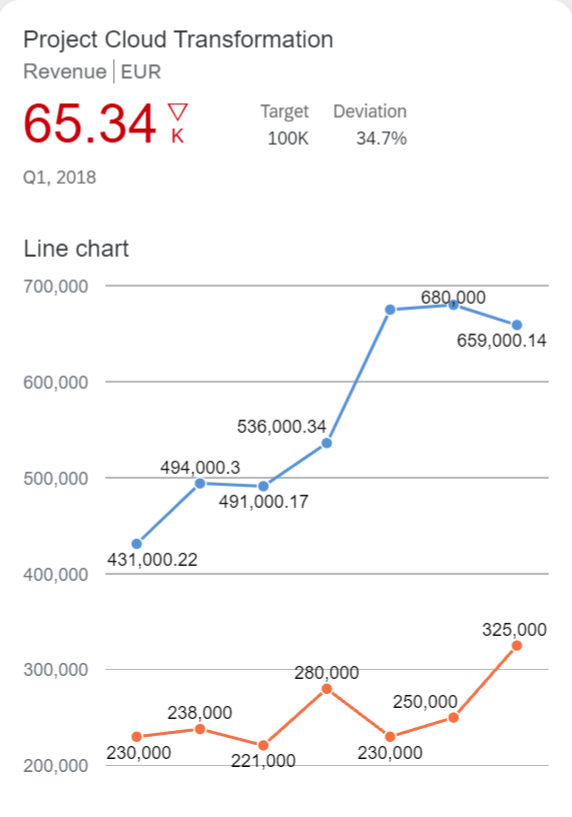Only 3 items left, Digital Organizer with State-of-the-…

Notebook Professional 15
Your Device, Notebook Professional 15 with 2,80 GH…

Ergo Screen E-I
Delivery Tomorrow, Optimum Hi-Resolution max. 192…

Mac Book Air 13.3´´
Notebook mit 13,3 Zoll Display, 8 GB RAM, 256 GB …

Laser Professional Eco
Out of Stock, Print 2400 dpi image quality color docu…

ACER Nitro 5 (AN515-55-7079)
Gaming Notebook, 15,6 Zoll Display, Core i7 Prozes…

Project Cloud Transformation
Revenue | EUR

65.34 K   Target 100K   Deviation 34.7%

Q1, 2018

Line chart

700,000
680,000
659,000.14
600,000
536,000.34
494,000.3
500,000
491,000.17
431,000.22
400,000
325,000
300,000
280,000
238,000
250,000
230,000
221,000
230,000
200,000

Notebooks Distribution 2020   3 of 11
by years

2020
Computer system accessories

395K

■ Notebook 13   ■ Notebook 17

Project Cloud Transformation
Forecasted goal achievement depending on business logic and other important information | EUR

56 %   Target 3252.234K   Deviation 22.43%

Details, additional information

Stacked column chart

1,200,000
984,000.14
1,000,000
905,000
800,000
732,000.3
600,000

Entry points for users

Federation layer:
Get relevant content across all SAP Solutions

Central Access to SAP   SAP BTP

SAP solutions layer:
Get relevant content across one SAP Solution

new My Home in **SAP S/4HANA Cloud**

| SAP S/4HANA Cloud | SAP S/4HANA | SAP Success Factors | Other SAP Products |

Morning Horizon

Horizon supported today by:
SAP Launchpad service
SAP Work Zone
SAP Mobile Start
New *My Home* in SAP S/4HANA Cloud 2208
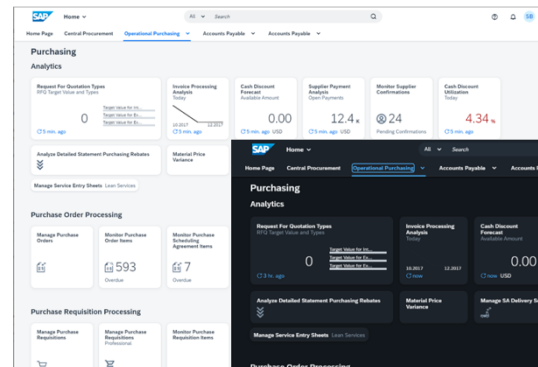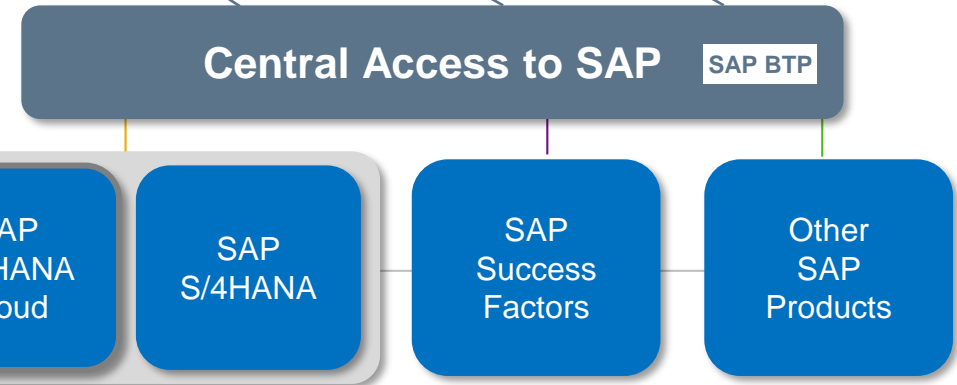
Evening Horizon

Morning Horizon   Evening Horizon

SAP Launchpad service

SAP Mobile Start

Blog post: Learn about the Key Components of SAP Work Zone and the Experience for the End User

Key pillars of investment for central access

- Grow product scope:
  - ✓ **Enterprise readiness** (performance, security, high availability, etc.)
  - ✓ **Functional enhancements**
  - ✓ Pre-packaged **business content**
  - ✓ **Integration with SAP Low-Code/No-Code apps**
  - ✓ **Continuous innovation** (e.g. content recommendations)

- Unified **user experience** and **mobile experience**

- All **Launchpad capabilities** available with SAP Work Zone (i.e. 'standard' and 'premium' offering)

- Simple and seamless **upgrade from SAP Launchpad** service to SAP Work Zone

SAP Work Zone
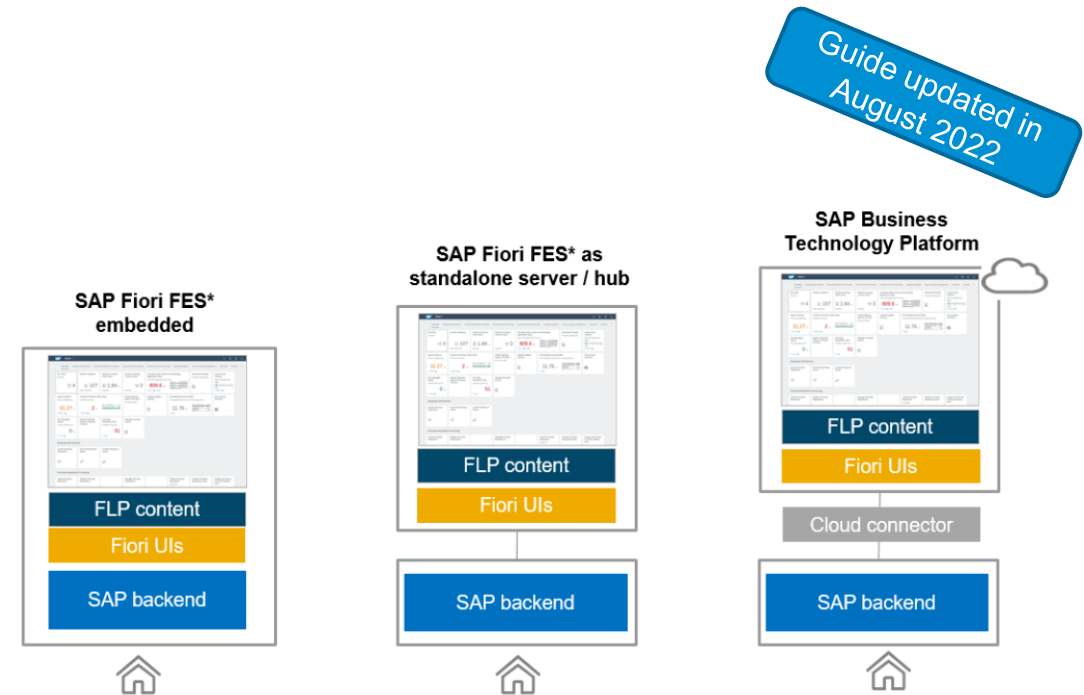
SAP Launchpad service

This is the current state of planning and may be changed by SAP at any time without notice.

Excursus: SAP Fiori deployment options and recommendations

On-premise

- Launchpad as part of SAP Fiori front-end server
- SAP S/4HANA with embedded SAP Fiori experience for standard applications
- SAP Business Suite: SAP Fiori front-end server as hub for multiple back-end systems possible

Cloud

- Launchpad based on SAP BTP
- SAP BTP tools to develop and extend apps
- Central launchpad to integrate applications from cloud and on-premise

Guide updated in August 2022

SAP Fiori FES* embedded

FLP content
Fiori UIs
SAP backend

SAP Fiori FES* as standalone server / hub

FLP content
Fiori UIs

SAP backend

SAP Business Technology Platform

FLP content
Fiori UIs
Cloud connector
SAP backend

SAP Fiori Deployment Options and System Landscape Recommendations

Entry points to SAP Fiori

[My Home in SAP S/4HANA Cloud (video)](#)

[SAP Fiori Deployment Options and System Landscape Recommendations](#)

Source: https://en.wikipedia.org/wiki/Marvin_the_Paranoid_Android

The Strategic UI Technology of SAP Fiori: SAPUI5

Building Modern Web Applications with SAPUI5

SAPUI5 is an HTML5 framework for creating cross-platform, enterprise-grade applications

- **Consistent UX**: SAPUI5 enables the SAP Fiori design evolution across SAP solutions (and beyond).

- **Use anywhere**: SAPUI5 allows a single, responsive app implementation for all browsers, platforms, and devices.

- **Hundreds of enterprise UI elements** to build professional UIs. UI5 Web Components extend UI5 to all web technology stacks.

- **Powerful extension options**: You can adapt SAP standard apps and customize UIs without coding.

- **Flexible tools for any developer**: SAPUI5 comes with tools to efficiently build, test, and deploy apps. Both in pro-code as well as low-code ways.

- **Innovations**: SAPUI5 brings a separation of apps and framework to centrally innovate while staying upgrade-compatible.

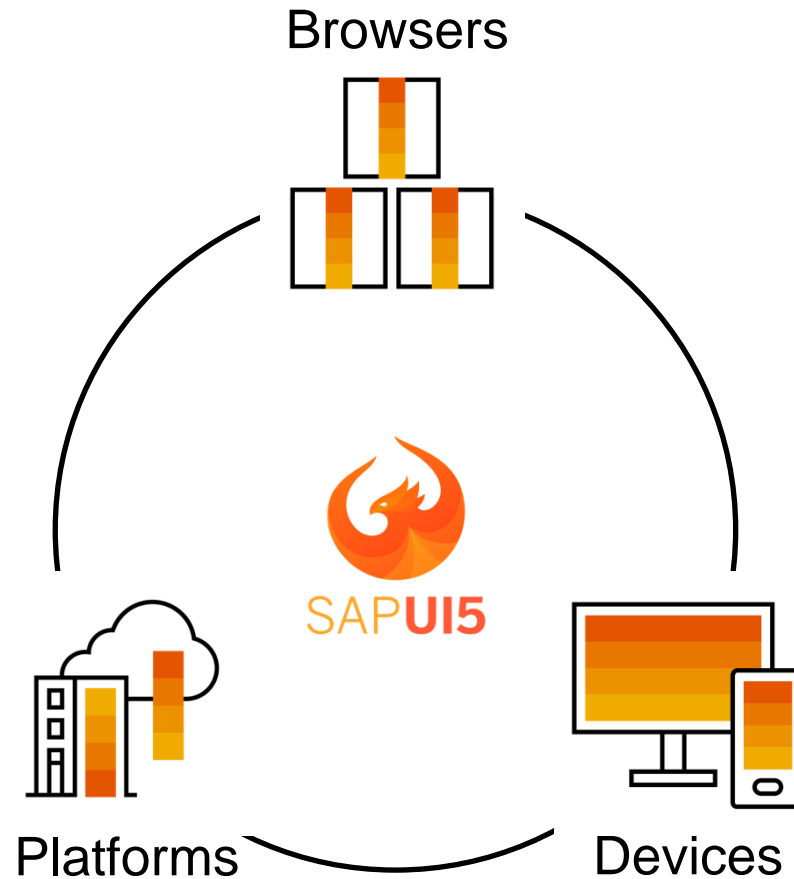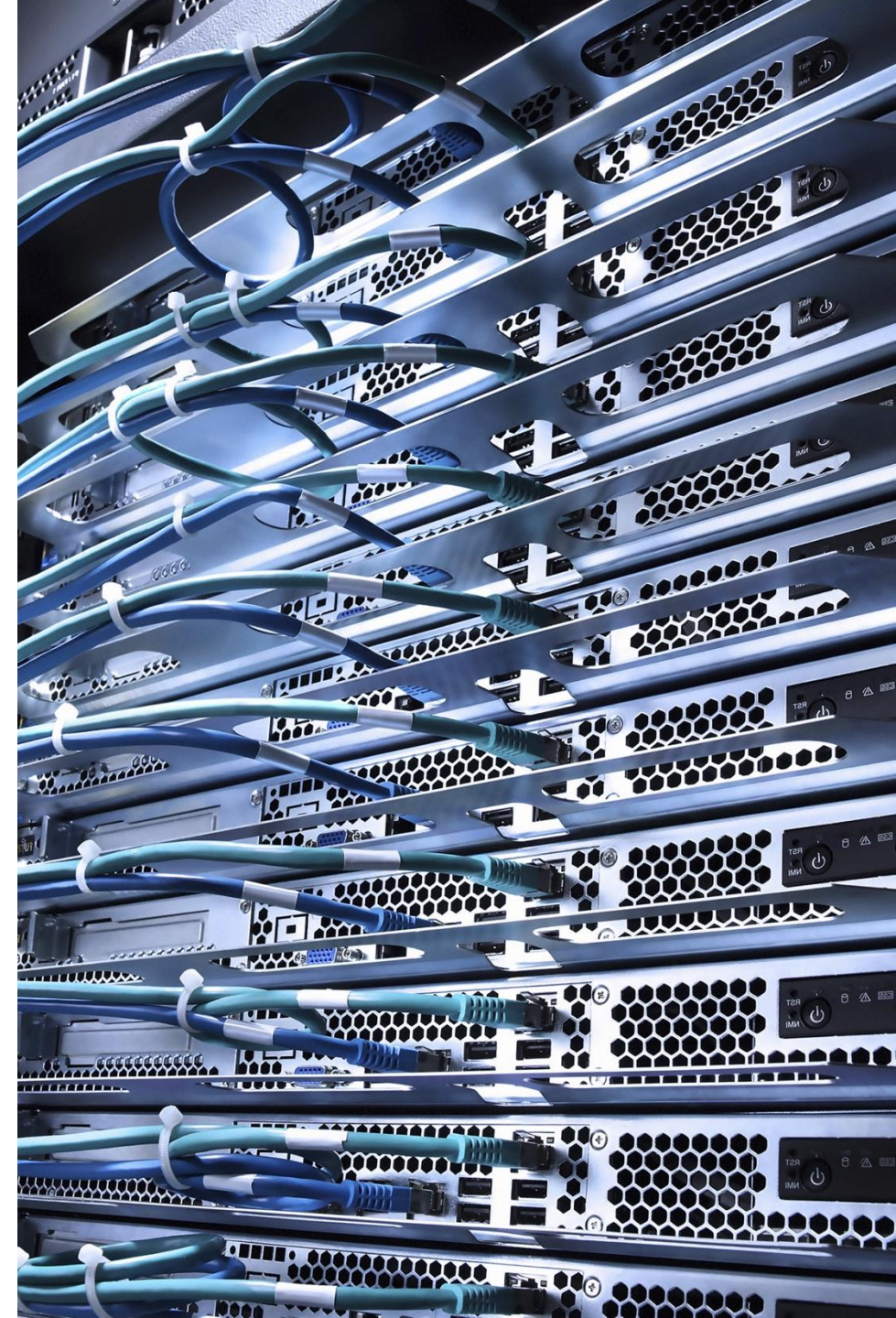- **Open-Source**: SAPUI5 qualities available as OpenUI5.
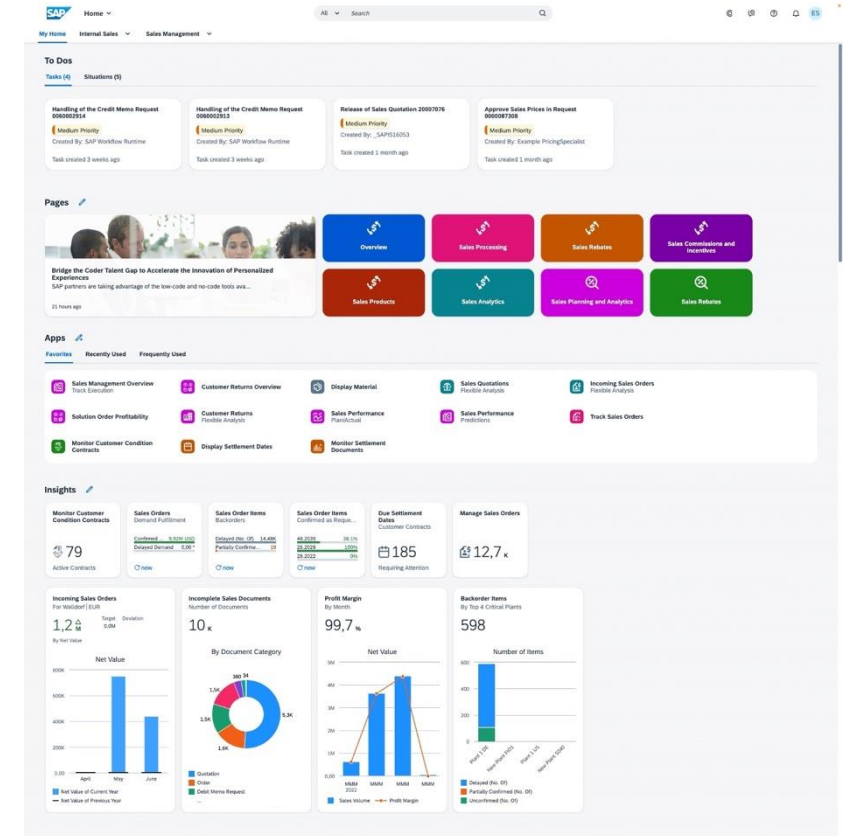
Video: What is SAPUI5?

SAPUI5 applications

A single app implementation for all

- Browsers
- Platforms
- Devices

Browsers

Platforms

Devices

SAPUI5 Browser and Platform Support

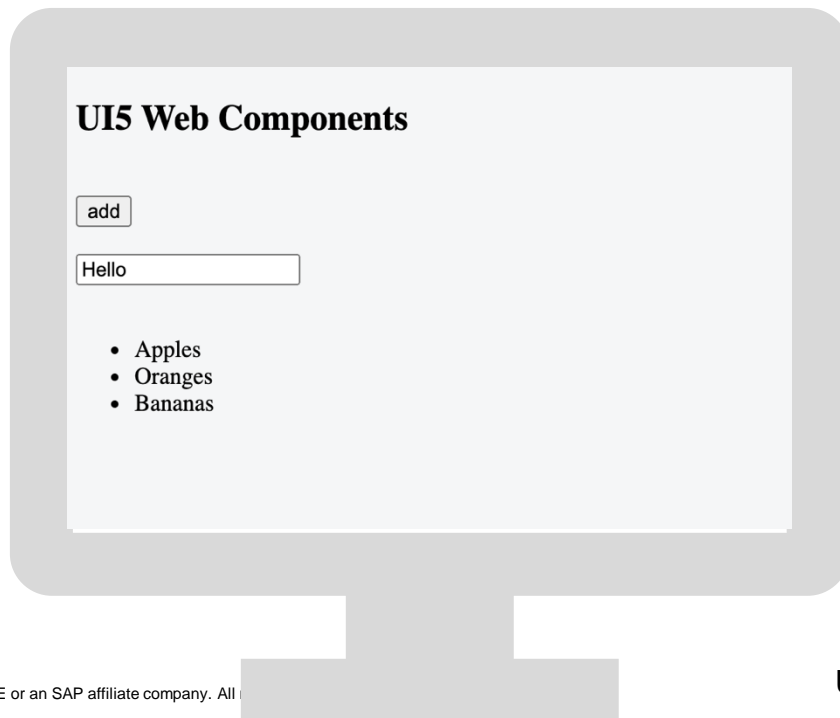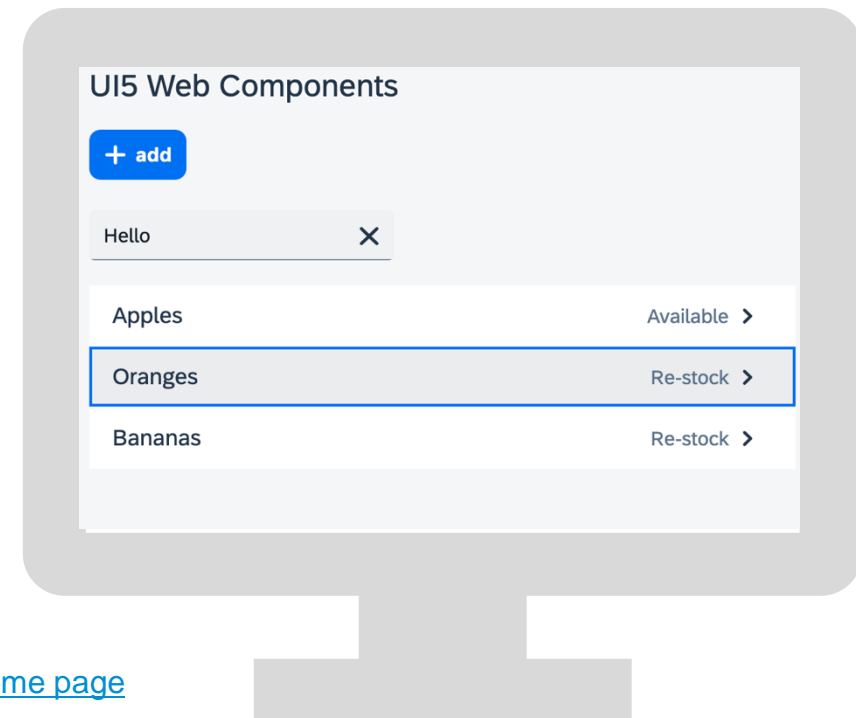# UI5 Web Components provide reusable UI components

```
28    <body class="sapUiBody">
29        <h2>UI5 Web Components</h2>
30
31        <button>add</ui5-button><br>
32        <input placeholder="Hello"></input>
33        <ul>
34            <li>Apples</li>
35            <li>Oranges</li>
36            <li>Bananas</li>
37        </ul>
38    </body>
```

```
28    <body class="sapUiBody">
29        <h2>UI5 Web Components</h2>
30
31        <ui5-button>add</ui5-button><br>
32        <ui5-input placeholder="Hello"></ui5-input>
33        <ui5-list>
34            <ui5-li>Apples</ui5-li>
35            <ui5-li>Oranges</ui5-li>
36            <ui5-li>Bananas</ui5-li>
37        </ui5-list>
38    </body>
```

UI5 Web Components

add

Hello

- Apples
- Oranges
- Bananas

UI5 Web Components

+ add

Hello ✕

Apples	Available ❯
Oranges	Re-stock ❯
Bananas	Re-stock ❯

UI5 Web Components home page

SAPUI5

[What is SAPUI5?](#)

[SAPUI5 Demo Kit (https://ui5.sap.com)](#)

Source: https://en.wikipedia.org/wiki/Marvin_the_Paranoid_Android

SAPUI5

Integration cards expose application content in a consistent and unified way

UI integration with cards allows users to:

- Embed cards in different host environments, such as applications, dashboards, or HTML pages

- Use a variety of available card types

- Configure cards with a simple JSON configuration – No need to write code

- Create cards according to their needs, regardless of coding ability

Card explorer: Learn, explore, and integrate cards

Efficiently Developing SAPUI5 apps:
SAP Fiori elements

SAP Fiori elements provides enterprise-ready apps out of the box

Variant Mgmt

Search

Data Lists

Filtering

Actions

Sorting

Personalization

Export to Excel

Editing (incl. draft mgmt.)

Navigation

Object Details

Additional enterprise readiness features included are:

- Accessibility
- Internationalization
- Mobile compatibility
- Responsiveness
- Performance optimizations
- Integration
- Security checks
- Lifecycle stability
- Test automation support
- …and more

SAPUI5 freestyle vs. SAP Fiori elements approach
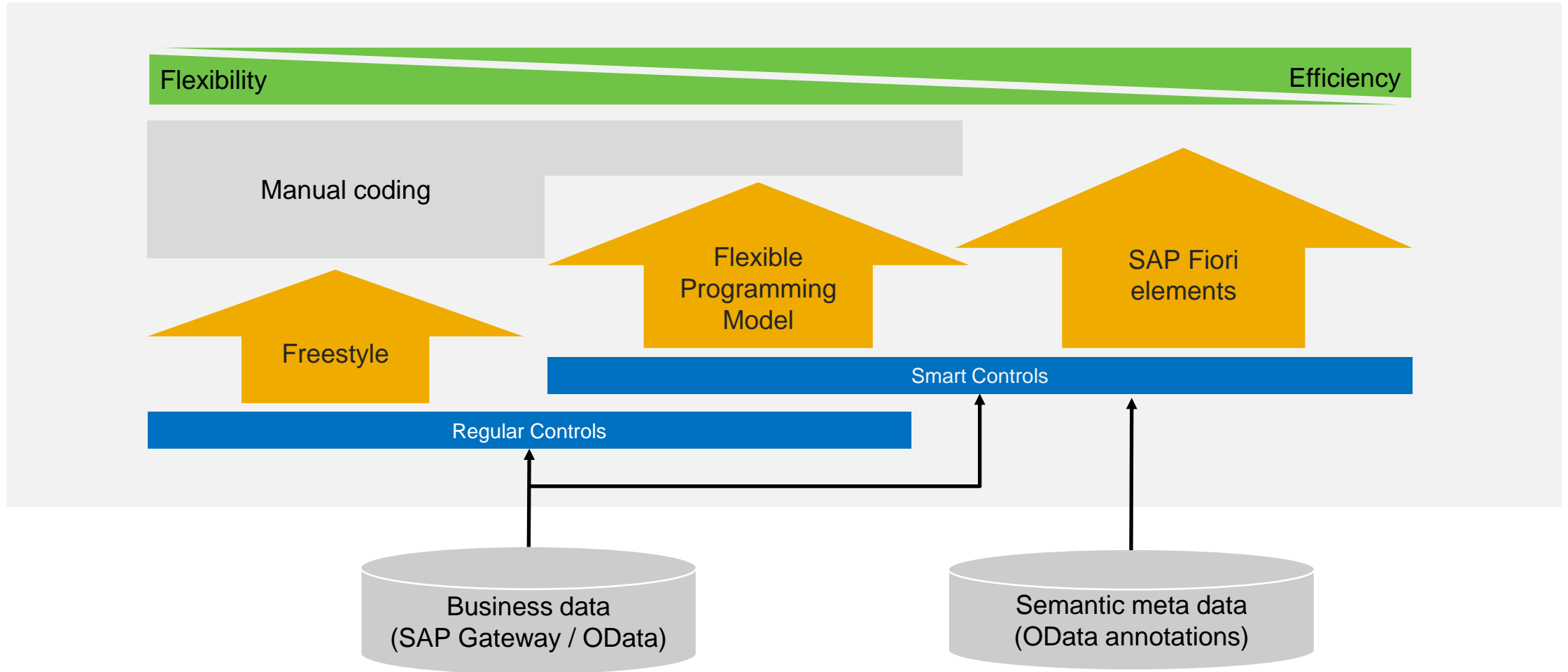
OData annotations are metadata that define attributes and relationships

Business data

at runtime

How is it displayed?

SAP Fiori elements patterns
- Overview page
- List Report page
- Object page
- Analytical list page
- Worklist page

Provided by:
SAP framework development

What is displayed?

- Semantic metadata / annotation
- Behavior
- Consumption hints

Provided by:
Application Developers

"Consumption hints"

Which fields allow a human to identify the entity?

Which fields are clickable?

"This entity can be edited"

"This is the currency for the amount"

"These fields shall be displayed together in a form"

"Behavior like creatable, updatable"

SAPUI5 View

SAP   Page Title ▾

Robot Arm Series 9
PO-48865   Edit Delete Simulate Assembly

Manufacturer: Robotech   Status: Delivery Time: Assembly Option: Monthly Leasing Instalment:
Factory: Florida, OL   Delivery   12 days   To Be Selected   379.99 USD
Supplier: Robotech (234242343)

General Information   Assembly Options   Contact Information

Order Details   Configuration Details

Order ID: Expected Delivery Date: Model:
589946637   June 23, 2018   Robot Arm Series 9

Contract: Factory: Color:
10045876   Florida, OL   White (default)

Transaction Date: Supplier: Socket:
May 6, 2018   Robotech   Default Socket 10

                                                            Axis:
                                                            6 Axis

                                                            Leasing Instalment:
                                                            379.99 USD per month

Assembly Options

Work Items with Errors (23)   Search

Document Number   Company   Contact Person   Posting Date   Amount (Local Currency)
10223882001820   Jologa   11/15/19   12,897.00 EUR
10223882001820   DelBont Industries   11/15/19   234,197.00 EUR
10223882001820   Jologa   Denise Smith   11/15/19   11,865.99 EUR
10223882001820   DelBont Industries   Richard Wilson   11/15/19   12,897.00 EUR

Choose the right UI development approach for your SAPUI5 app

Freestyle SAPUI5		SAP Fiori elements
Flexibility	Overall approach	Efficiency
Freestyle designs	Design requirements	SAP templates
Web Development	Development knowledge	Annotations
Own coding, own UI logic	App ownership / maintenance	Own annotations, SAP's UI logic
Higher	Total cost of development	Lower

SAPUI5 brings scalability and flexibility to SAP Fiori app development

Efficient development based on metadata

Framework for application development

UI element with visual design & behavior

UI5 Web Components

SAPUI5
OpenUI5
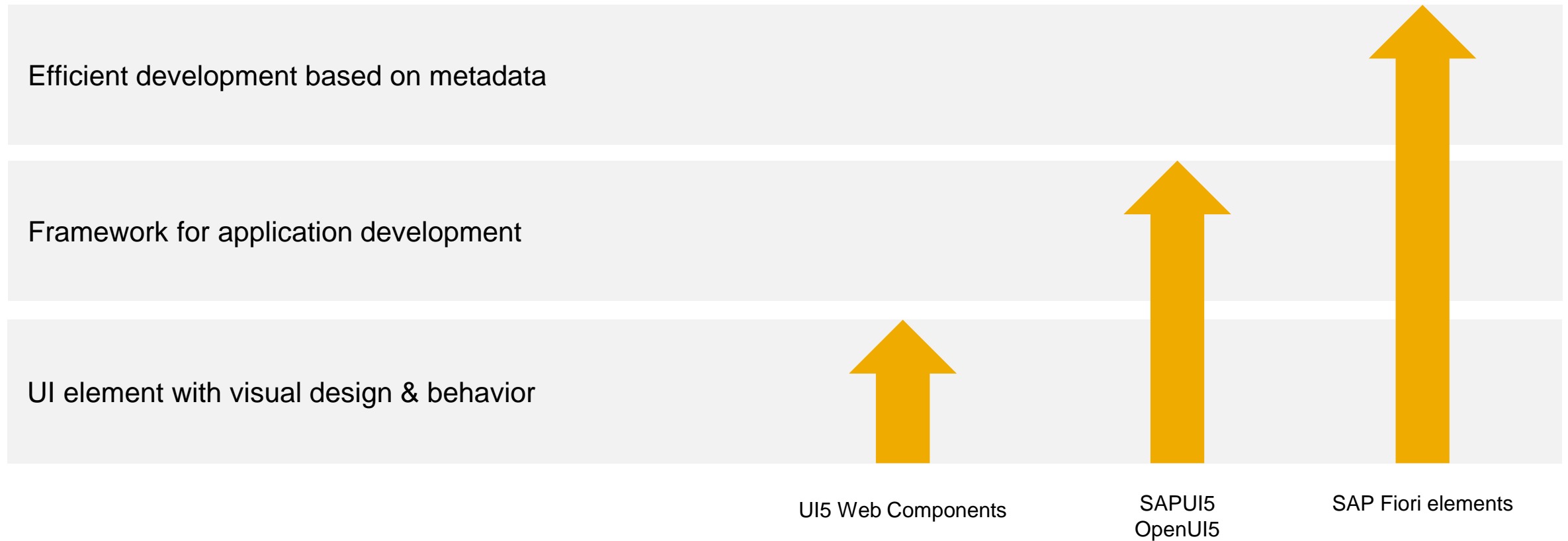
SAP Fiori elements

Flexible Programming Model blends SAP Fiori elements and SAPUI5 freestyle
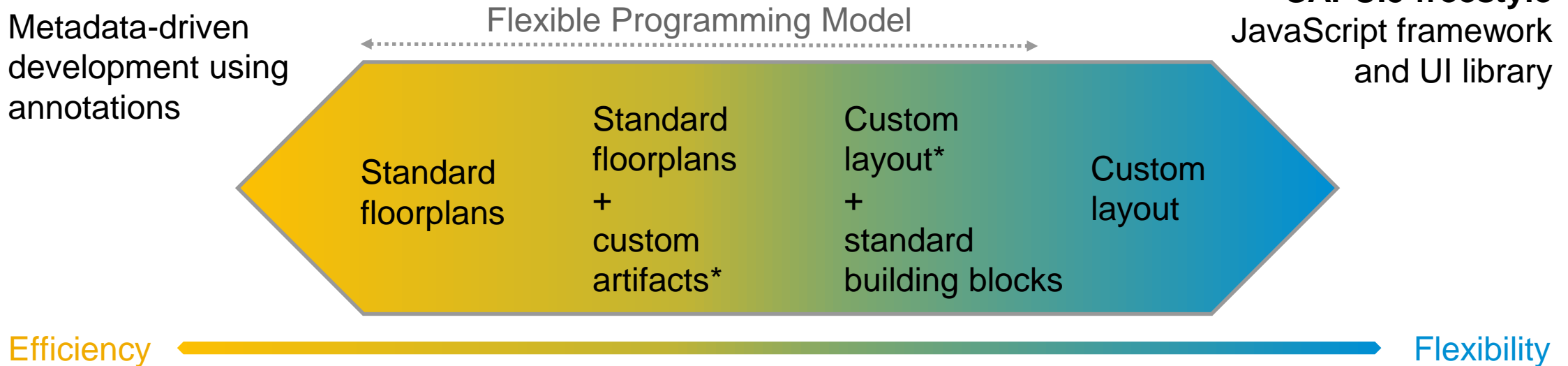
Developers have a continuum of options instead of an either/or decision

SAP Fiori elements
Metadata-driven development using annotations

Flexible Programming Model

SAPUI5 freestyle
JavaScript framework and UI library

Standard floorplans

Standard floorplans
+
custom artifacts*

Custom layout*
+
standard building blocks

Custom layout

Efficiency ⟵

⟶ Flexibility

How to use SAP Fiori elements, SAPUI5 freestyle or a mix of both with the Flexible Programming Model

*leveraging standard building blocks and/or SAPUI5 controls / custom code

Knowledge

SAP Launchpad service
- Getting started using [free tier](#), personal trial, or regular enterprise account
- Try out the [tutorials](#)
- Read the [blog posts](#)
- Check the [documentation](#) for details

SAP Work Zone
- Product page: [SAP Work Zone](#)
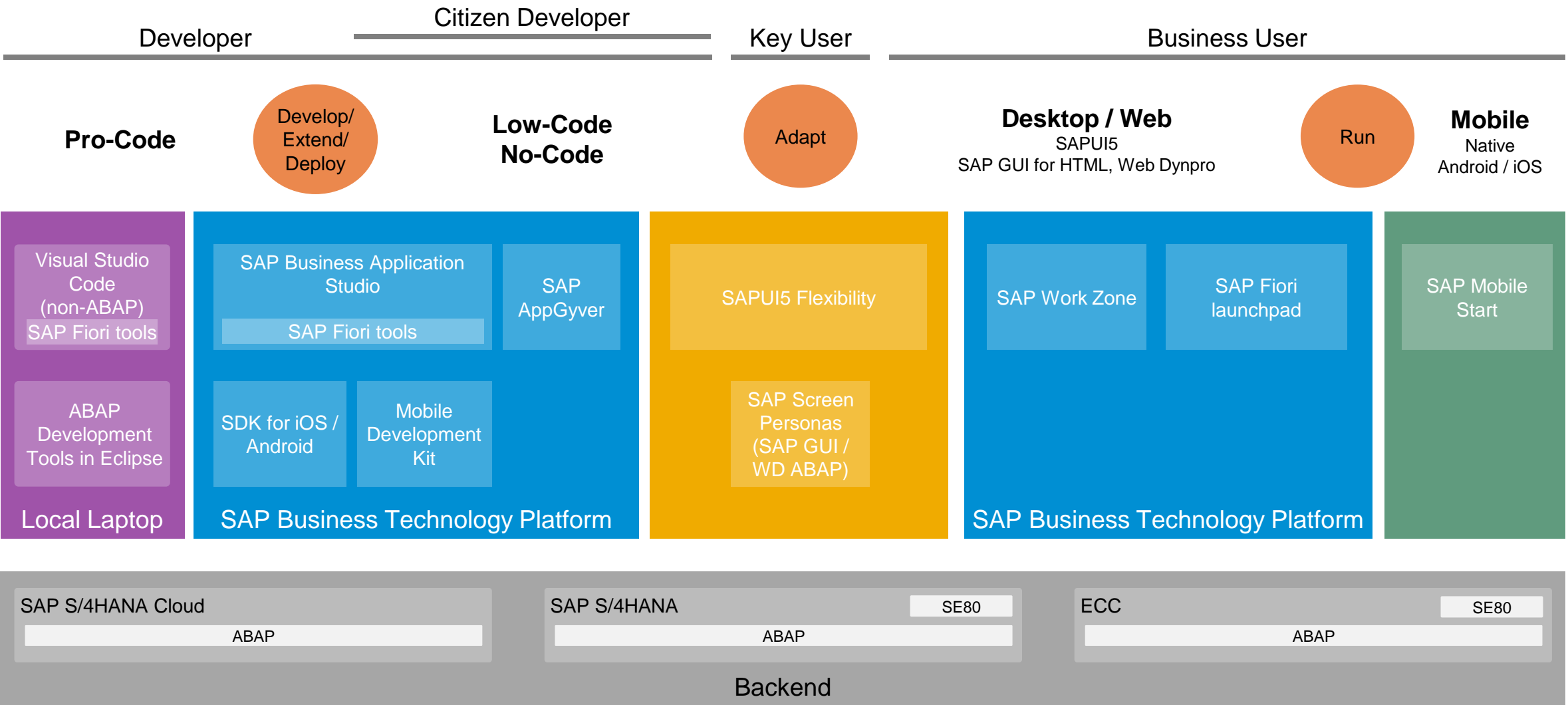- Read the [blog posts](#)
- Check the [documentation](#) for details

SAPUI5
- https://ui5.sap.com/ with getting started, tutorials,…
- [SAPUI5 Community Topic Page](#)
- [SAP Fiori elements](#)
- [SAPUI5 Road Map](#)
- [Blog post: Learning SAPUI5 for Beginners](#)
- [openSAP: Developing Web Apps with SAPUI5](#)
- [openSAP: Evolved Web Apps with SAPUI5](#)
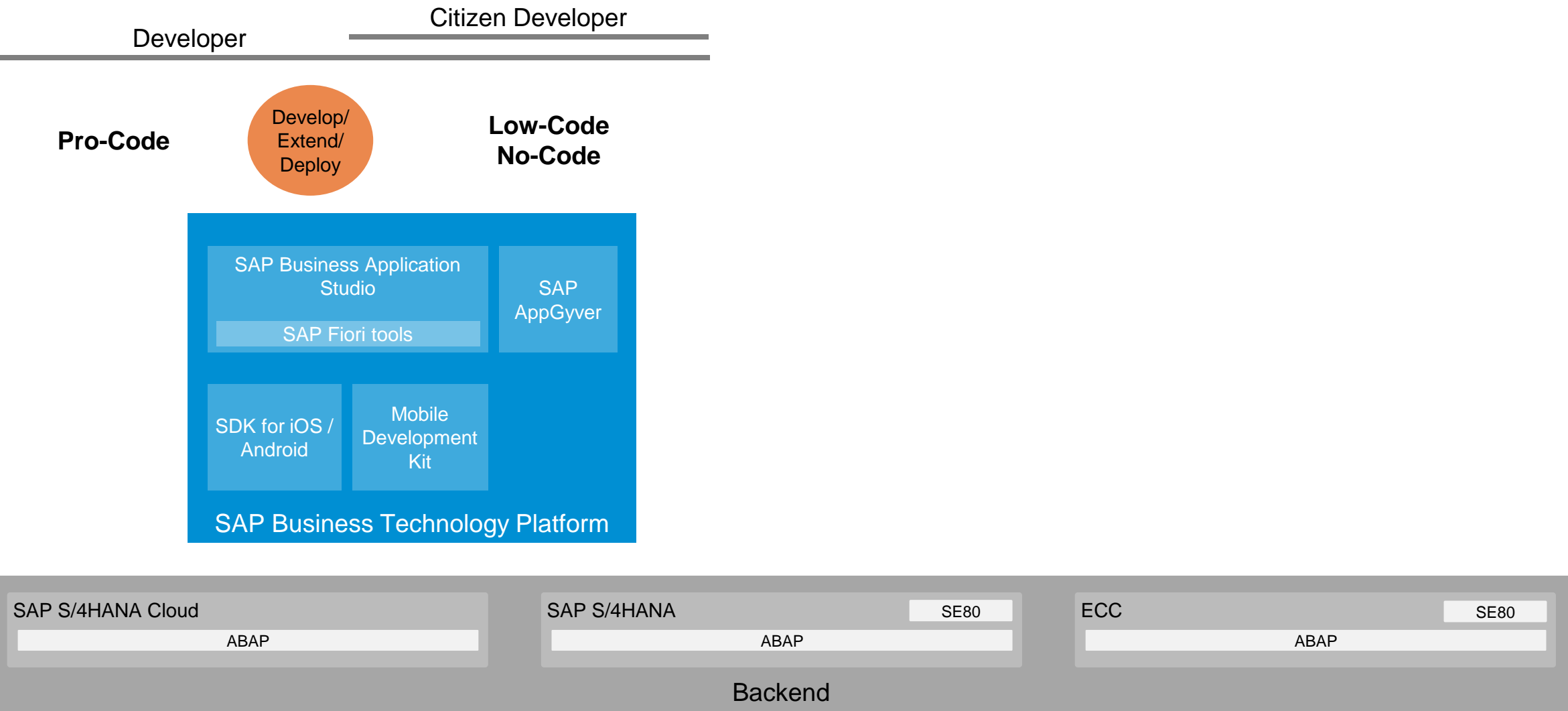- [openSAP: Developing and Extending SAP Fiori Elements Apps](#)

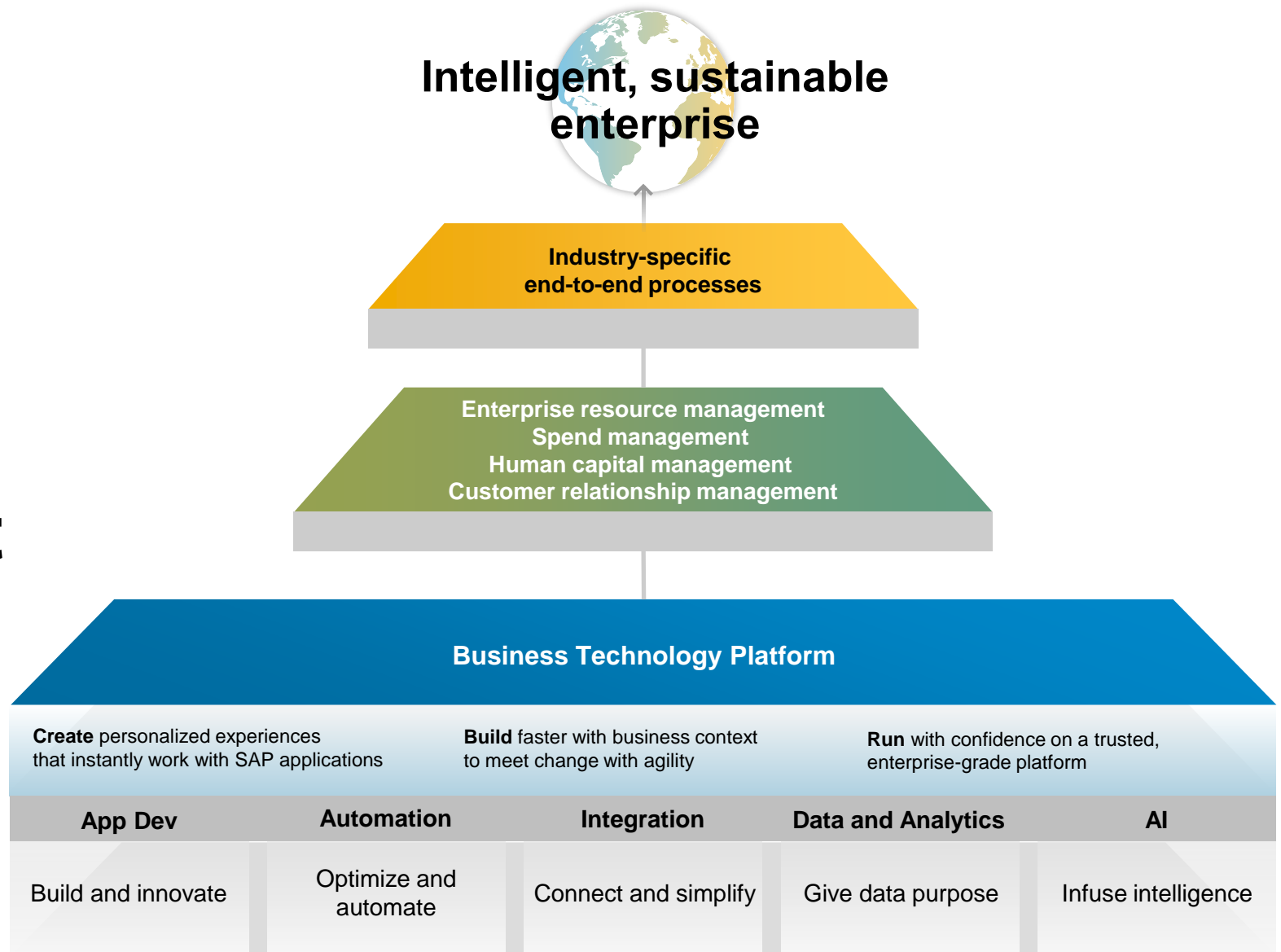# SAP Fiori User Experience Enabled by Technologies & Tools

Teaching concept

Developer	Citizen Developer	Key User	Business User

Pro-Code

Develop/ Extend/ Deploy

Low-Code No-Code

Adapt

Desktop / Web
SAPUI5
SAP GUI for HTML, Web Dynpro

Run

Mobile
Native
Android / iOS

Visual Studio Code (non-ABAP) SAP Fiori tools	SAP Business Application Studio / SAP Fiori tools	SAP AppGyver	SAPUI5 Flexibility	SAP Work Zone	SAP Fiori launchpad	SAP Mobile Start
ABAP Development Tools in Eclipse	SDK for iOS / Android	Mobile Development Kit	SAP Screen Personas (SAP GUI / WD ABAP)			

Local Laptop

SAP Business Technology Platform

SAP Business Technology Platform

Backend

SAP S/4HANA Cloud		SAP S/4HANA	SE80	ECC	SE80
ABAP		ABAP		ABAP	

SAP Fiori User Experience Enabled by Technologies & Tools

Developer

Citizen Developer

Pro-Code

Develop/
Extend/
Deploy

**Low-Code
No-Code**

SAP Business Technology Platform

SAP Business Application Studio

SAP Fiori tools

SAP AppGyver

SDK for iOS / Android

Mobile Development Kit

Backend

SAP S/4HANA Cloud

ABAP

SAP S/4HANA

SE80

ABAP

ECC

SE80

ABAP

SAP's Development Environments:
pro-code, low-code and no-code

SAP BTP is the foundation of the Intelligent Sustainable Enterprise

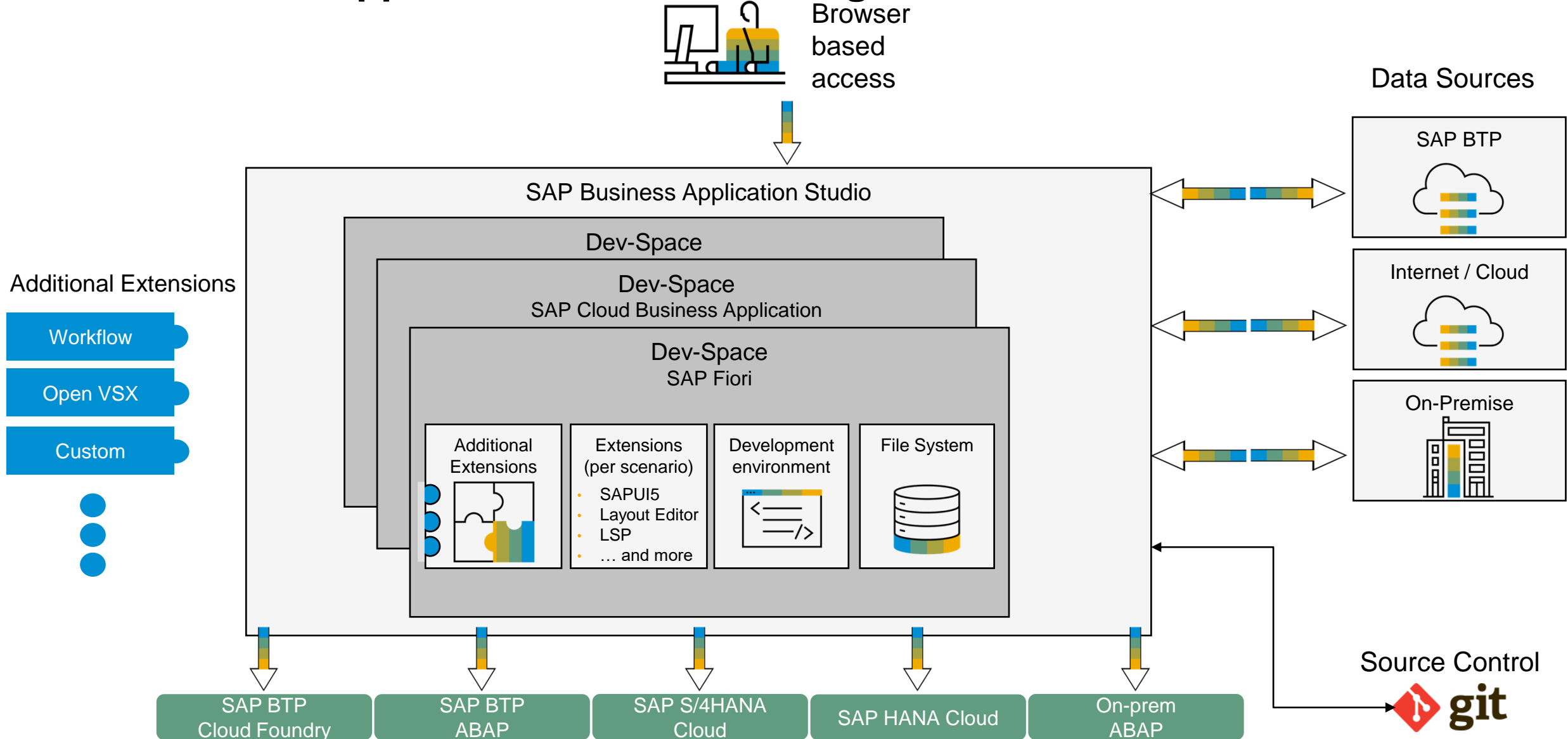**Intelligent, sustainable enterprise**

Industry-specific end-to-end processes

Enterprise resource management
Spend management
Human capital management
Customer relationship management

Business Technology Platform

Create personalized experiences that instantly work with SAP applications

Build faster with business context to meet change with agility

Run with confidence on a trusted, enterprise-grade platform

App Dev	Automation	Integration	Data and Analytics	AI
Build and innovate	Optimize and automate	Connect and simplify	Give data purpose	Infuse intelligence

SAP Business Application Studio on SAP BTP

A **modern** development environment, **tailored** for efficient development of business applications for the **Intelligent Enterprise scenarios**
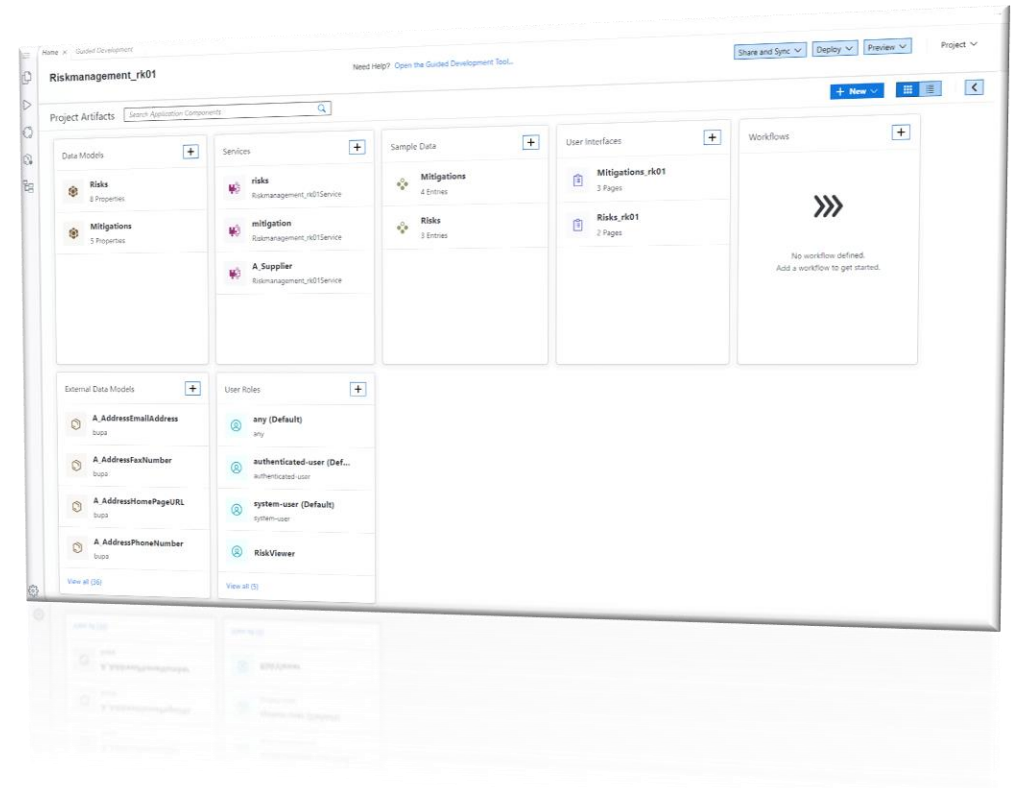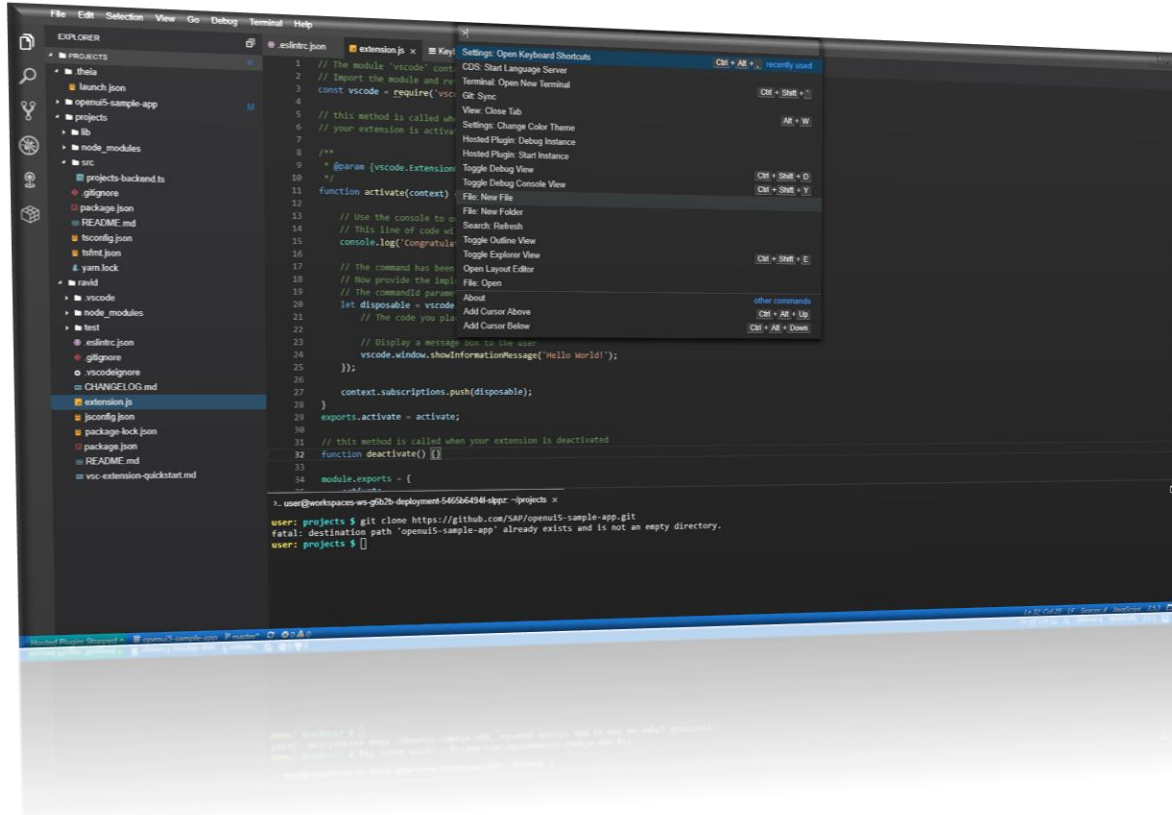
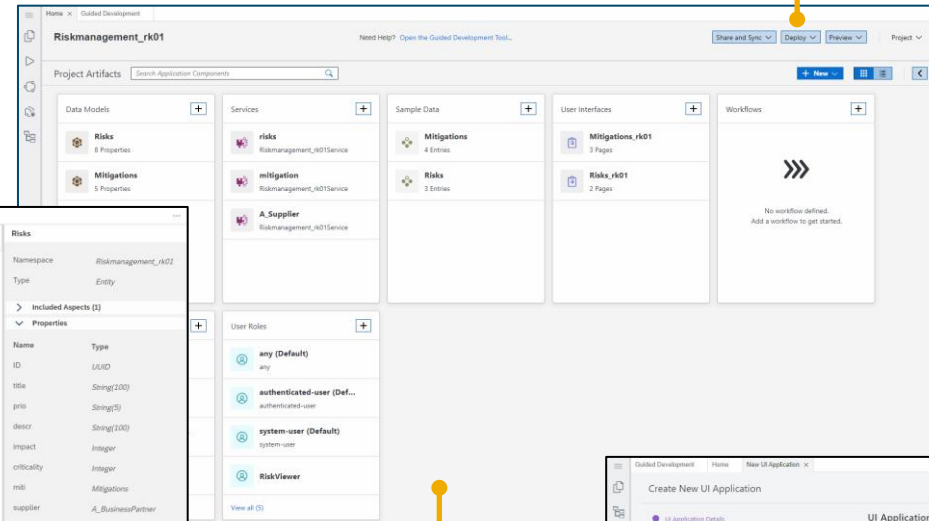# SAP Business Application Studio - The Big Picture

Browser based access

Data Sources

SAP BTP

Internet / Cloud

On-Premise

SAP Business Application Studio

Dev-Space

Dev-Space
SAP Cloud Business Application

Dev-Space
SAP Fiori

Additional Extensions	Extensions (per scenario)	Development environment	File System
	• SAPUI5		
	• Layout Editor		
	• LSP		
	• … and more		

Additional Extensions

Workflow

Open VSX

Custom

SAP BTP Cloud Foundry

SAP BTP ABAP

SAP S/4HANA Cloud

SAP HANA Cloud

On-prem ABAP

Source Control

git

Key Capabilities of SAP Business Application Studio
Productive development environment for SAP centric development

One click preview and deployment

Low-code development perspective, with easy path to professional development tools

GIT based Project Sharing

Simplified Semantic Project view and edit

Guided Development
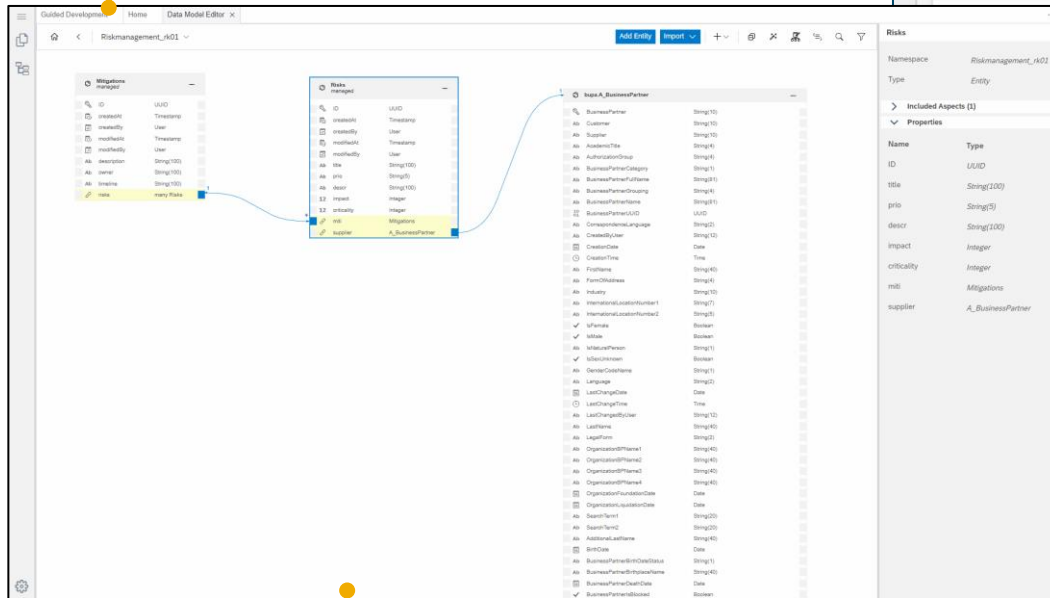
Visual Entity & Service Modeling using Cloud Application Programming Model
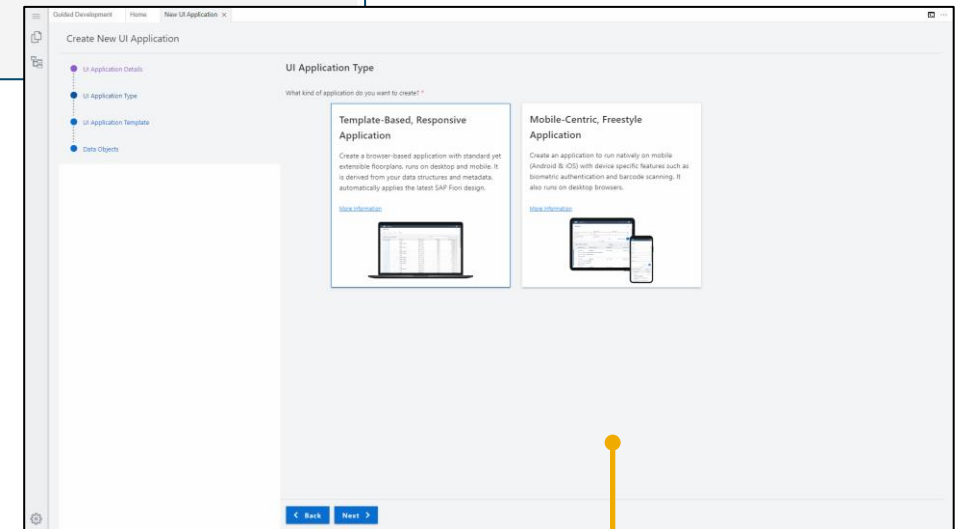
Low-Code Template-based and Freestyle UI Design

Roles

Pro developer is a person who has the ability and expertise to create, maintain as well as upgrade software created for commercial purposes through writing lines of code

Citizen developer is a user who creates new business applications for consumption by others using development and runtime environments sanctioned by corporate IT

New Role

Administrator is a person who has the rights to manage the lifecycle of the applications, grant access, etc.
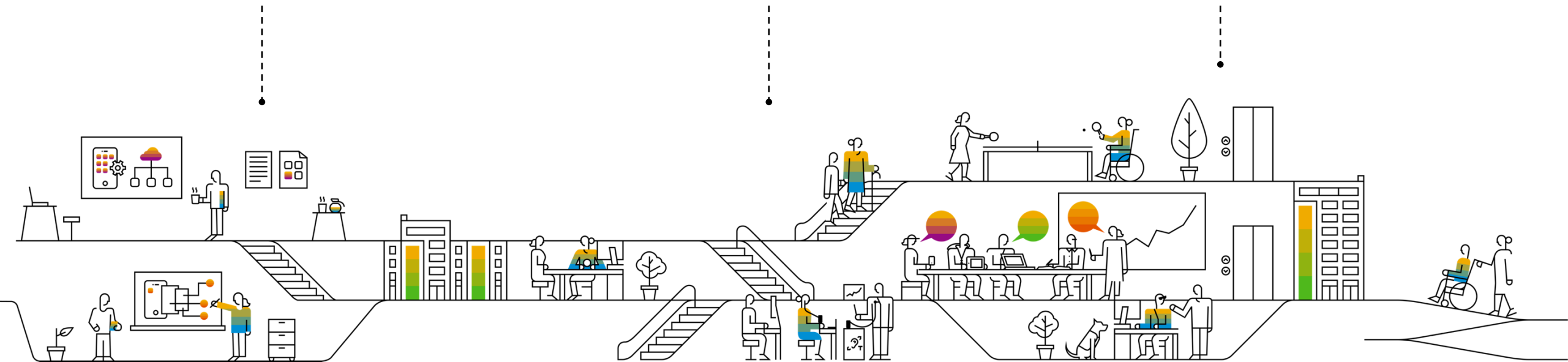
How Can You Meet the Growing Application Need?
Scale Development by Empowering More Employees to Build Software

Professional developer

- Uses tools of choice to create cloud native applications and reusable services
- Designs, develops, deploys, tests, and hands over to production
- Understands the concept of a development lifecycle, testing, and versioning
- Ensures governance and security

Citizen developer

- Creates and publishes low-code/no-code apps and customizations with close links to business contexts
- Is unaware of testing, go-live, versioning, and termination but learns through citizen development education
- Ensures governance and security through IT-sanctioned tools and platform-supported processes

Professional developer

Citizen developer

SAP AppGyver

SAP Business
Application Studio

Other IDEs*

for low-code
development

Professional
experience

High

Development democratization

Low

Pro-code   **Low-code**   **No-code**

Low   Application volume   High
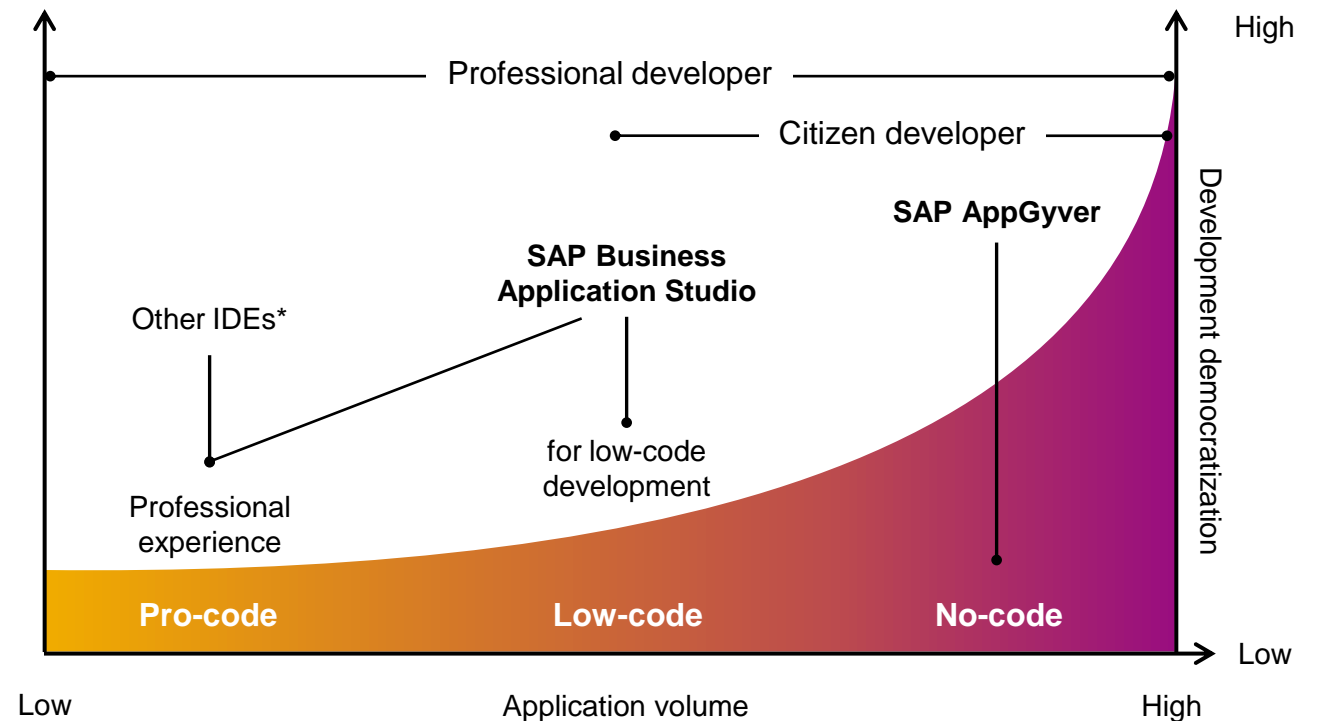
i.e. VS Code + extensions

SAP Business Application Studio

SAP BTP Free-Tier / SAP BTP Trial -> SAP Business Application Studio

1. Tutorial: Build an SAP Fiori App consuming Data from On-Premise
2. Tutorial: Create a List Report Object Page App with SAP Fiori Tools
3. Tutorial: Develop Full-Stack App Using Low-Code Capabilities of BAS

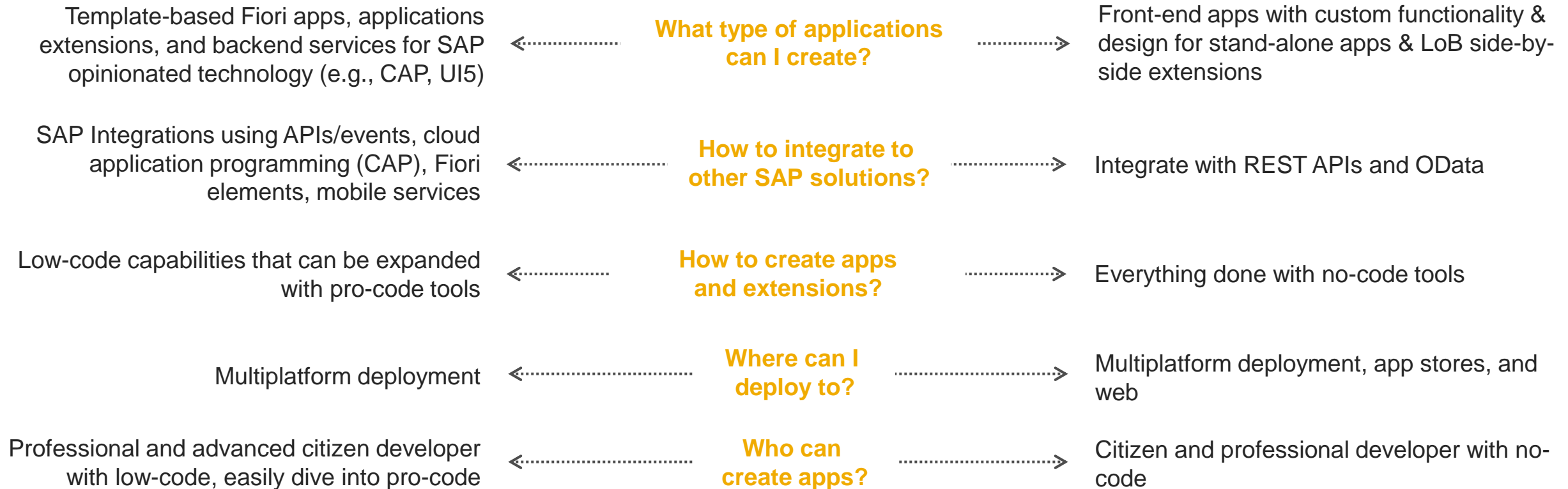More missions / tutorials: SAP Discovery Center / Developer tutorials
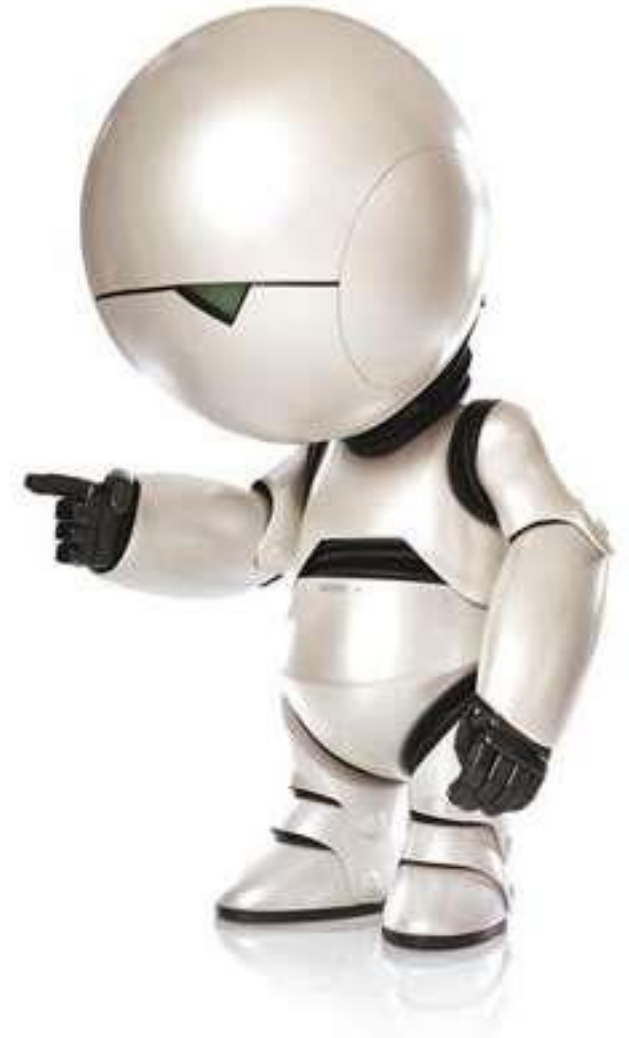
Boost Development Agility and Unleash Innovation
A Unified Developer Experience from No-Code to Pro-Code

SAP Business Application Studio for Low-Code Development

SAP AppGyver

SAP Business Application Studio		SAP AppGyver
Template-based Fiori apps, applications extensions, and backend services for SAP opinionated technology (e.g., CAP, UI5)	**What type of applications can I create?**	Front-end apps with custom functionality & design for stand-alone apps & LoB side-by-side extensions
SAP Integrations using APIs/events, cloud application programming (CAP), Fiori elements, mobile services	**How to integrate to other SAP solutions?**	Integrate with REST APIs and OData
Low-code capabilities that can be expanded with pro-code tools	**How to create apps and extensions?**	Everything done with no-code tools
Multiplatform deployment	**Where can I deploy to?**	Multiplatform deployment, app stores, and web
Professional and advanced citizen developer with low-code, easily dive into pro-code	**Who can create apps?**	Citizen and professional developer with no-code

SAP Fiori tools guides developers through the full cycle

Application Generator
Creates the project environment for development
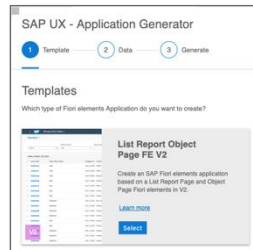
Page Map & Editor
Allows editing of the structure of the app: pages, properties, and navigation
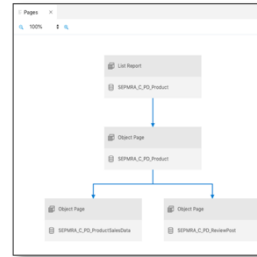
Guided Development
Provides step-by-step development instructions and generates code snippets in-line
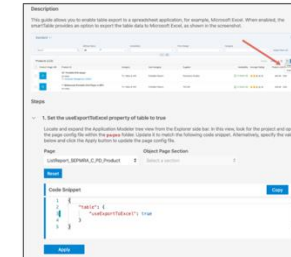
Application Preview
Provides preview of web app in the browser either with mock data or live data
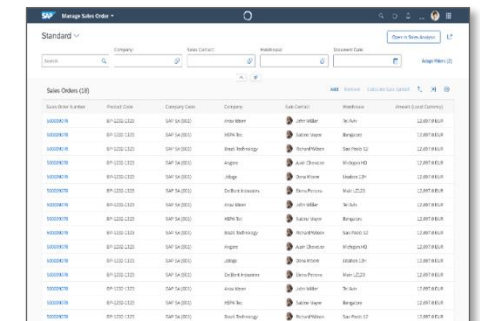
Available in
SAP Business Application Studio
and
Visual Studio Code

Service Modeler
Visualizes service entities, relations, properties, and annotations

Code Completion
Delivers a language server protocol for annotations with micro-snippets and diagnostics

SAP Business Application Studio

Learn More!

Homepage: SAP Business Application Studio

Introduction Video

Central Info Blog

SAP Fiori tools

Homepage Low-code application development

Low-Code/No-Code Development Tools

Learning Journey: Low-Code / No-Code Applications and Automations for Citizen Developers

Blog post: SAP Gateway Demo System ES5

Contact information: SAPBusinessApplicationStudio@sap.com

Migration: Neo / SAP Web IDE   ->   Cloud Foundry / BAS

- Migrating Fiori Application from SAP Web IDE to SAP Business Application Studio (ABAP)

- Migrating SAP Fiori Applications from Neo to Cloud Foundry Using SAP Business Application Studio

- Migrating from the Neo Environment to the Multi-Cloud Foundation (Cloud Foundry and Kyma)

- Migrating Your CAP Applications from SAP Web IDE to SAP Business Application Studio

- SAP Fiori tools 2108 release simplifies integrating libraries and migrating Web IDE apps

- It's time to plan your move to SAP Business Application Studio

- Migrate SAP Fiori projects from SAP Web IDE to SAP Business Application Studio

Get started today

Meet your organization's requirements as fast as your business needs.

Build applications and extend SAP systems faster than ever before. To learn more, click the links below.

Test and Evaluation
- SAP Business Application Studio is available for test and evaluation on SAP BTP Free-Tier / SAP BTP Trial environment
- Find available missions in SAP Discovery Center / developer tutorials

Partner & Customer Licenses
- Available in consumption and subscription based pricing

- Join SAP Business Application Studio Community
- SAP's low-code/no-code homepage
- Explore SAP Business Application Studio on Partner Portal
- SAP AppGyver Learning Journey

SAP Fiori for Mobile - Native mobile experience for iOS and Android
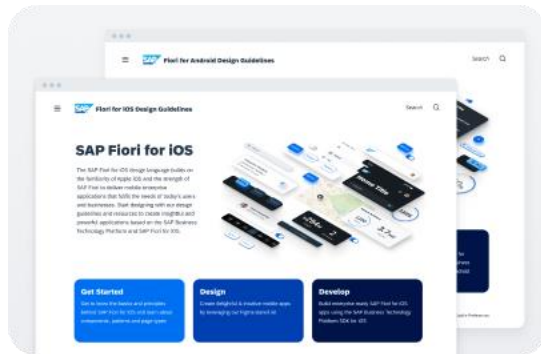
Design Guidelines

Android   iOS
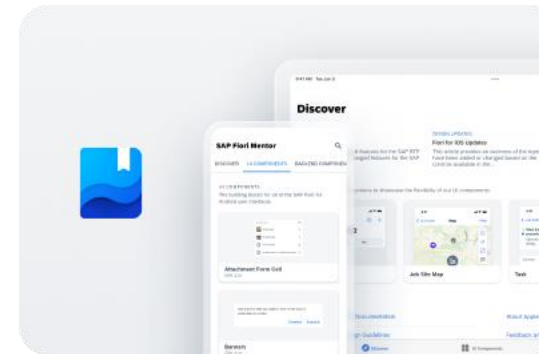
SAP Fiori Mentor App for iOS and Android

Android & iOS
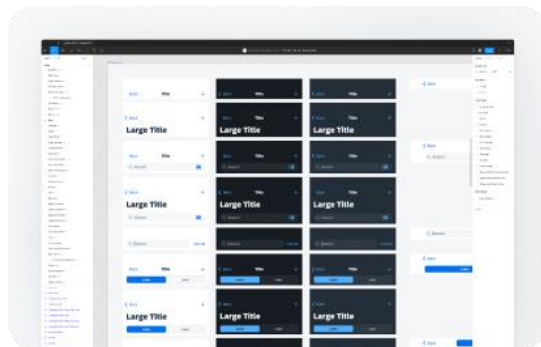
Design Stencil Kits

Android   iOS
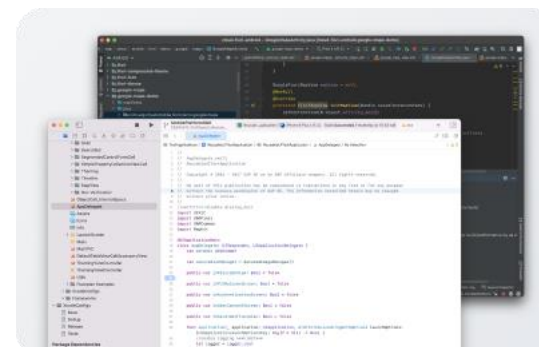
Software Development Kits

Android   iOS   MDK

SAP Mobile Services
Native App Development – SAP BTP SDK for Android

Empower designers and developers with tools to **quickly and efficiently** build Android apps for the enterprise

Enable apps with native Android look and feel **high performance**

Accelerate development with APIs for enterprise communications, security, encryption & onboarding

Innovate by taking advantage of rich **Android device features** like Fingerprint Scanner, location services and notifications
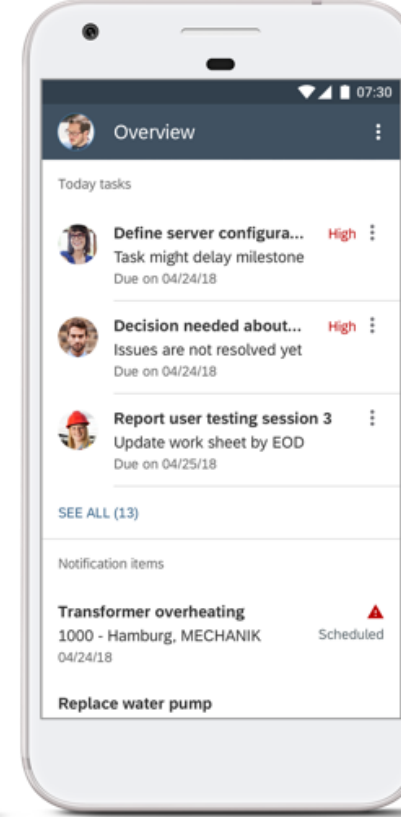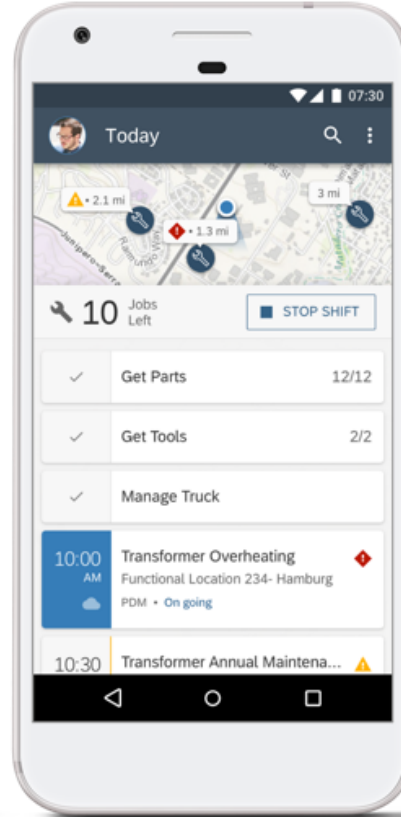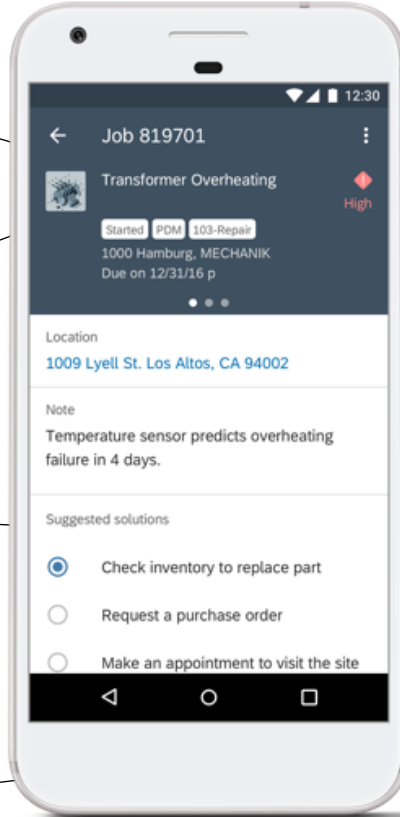
SDK for Android accelerates enterprise app development in Android Studio IDE

Rich set of UI controls, implementing **SAP Fiori for Android design language**

SDK **Wizard** automatically **generates** fully running app scaffolding by reading metadata from backend enterprise APIs

SAP Fiori Mentor for Android

SAP Mobile Services
Native App Development – SAP BTP SDK for iOS

iOS

Benefits

Empower designers and developers with tools to **quickly and efficiently** build iOS apps for the enterprise

Enable apps with native iOS look and feel **high performance**

Accelerate development with UI controls, frameworks and tools

Innovate by taking advantage of rich **iOS device features** like ARKit, CoreML, location services and notifications
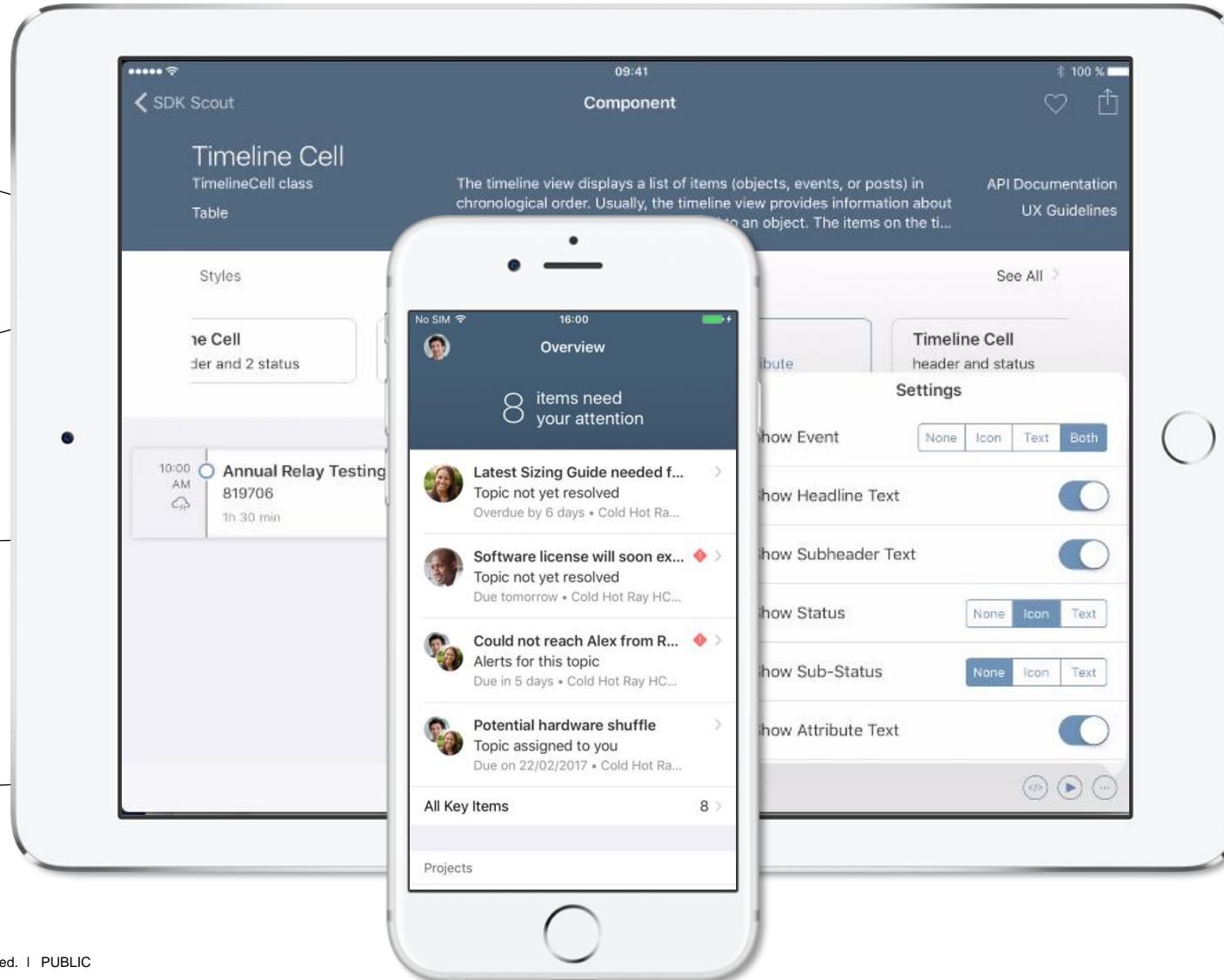
Capabilities

Swift-based SDK for iOS incl. UI controls, frameworks for data access, security, supportability

SAP Fiori for iOS design language

SDK Assistant automatically **generates** fully running app scaffolding by reading metadata from backend enterprise APIs

SAP Fiori Mentor app generates customized UI code snippets for Fiori controls

SAP Mobile Services
Mobile Development Kit
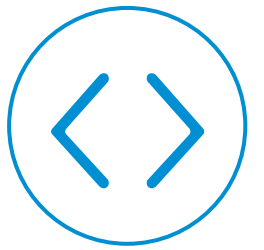
Build, customize, and administer native mobile applications in a highly productive, metadata-driven model

Benefits

Capabilities

Reduce app development costs and increase productivity with a simple, low-code tool

Customize selected pre-built SAP apps (SAP Asset Manager, etc.) to your business needs

Relieve maintenance burden with easy **lifecycle management**

Easily manage **security** across apps

Visual development of pages, data queries, and business logic

Robust **offline and online support**

Native SAP Fiori user experience

Extend functionality with custom extension controls

Cross-platform development supports iOS and Android

Web- Deployment
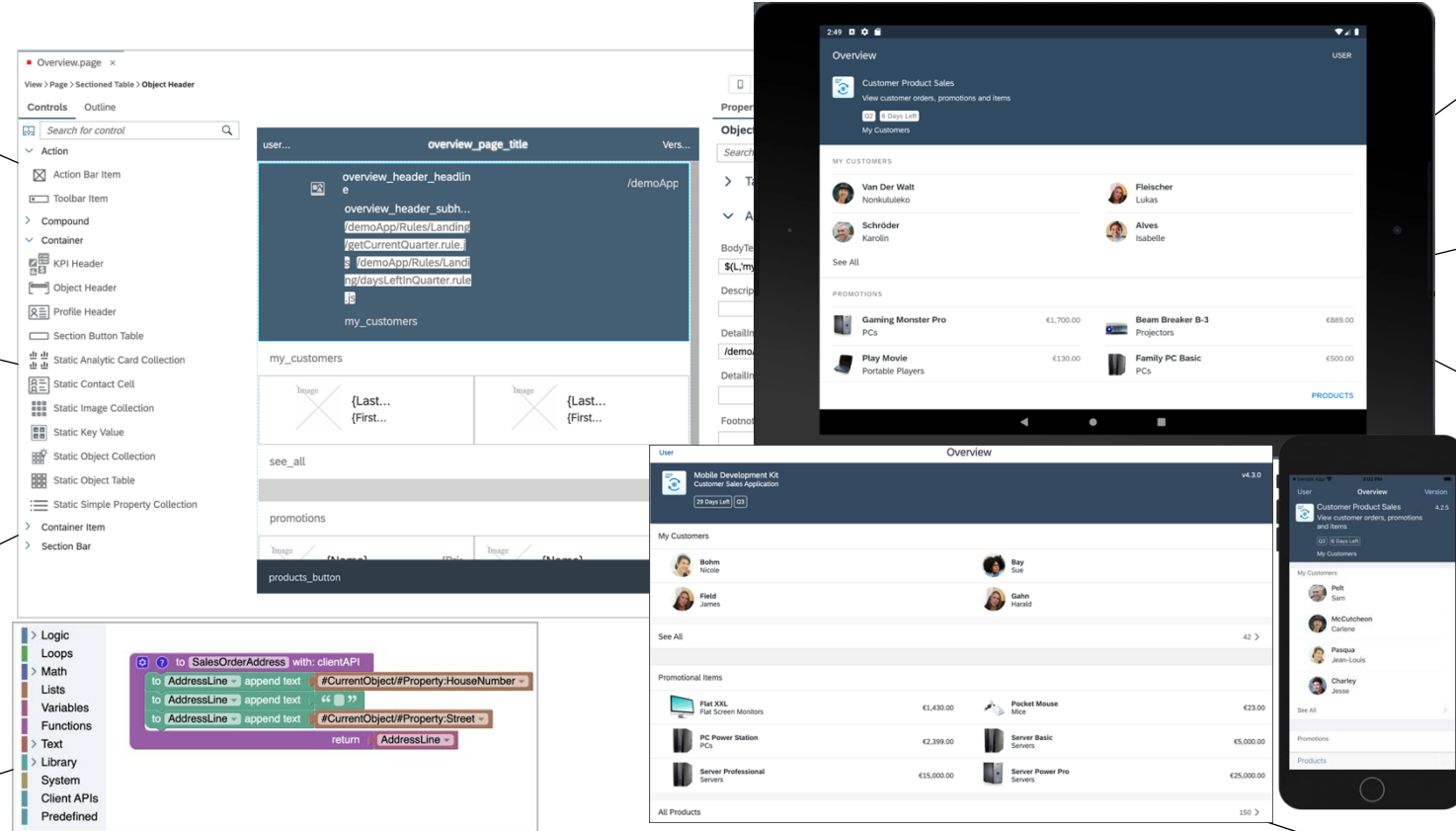
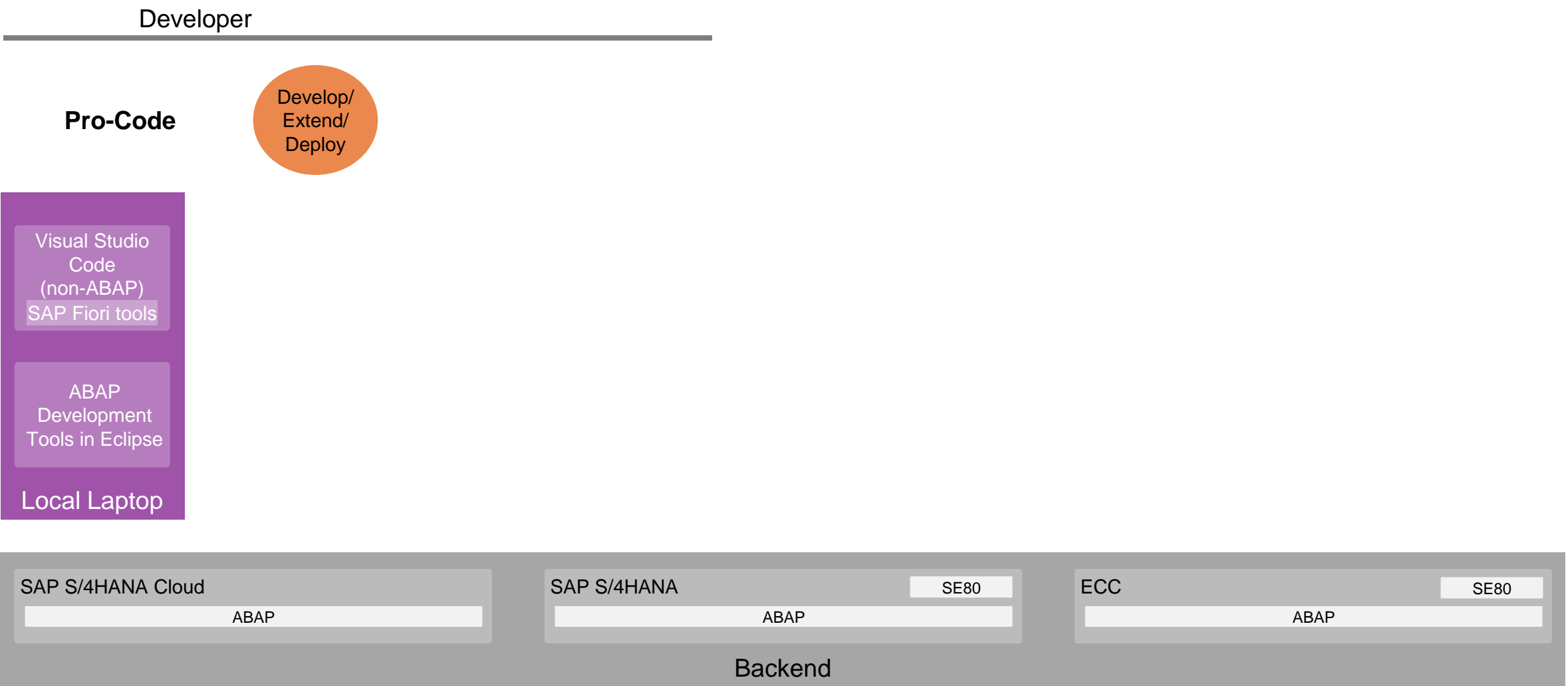Create app configuration in Mobile Services → Use template to generate first metadata → Modify app metadata → Deploy

SAP Fiori User Experience Enabled by Technologies & Tools

Teaching concept

Developer | Citizen Developer | Key User | Business User

Pro-Code | Develop/ Extend/ Deploy | **Low-Code No-Code** | Adapt | **Desktop / Web** SAPUI5 SAP GUI for HTML, Web Dynpro | Run | **Mobile** Native Android / iOS

Local Laptop	SAP Business Technology Platform		SAP Business Technology Platform	
Visual Studio Code (non-ABAP) SAP Fiori tools	SAP Business Application Studio SAP Fiori tools	SAP AppGyver	SAPUI5 Flexibility	SAP Work Zone SAP Fiori launchpad
ABAP Development Tools in Eclipse	SDK for iOS / Android	Mobile Development Kit	SAP Screen Personas (SAP GUI / WD ABAP)	SAP Mobile Start

SAP S/4HANA Cloud		SAP S/4HANA	SE80	ECC	SE80
ABAP		ABAP		ABAP	

Backend

SAP Fiori User Experience Enabled by Technologies & Tools

Developer

Pro-Code

Develop/
Extend/
Deploy

Visual Studio
Code
(non-ABAP)
SAP Fiori tools

ABAP
Development
Tools in Eclipse

Local Laptop

SAP S/4HANA Cloud		SAP S/4HANA	SE80	ECC	SE80
ABAP		ABAP		ABAP	

Backend

Local Development Environments:
Visual Studio Code (VSCode) &
ABAP Development Tools (ADT) / Eclipse

Visual Studio Code and SAP Business Application Studio

Visual Studio Code

- Provides development flexibility with **offline** capabilities

- Features a **developer-controlled**, highly configurable development environment

- Allows access to thousands of extensions from the Visual Studio Code marketplace

- Is part of a fast-growing open source community
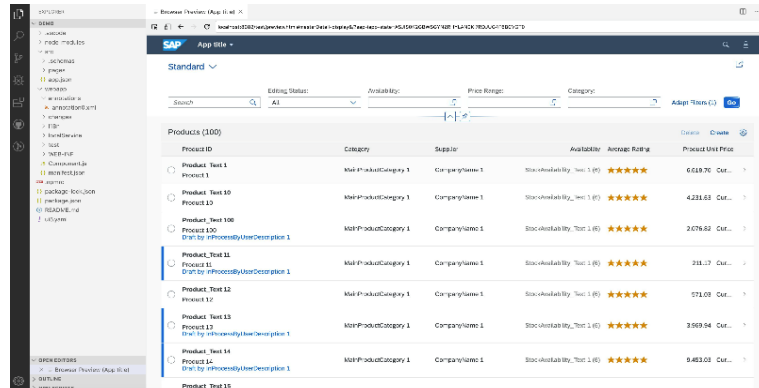
SAP Business Application Studio

- Provides a **managed**, preconfigured, **hosted environment**, optimized for SAP application development (including client and server side extensions).

- Can be **centrally administrated** with tools repositories, systems access and company policies

- Integrates with existing SAP solutions, systems & services

- [Easy access to Visual Studio Code-compatible extensions](#) from VSCode
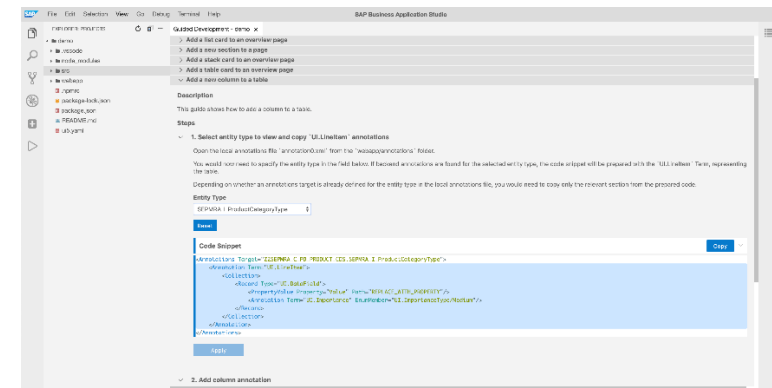
Efficient ABAP development in Eclipse©

MODERN DEVELOPMENT TOOLSET
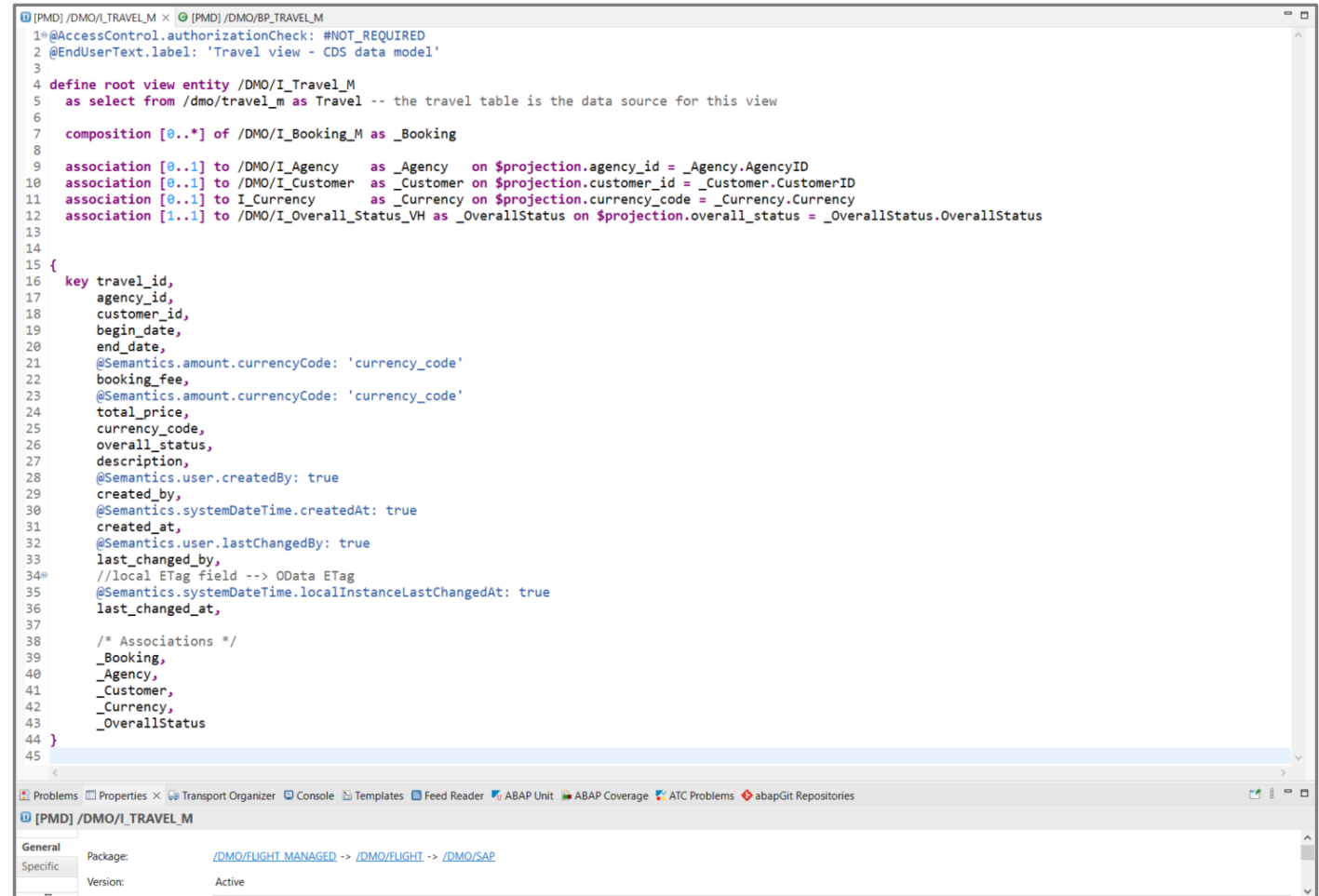
Fully eclipse-based
Syntax check, Code completion
Syntax highlighting, Pretty printing
Navigation, Search, Quick Fixes
Available for ABAP releases ≥ 7.31

QUALITY ASSURANCE

Static code checks (ATC, CVA) with remote and local scenarios
Unit testing incl. isolation frameworks
Test seams and injections

SUPPORTABILITY

Debugging, profiling, tracing
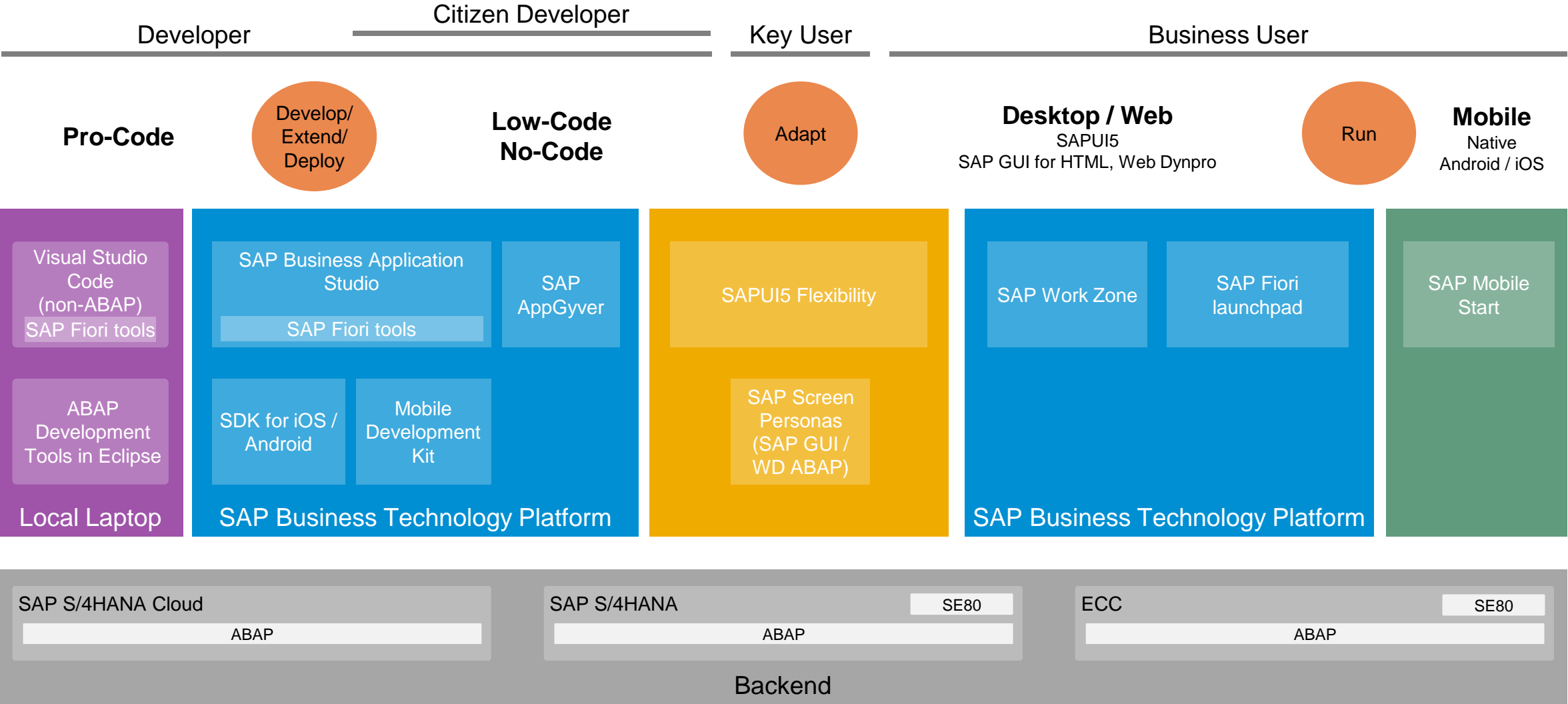Static and dynamic logging
Runtime monitoring and analysis

Local Development Environments

[Set Up SAP Fiori Tools in Your Visual Studio Code](#)

[Install ABAP Development Tools (ADT) in Eclipse](#)

Source: https://en.wikipedia.org/wiki/Marvin_the_Paranoid_Android

SAP Fiori User Experience Enabled by Technologies & Tools

Teaching concept

Developer | **Citizen Developer** | **Key User** | **Business User**

Pro-Code

(Develop/ Extend/ Deploy)

Low-Code No-Code

(Adapt)

Desktop / Web
SAPUI5
SAP GUI for HTML, Web Dynpro

(Run)

Mobile
Native
Android / iOS

Local Laptop	SAP Business Technology Platform				SAP Business Technology Platform		

Local Laptop
- Visual Studio Code (non-ABAP) / SAP Fiori tools
- ABAP Development Tools in Eclipse

SAP Business Technology Platform
- SAP Business Application Studio / SAP Fiori tools
- SAP AppGyver
- SDK for iOS / Android
- Mobile Development Kit

(Adapt)
- SAPUI5 Flexibility
- SAP Screen Personas (SAP GUI / WD ABAP)

SAP Business Technology Platform
- SAP Work Zone
- SAP Fiori launchpad

- SAP Mobile Start

Backend

SAP S/4HANA Cloud		SAP S/4HANA	SE80	ECC	SE80
ABAP		ABAP		ABAP	

SAP Fiori User Experience Enabled by Technologies & Tools

Developer | Citizen Developer | Key User | Business User

Pro-Code — Develop/ Extend/ Deploy

Low-Code No-Code — Adapt

Desktop / Web
SAPUI5
SAP GUI for HTML, WebDynpro

Run

Mobile
Native
Android / iOS

SAPUI5 Flexibility

SAP Screen Personas (SAP GUI / WD ABAP)

SAP S/4HANA Cloud	SAP S/4HANA	SE80	ECC	SE80
ABAP	ABAP		ABAP	

Backend

Extending / Adapting SAP Standard Apps:
SAPUI5 Flexibility & SAP Screen Personas

SAP Fiori Apps Reference Library

Library of all SAP content for the SAP Fiori launchpad. Explore, plan, and implement SAP Fiori apps as well as classic applications based on SAP GUI and WebDynpro.

- Overview of all SAP Fiori apps

- Information for each app, including technical data for installation and configuration

- Configuration information required to integrate classic SAP GUI and WebDynpro applications into the SAP Fiori launchpad

- Data for previous app versions

- Direct navigation to related resources, such as app documentation, Product Availability Matrix, and Maintenance Planner

- Recommendations for SAP Fiori apps for your needs

SAP Fiori Apps Reference Library

SAP

Apps (14851)

Search

SAP Fiori lighthouse apps

- ☐ Capacity Scheduling Table / Schedule Production ★
- ☐ Cash Flow Analyzer ★
- ☐ Change Process Analysis for Business Partner
- ☐ Chemical Inventory Reporting
- ☐ Classify Products - Commodity Codes
- ☐ Commitments and Actuals Analyses
- ☐ Compliance Information for Products
- ☐ Count Physical Inventory ★
- ☐ Create Inbound Delivery
- ☐ Create Optimal Orders for Shipment
- ☐ Create Sales Orders - Automatic Extraction ★
- ☐ Custom Business Objects
- ☐ Custom CDS Views (Version 2)
- ☐ Custom Code Migration
- ☐ Custom Fields and Logic
- ☐ Cycle Counting - Classification
- ☐ Data Quality Evaluation Overview for Business Partners
- ☐ Data Quality Evaluation Overview for Products
- ☐ Debt and Investment Maturity Profile
- ☐ Display Chart of Accounts (Version 2) / Manage Chart of Accounts
- ☐ Display Document Flow
- ☐ Display Journal Entries in T-Account View

Cash Flow Analyzer
for Cash Manager

SAP S/4HANA ▾

Required Back-End Product SAP S/4HANA

Line of Business Finance

App Launcher Title(s) Cash Flow Analyzer

Application Type Analytical (SAP Fiori (SAPUI5))

Database HANA DB exclusive

Device Type(s) Desktop, Tablet

App ID F2332

Extensibility information

PRODUCT FEATURES   IMPLEMENTATION INFORMATION

With this app, you can overview the aggregated amounts and line item details of cash pos quarters, or years for all bank accounts and liquidity items. The data presented in the app
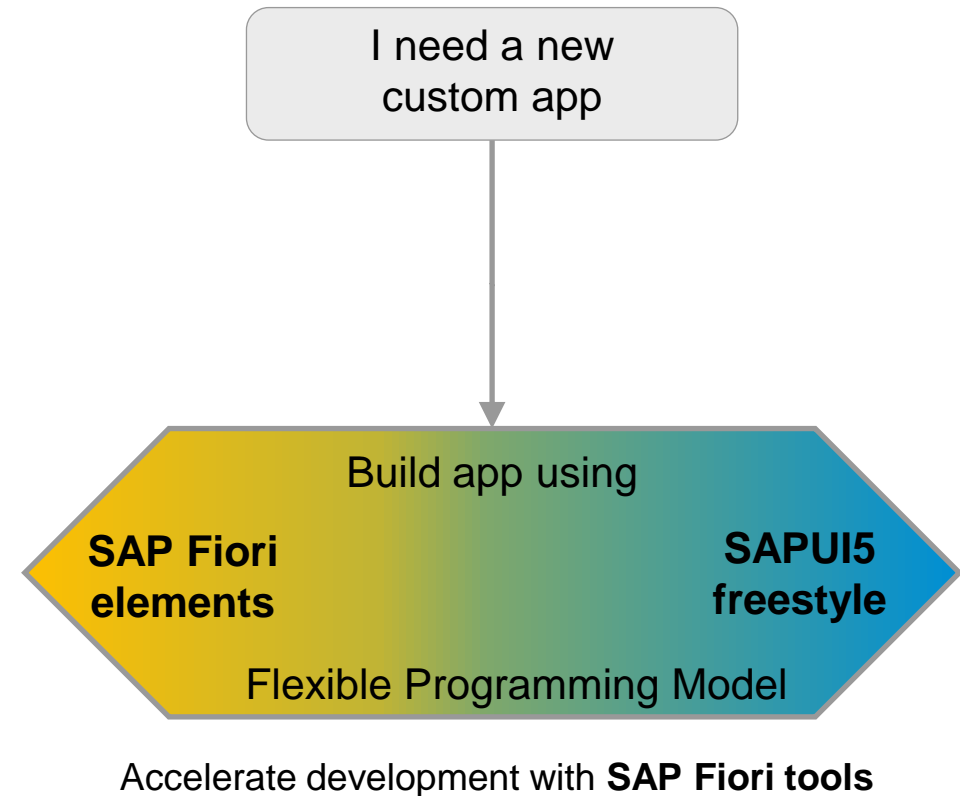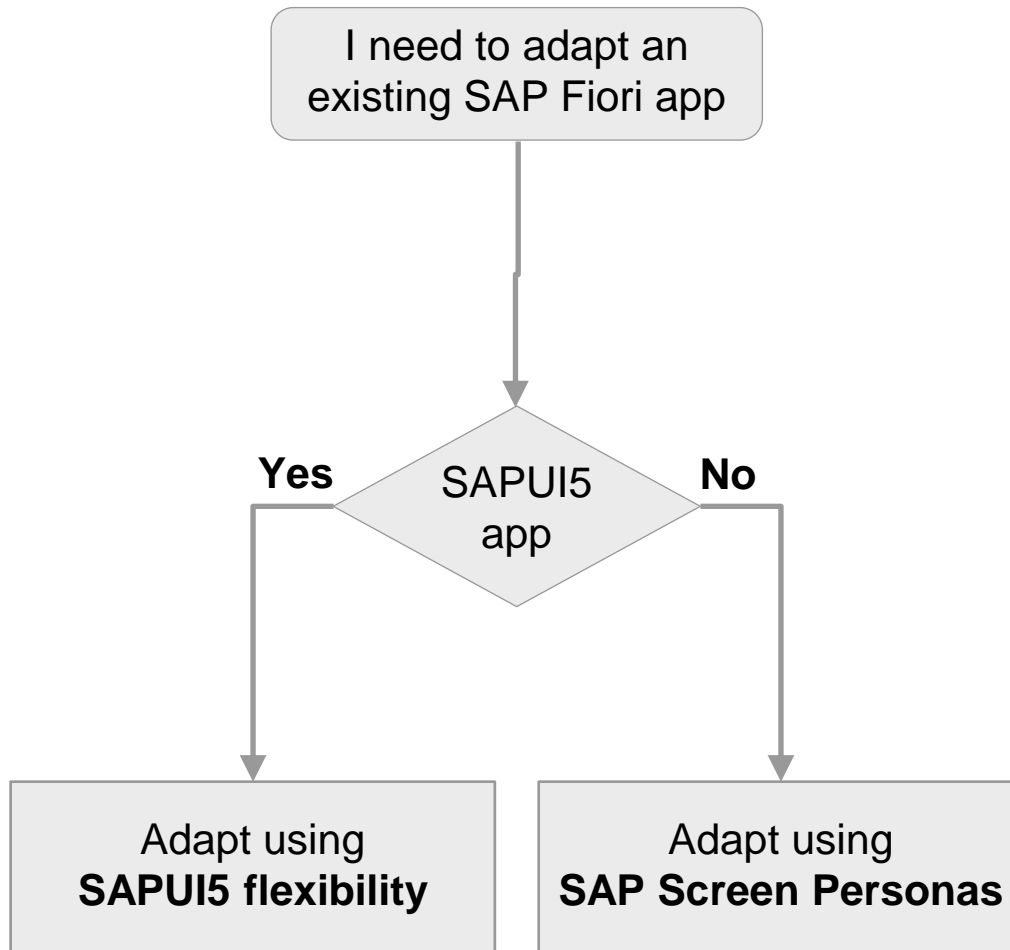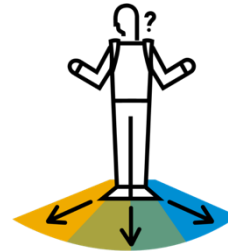
Read more in App Documentation

App demo: D1: Cash Flow Analyzer

Learn more about solution capability: Cash and Liquidity Management (S/4)

Filter

Choose the path to the SAP Fiori user experience based on your needs

I need to adapt an existing SAP Fiori app

Yes ← SAPUI5 app → **No**

Adapt using **SAPUI5 flexibility**

Adapt using **SAP Screen Personas**

I need a new custom app

Build app using

SAP Fiori elements — **SAPUI5 freestyle**

Flexible Programming Model

Accelerate development with **SAP Fiori tools**

Using SAPUI5 flexibility to deliver a tailored user experience

Adapt standard applications for your own use cases in a **cost-efficient** way

Add **extensions wherever needed** compared to classical "extension points"

Benefit from **standard upgrades** while keeping extensions functional

Explore **intuitive tooling** tailored for different personas

Developer

Key user
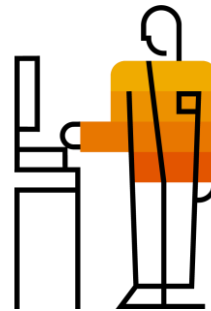
End user
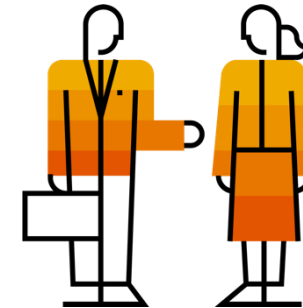
Developer adaptation with SAPUI5 flexibility

Adaptation projects allow developers to create code-based extensions of standard applications.

Extension project in SAP Web IDE	**Adaptation project** in SAP Business Application Studio
Leveraging SAPUI5 extension points, controller hooks	Leveraging SAPUI5 flexibility
Extend only in predefined extension point	Extend anywhere, no extension point needed
Does not support SAP Fiori elements applications	Supports SAP Fiori elements as well as SAPUI5 freestyle
Limited options (e.g. no extend of lifecycle methods)	Increased options
One layer only	Multiple layers: Customer -> Industry -> Core (planned)

Migrate from SAP Web IDE to SAP Business Application Studio: Blog post & Mission

SAP is planning to enable the extension pane in BAS in on-prem scenarios for existing extension projects and for apps not enabled for adaptation projects.

SAPUI5 flexibility
Availability on different platforms

	ABAP platform, SAP NetWeaver platform	SAP S/4HANA Cloud & SAP BTP, ABAP environment	SAP BTP, Cloud Foundry environment
At runtime in SAP Fiori launchpad	✓ End user personalization ✓ Key user adaptation	✓ End user personalization ✓ Key user adaptation	✓ End user personalization ✓ Key user adaptation
At design time in SAP Business App Studio adaptation project	✓ Developer adaptation	✗ Developer adaptation (planning in progress)	✓ Developer adaptation

Extending SAP standard apps: SAPUI5 Flexibility & SAP Screen Personas

SAP Screen Personas - SAP Community topic page

SAPUI5 Flexibility - All You Need to Know

https://ui5.sap.com > Demo apps > SAPUI5 flexibility demo apps

Source: https://en.wikipedia.org/wiki/Marvin_the_Paranoid_Android

SAP Screen Personas simplifies complex classic ERP screens

Benefits

Improve business productivity

Increase SAP adoption by making screens easier to use

Decrease training time for SAP users with intuitive screens

Enhance user satisfaction

Reduce the cost of personalization compared to custom coding

Capabilities

Hide / rearrange screen elements, reduce scrolling

SAP Fiori design creation for custom or standard transactions, including SAP S/4HANA; embed into SAP Fiori launchpad

Adapt Dynpro or Web Dynpro ABAP screens

Pre-filled fields & pull-down menus as well as automation of repetitive tasks

Slipstream Engine renders flavors on desktop, tablet, or mobile phone
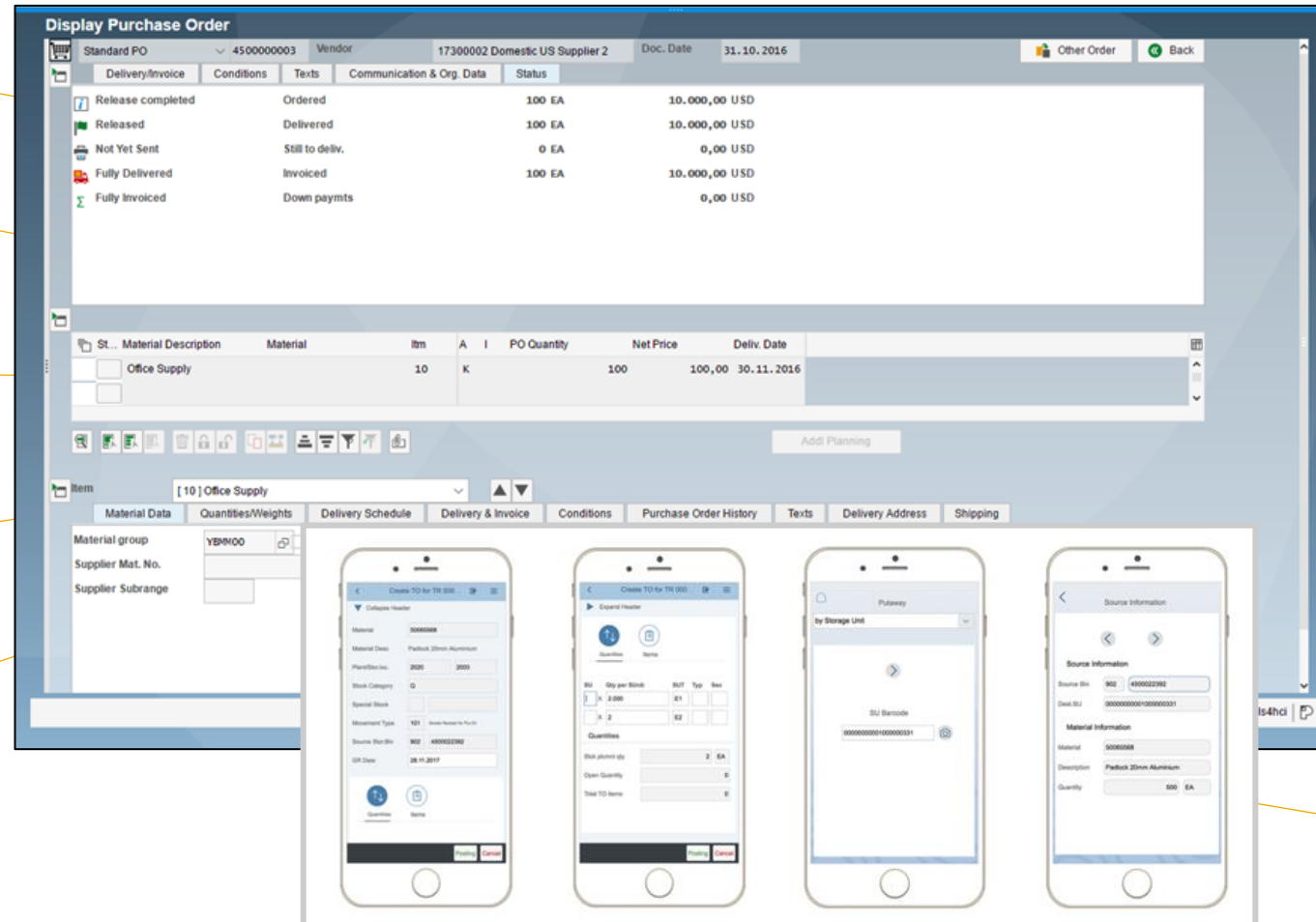
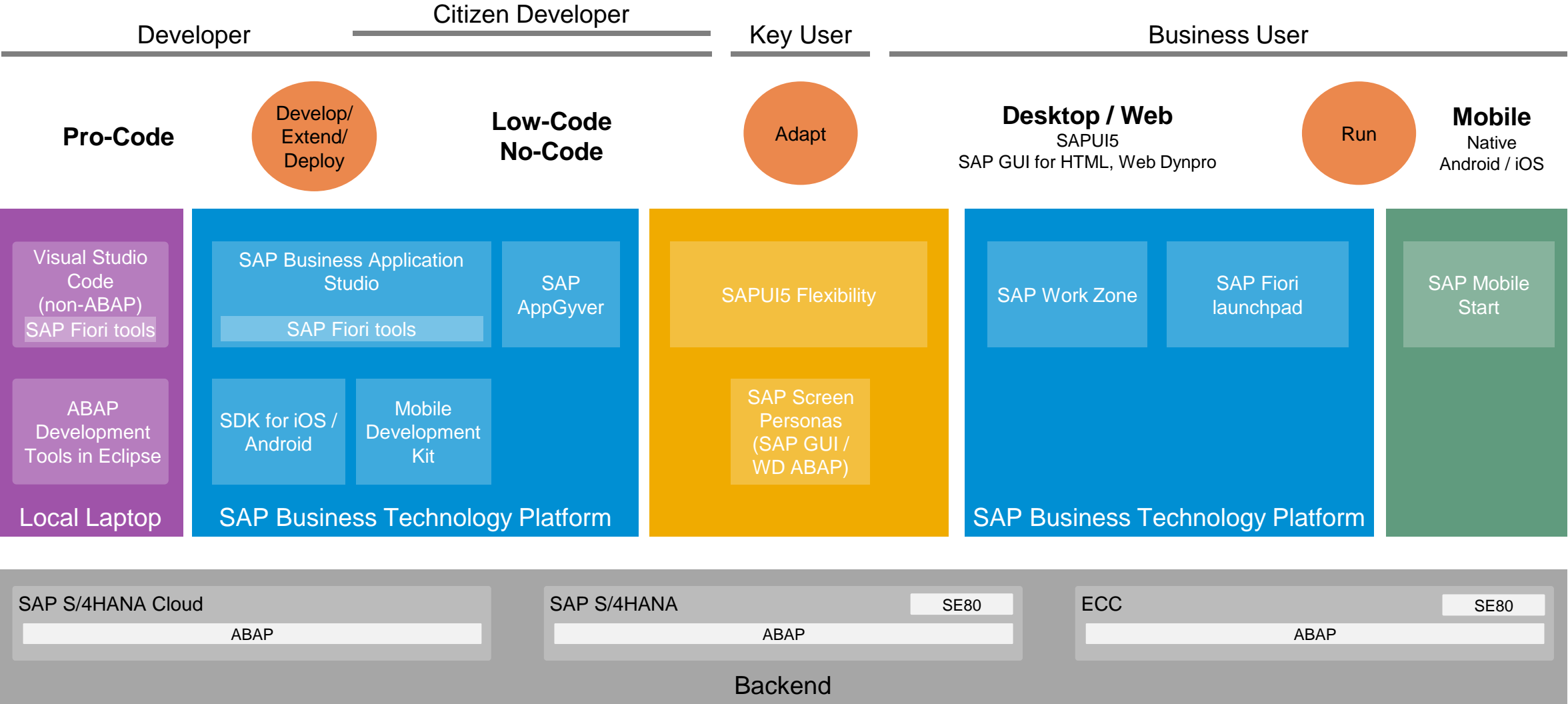# Extending / Adapting SAP standard apps

SAPUI5 Flexibility

➢ [SAPUI5 Flexibility - All You Need to Know](#)
➢ [Blog post: Extending SAP-delivered SAP Fiori elements apps using adaptation projects](#)
➢ [Blog post: SAP Fiori Elements: Adaptation Project – Adding a Custom Filter to the List Report](#)

SAP Screen Personas
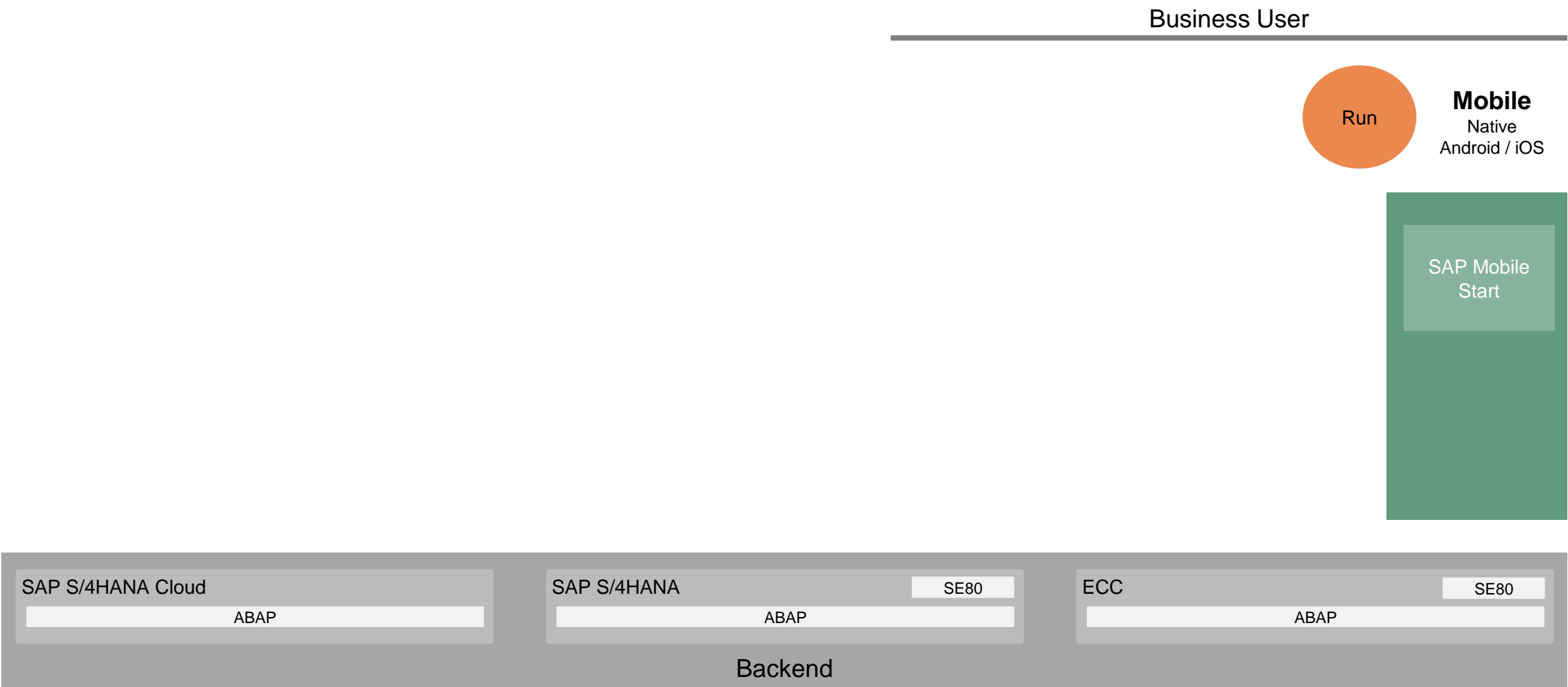
➢ [Tutorials: Get Started with SAP Screen Personas](#)

SAP Fiori User Experience Enabled by Technologies & Tools
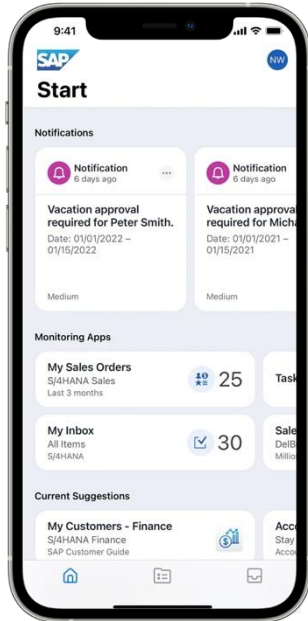
Teaching concept

Developer

Citizen Developer

Key User

Business User

Pro-Code

Develop/ Extend/ Deploy

Low-Code No-Code

Adapt

Desktop / Web
SAPUI5
SAP GUI for HTML, Web Dynpro

Run

Mobile
Native
Android / iOS

Visual Studio Code (non-ABAP) SAP Fiori tools	SAP Business Application Studio SAP Fiori tools	SAP AppGyver	SAPUI5 Flexibility	SAP Work Zone	SAP Fiori launchpad	SAP Mobile Start
ABAP Development Tools in Eclipse	SDK for iOS / Android	Mobile Development Kit		SAP Screen Personas (SAP GUI / WD ABAP)		
Local Laptop	SAP Business Technology Platform			SAP Business Technology Platform	

SAP S/4HANA Cloud | SE80
ABAP

SAP S/4HANA | SE80
ABAP

ECC | SE80
ABAP

Backend

SAP Fiori User Experience Enabled by Technologies & Tools

Business User

Run

Mobile
Native
Android / iOS

SAP Mobile
Start

SAP S/4HANA Cloud		SAP S/4HANA	SE80	ECC	SE80
ABAP		ABAP		ABAP	

Backend

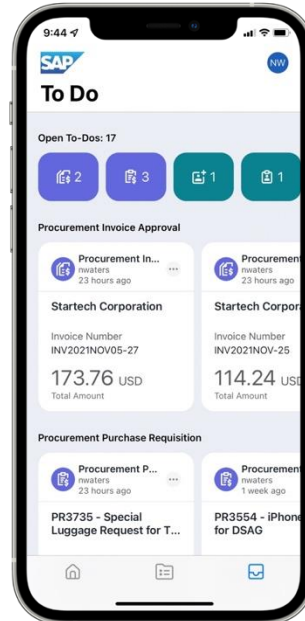# SAP Mobile Start

Your native entry point to the intelligent enterprise

Start screen
Latest notifications,
& app suggestions
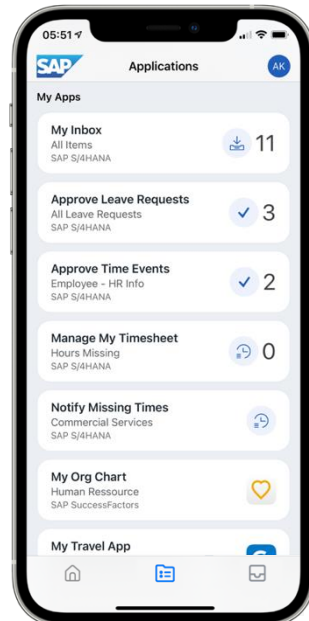
Applications
Native apps,
Web responsive apps,
Web links & News feeds

ToDo screen
Tasks and Notifications

iOS Integration

Spotlight Search

Widgets

Notifications

Single-sign on integration with

SAP S/4HANA   SAP Fieldglass

SAP Ariba   SAP Concur

SAP SuccessFactors

Road Map for 2023:

Support for Situation Handling for SAP S/4HANA

SAP Mobile Start for Android is available

SAP Mobile Start

Video: SAP Mobile Start – Your native entry point to the Intelligent Enterprise

Source: https://en.wikipedia.org/wiki/Marvin_the_Paranoid_Android

SAP Mobile Start

[SAP Asset Manager is the best-in-class mobile application](#)

Mobile Start
- ➤ [News: Hello, SAP Mobile Start](#)
- ➤ [Blog post: SAP Mobile Start – Try the new native entry point to the Intelligent enterprise](#)
- ➤ [Blog post: SAP Mobile Start – the new native entry point to access applications & contents](#)
- ➤ [Blog post: SAP Task Center is now available in SAP Mobile Start](#)
- ➤ [Blog post: SAP Business Application Studio for low-code, deploying multichannel app to mobile](#)

SAP Fiori User Experience Enabled by Technologies & Tools

Teaching concept

Developer | Citizen Developer | Key User | Business User

Pro-Code

Develop/ Extend/ Deploy

Low-Code No-Code

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SAP S/4HANA Cloud		SAP S/4HANA	SE80	ECC	SE80
ABAP		ABAP		ABAP	

Backend

Thank you.

... and don't panic!

Oliver Graeff
Director – Product Management, SAP

E-mail: oliver.graeff@sap.com
Twitter: @OliverGraeff
LinkedIn: olivergraeff

Please take this super short survey:
https://www.menti.com/almz6usnqso4
Voting code **6628 2916**

Recording + Slides soon available here

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