



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

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March 15, 2022

PUBLIC

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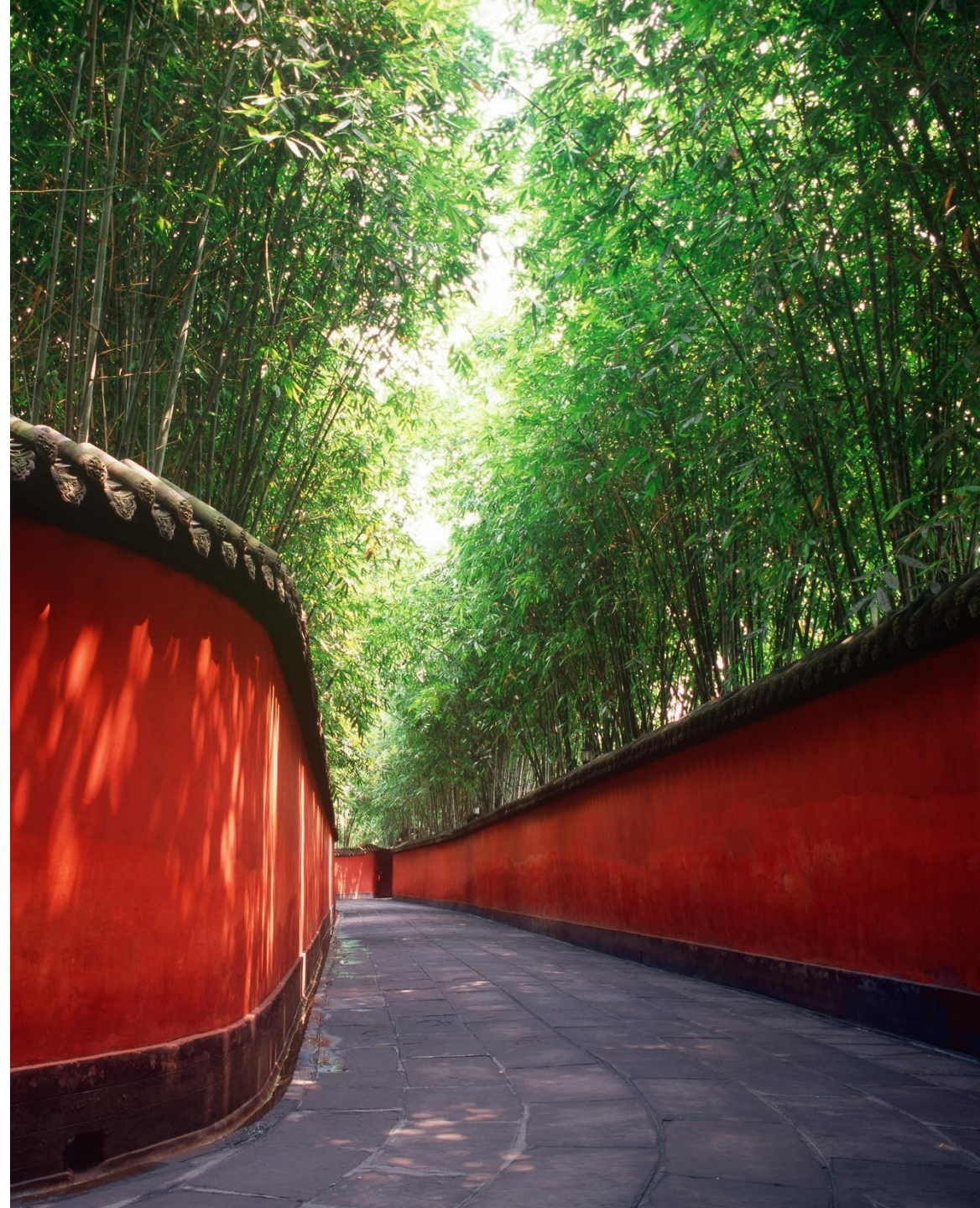
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Flow of this session (2h)

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 feedback



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 ...

Do you have software development experience?

Yes / No

**How many SAP Fiori web apps have you
developed / extended?**

0

1-5

6-10

> 10



SAP Fiori **User Experience**



A woman with long, wavy brown hair is smiling and looking down at a tablet computer she is holding. She is wearing a light blue button-down shirt under a grey blazer. The background is dark and out of focus, showing some blurred lights and what appears to be a computer monitor in the distance. The overall mood is professional and positive.

Why UX matters

“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



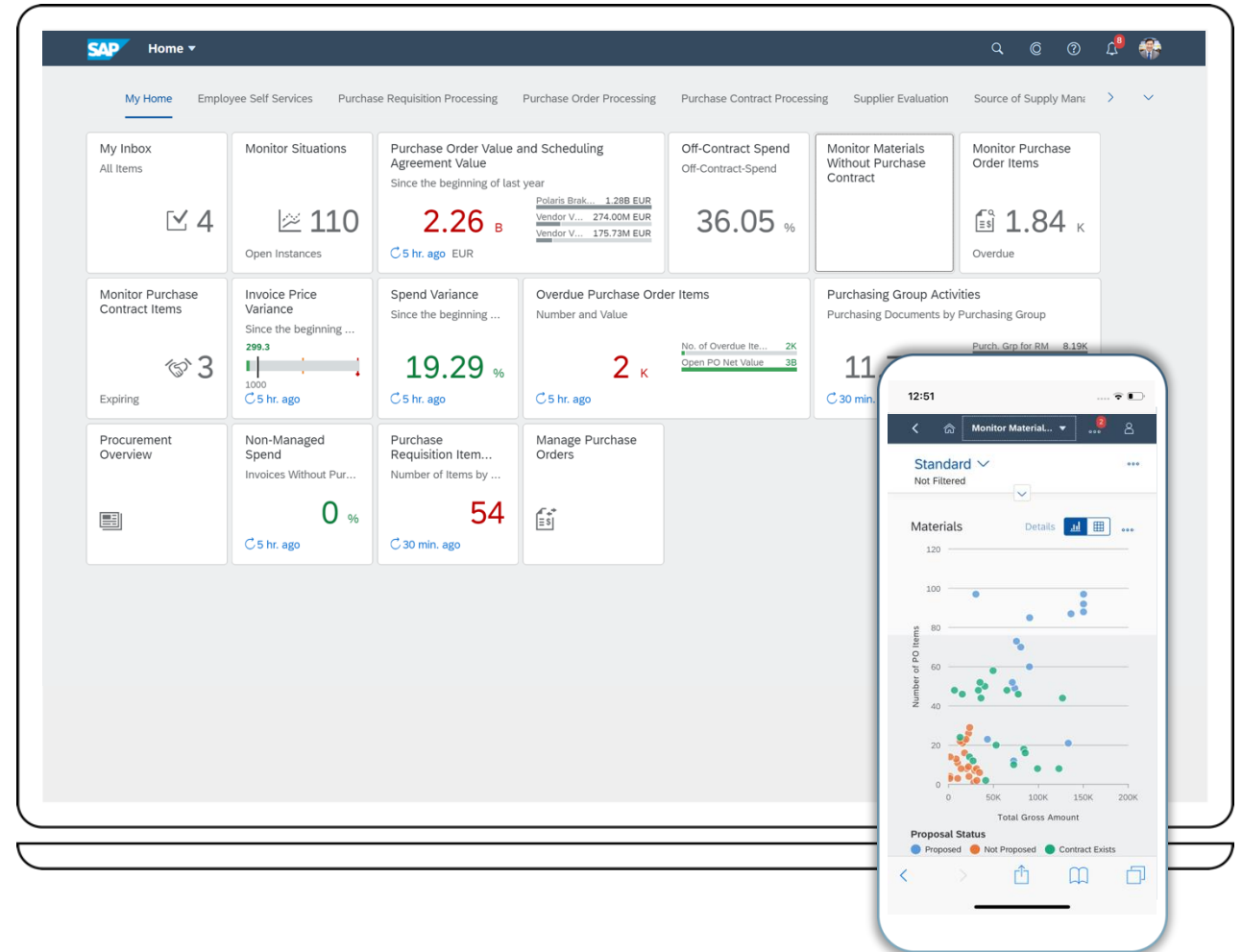
Design System



Technologies & Tools

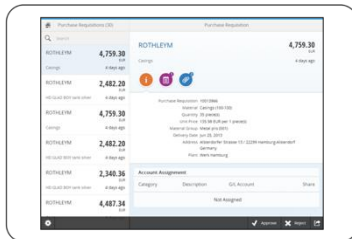
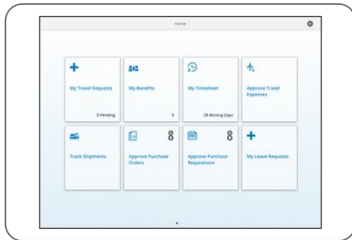


Portfolio of apps



SAP Fiori 3 the latest evolution

Casual users
Self-service apps



2013

SAP Fiori

Power user
The new face of S/4HANA

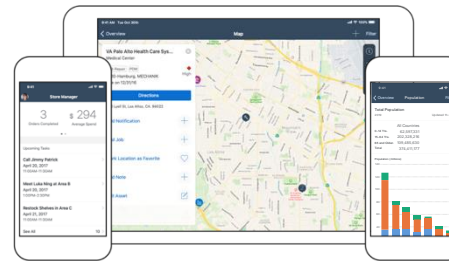


Design principles

2016

SAP Fiori 2.0

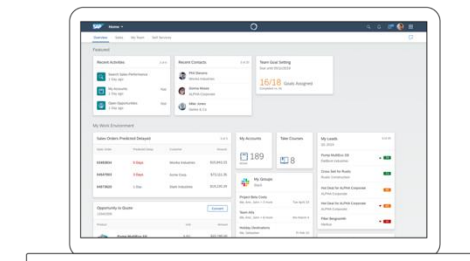
Native mobile
for iOS & Android



Conversational



Next steps of the Fiori evolution
Fiori Design System



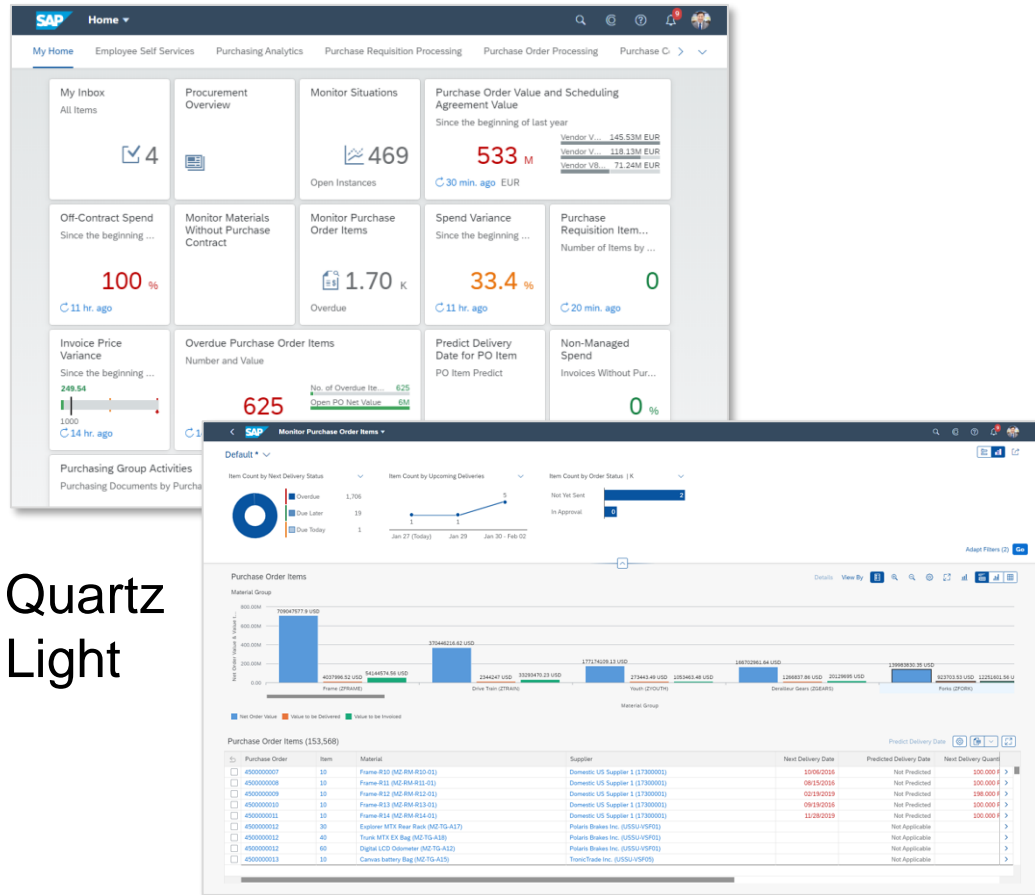
**Consistent
Intelligent
Integrated**



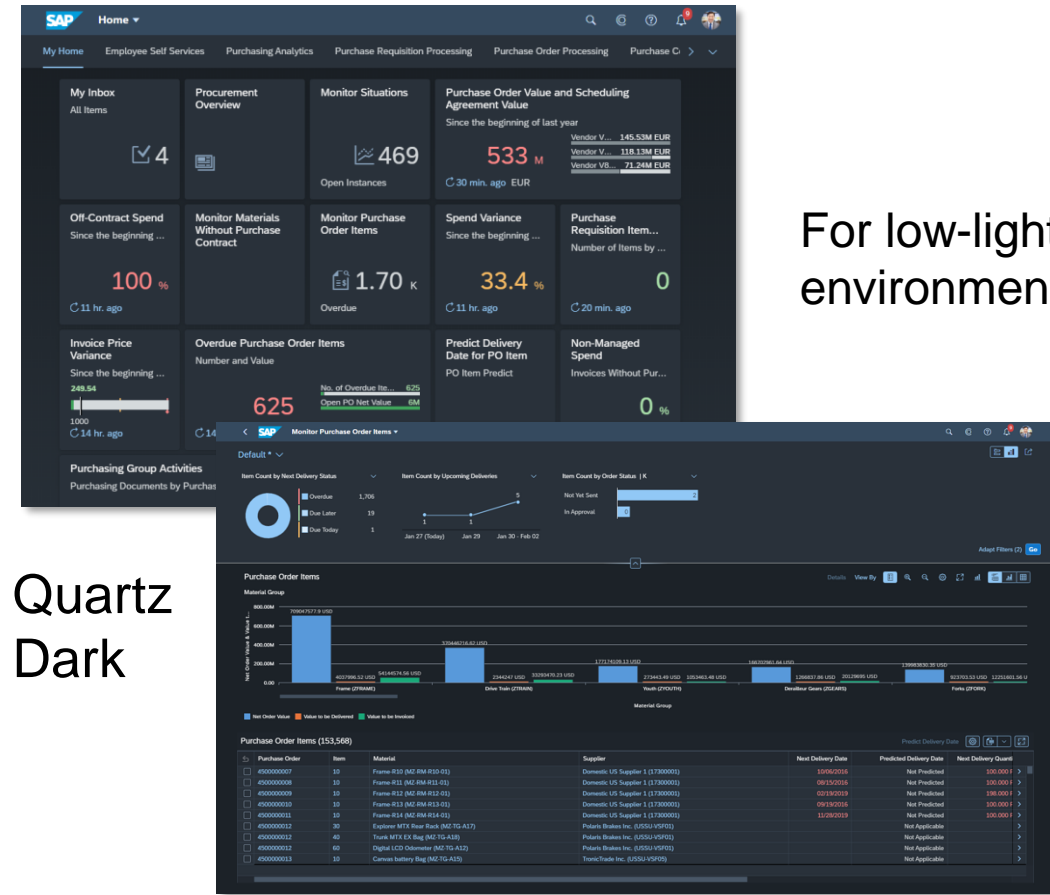
2019+

SAP Fiori 3

SAP Fiori 3 visual design: themes



Quartz
Light



Quartz
Dark

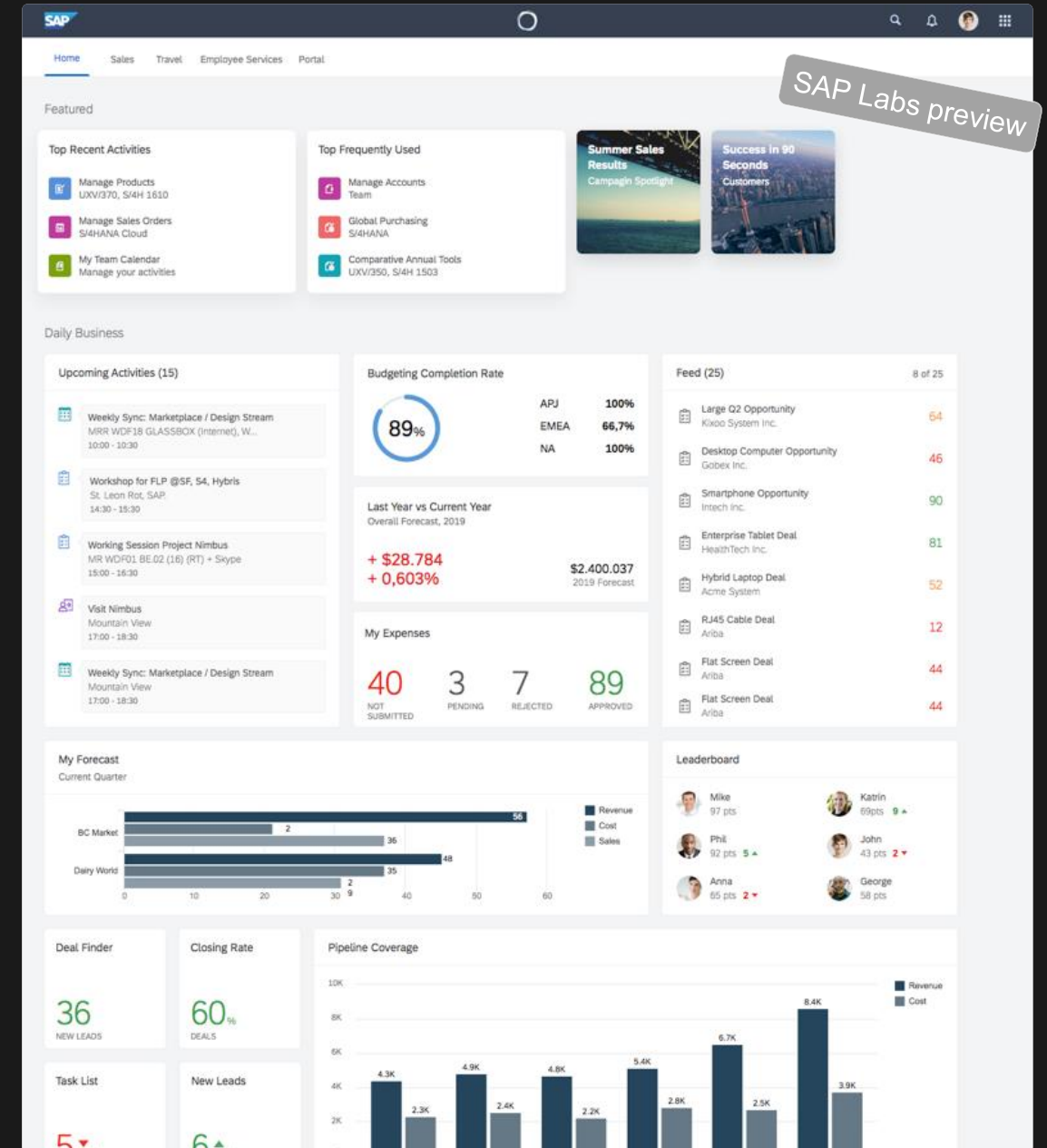
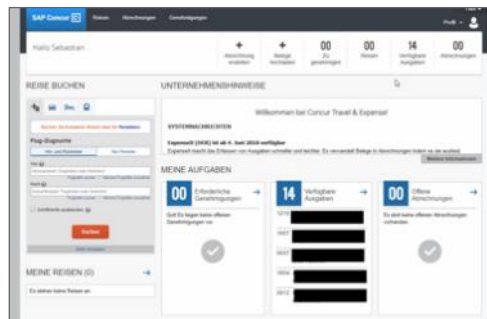
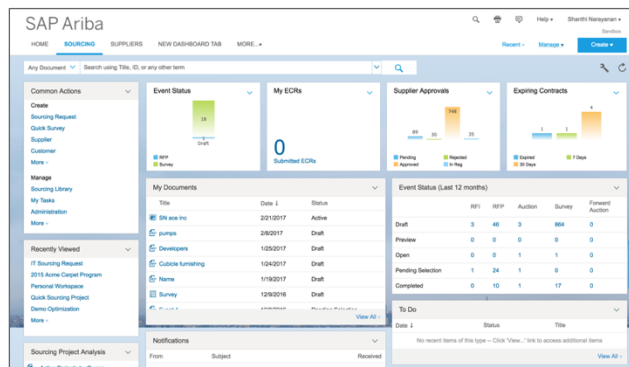
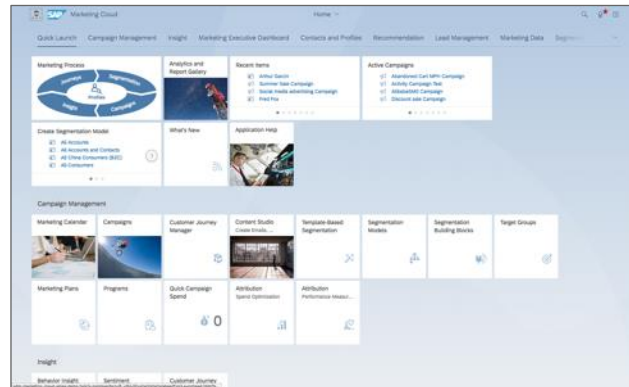
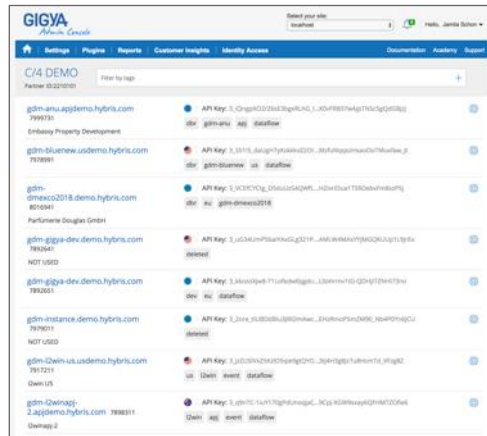
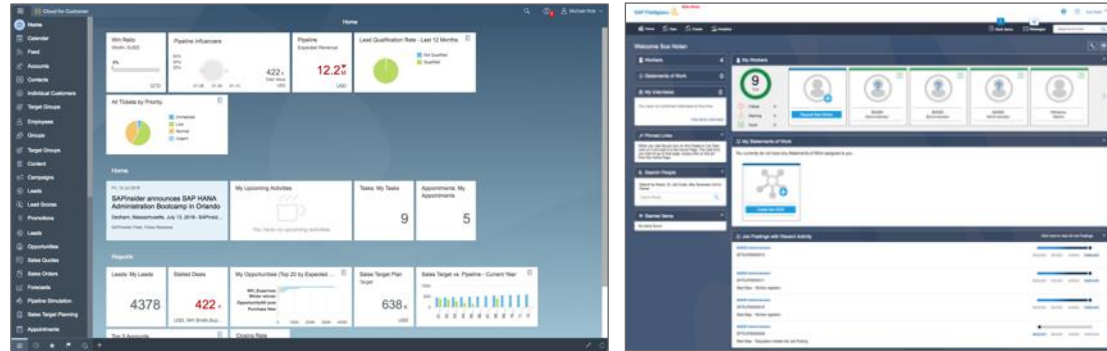
For low-light
environments

Starting with SAP S/4HANA Cloud 2002

Also available for accessibility: high contrast light and dark themes

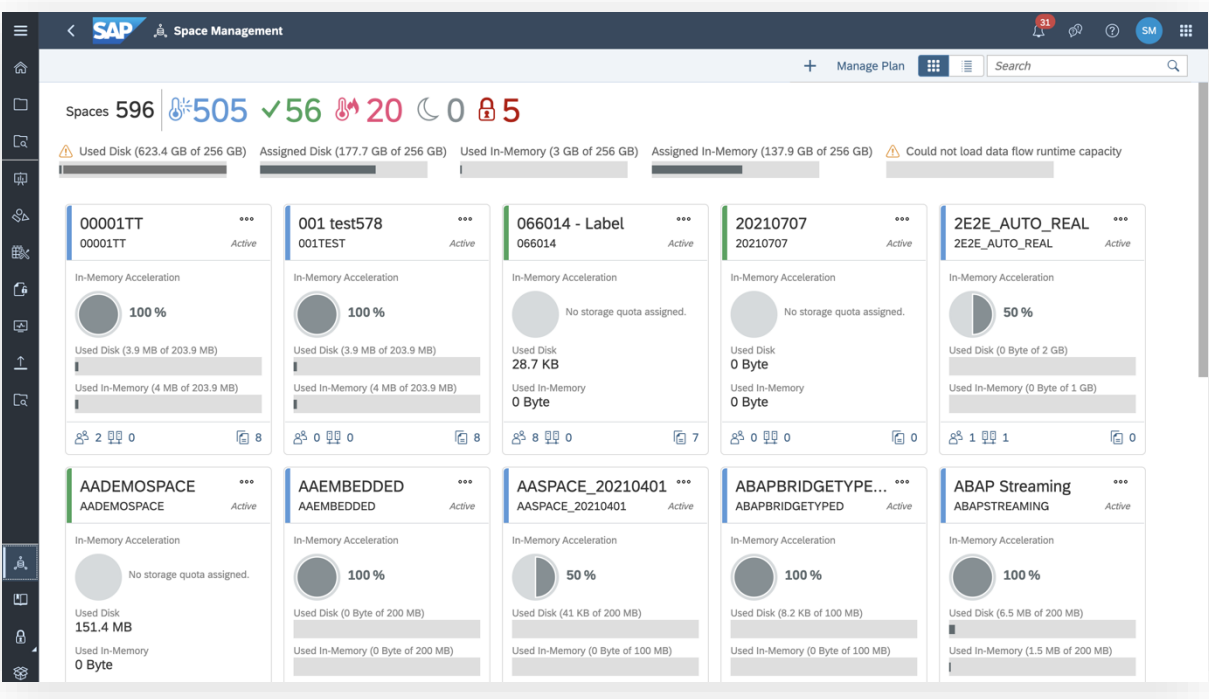
Fiori 3 provides UX Consistency

Current home page designs

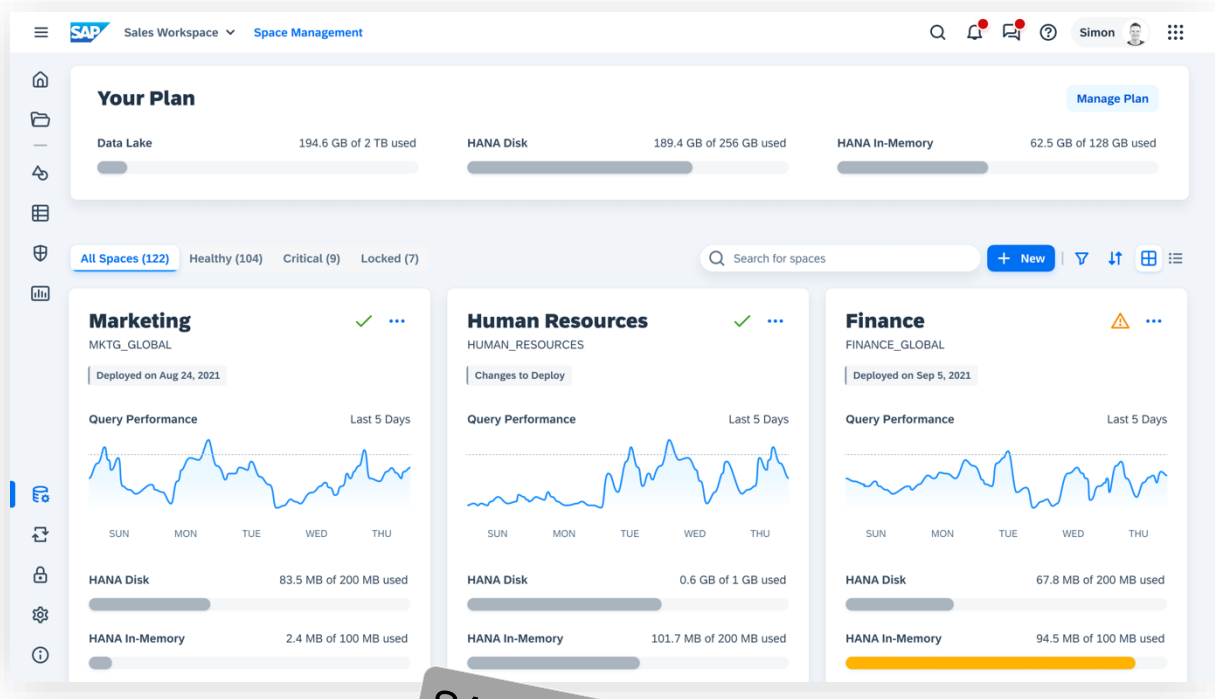


HORIZON THEME | PLANNED INNOVATION

Before



After



SAP Labs preview

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

Horizon preview available today

SAP S/4HANA Cloud customers can opt-in to preview (public cloud)

Give their users the choice to try out the new design, give feedback

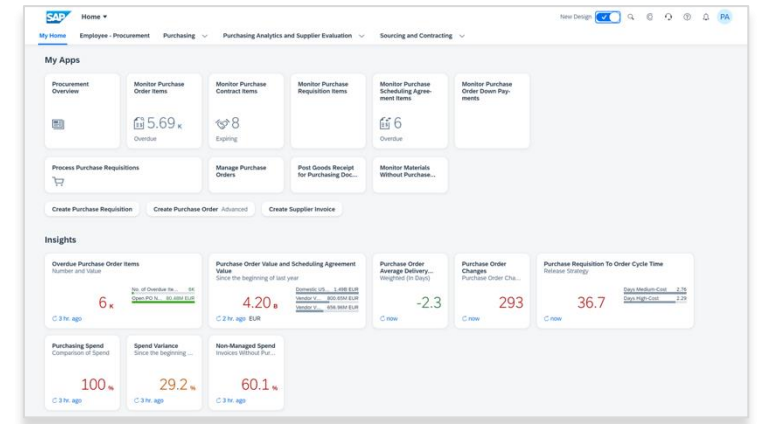
- directly in the system and/or
- via 1:1 desirability study with SAP

[SAP Early Adopter Care registration page for Horizon preview](#)

Developers can preview on SAP Business Technology Platform

- With SAPUI5 1.93.3 and 1.96.0
- With UI5 Web Components 1.0.0

[SAP's UI Technologies supporting the new Horizon visual theme of SAP Fiori](#)



Phased roll-out of the new Horizon visual theme via EAC

Q4 2021

Learn more

General information on SAP User Experience

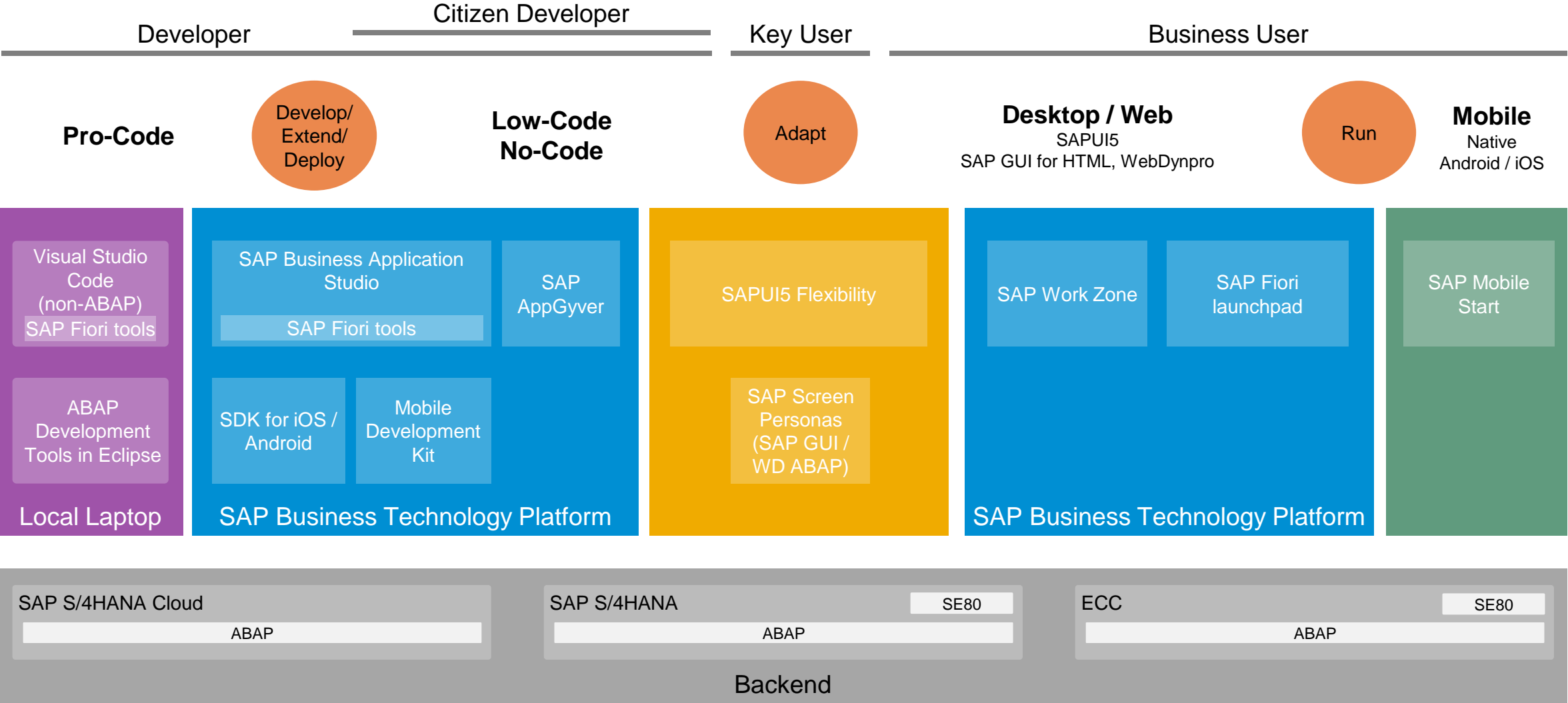
- [SAP Fiori Design Guidelines](#)
- [SAP Fiori product page](#)
- [SAP Fiori topic page in the SAP community](#)

Additional information

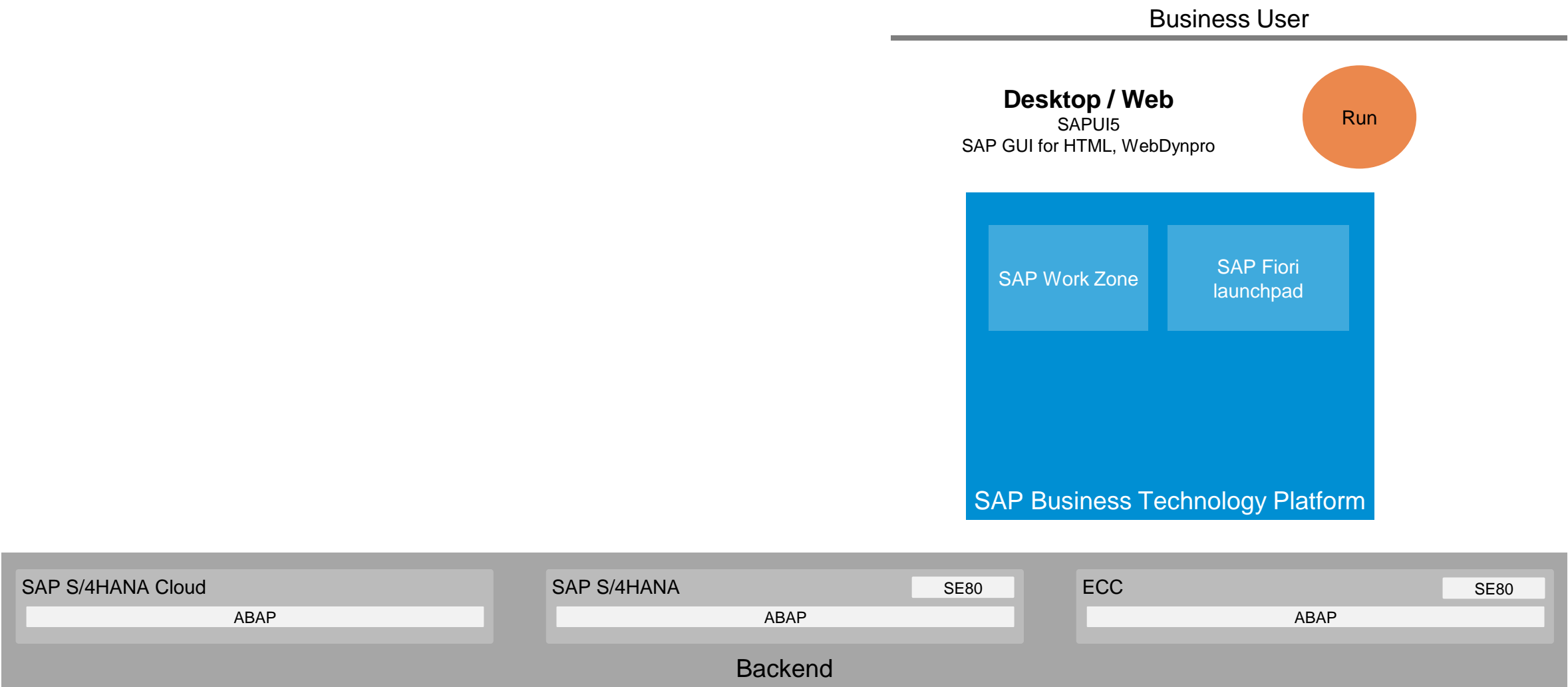
- [openSAP course “SAP Fiori overview”](#)
- [SAP Fiori Road Map](#), as [storyboard](#)
- [The Experience Mindset: Redesigning How We Build Products at SAP](#)
- [Horizon demo video](#)
- [SAP Fiori apps reference library](#)
- [SAP Fiori lighthouse scenarios with SAP S/4HANA](#)



SAP Fiori User Experience Enabled by Technologies & Tools



SAP Fiori User Experience Enabled by Technologies & Tools



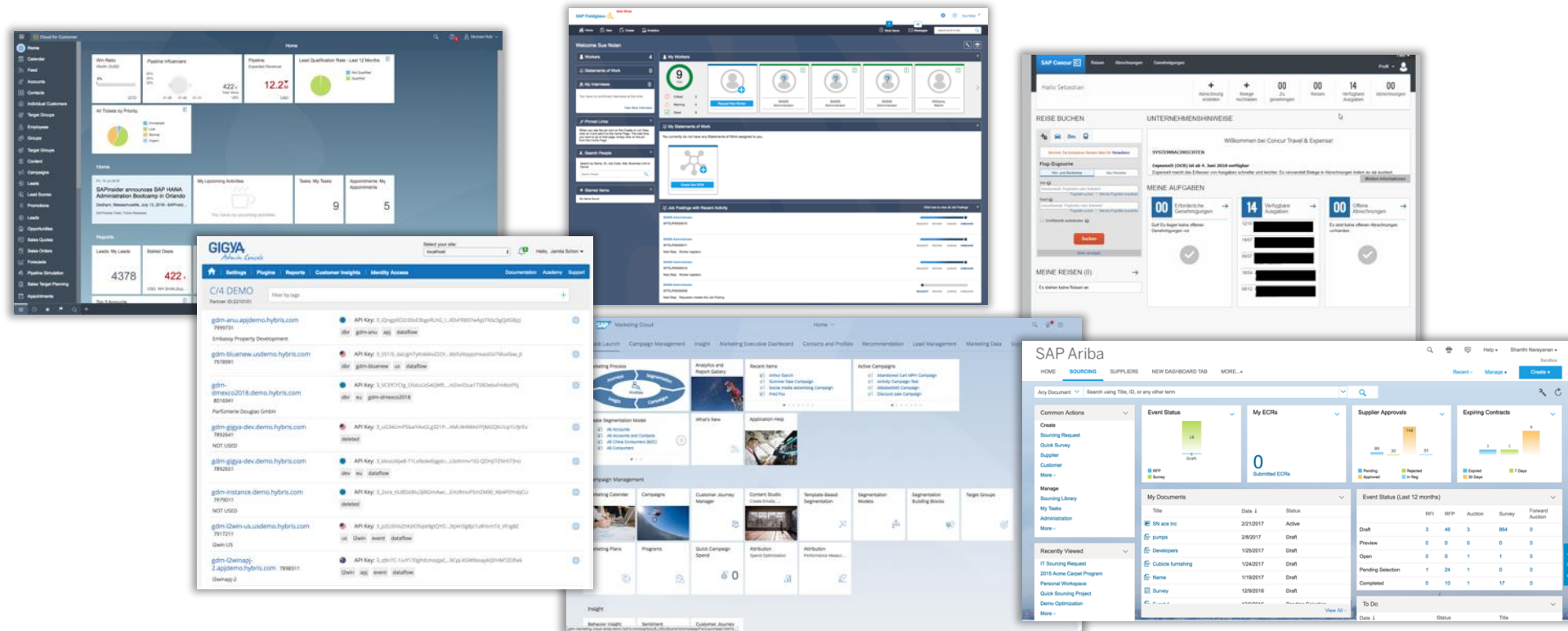
Digital Experience for SAP Fiori: **SAP Work Zone & SAP Fiori Launchpad**





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

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 yesterday's 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

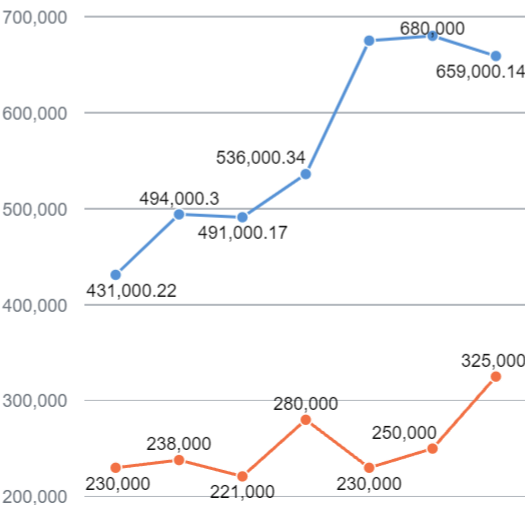
Revenue | EUR

65.34 K

Target 100K Deviation 34.7%

Q1, 2018

Line chart



Notebooks Distribution 2020

by years

2020

Computer system accessories



Notebook 13 Notebook 17

3 of 11

Project Cloud Transformation

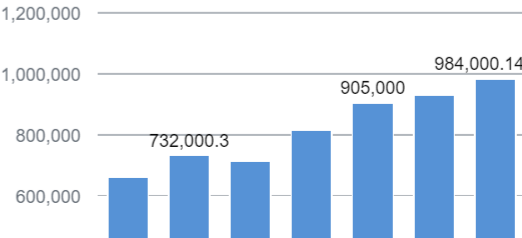
Forecasted goal achievement depending on
business logic and other important information

56 %

Target 3252.234K Deviation 22.43%

Details, additional information

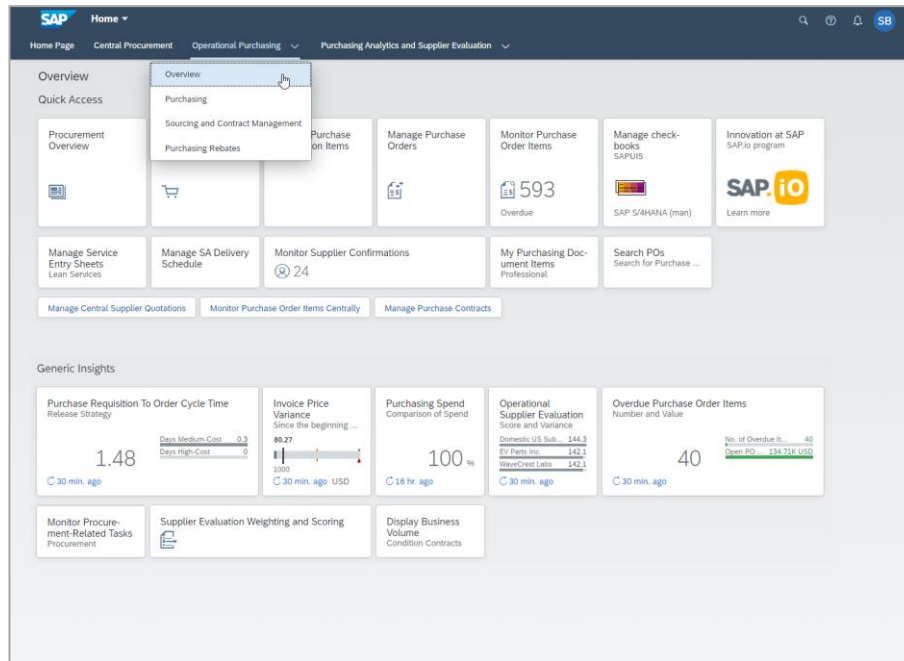
Stacked column chart



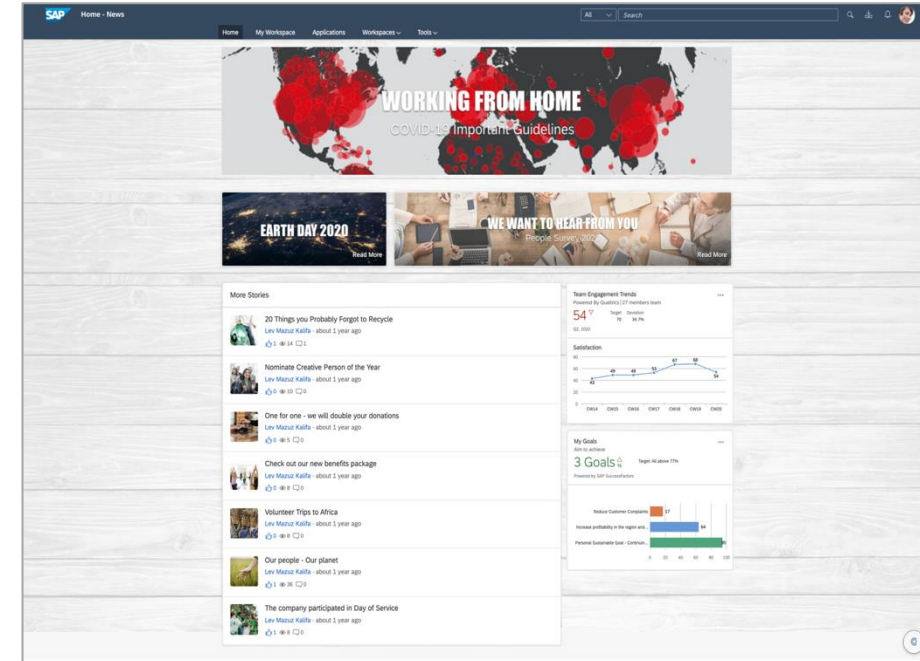
Services portfolio



SAP Launchpad service



SAP Work Zone



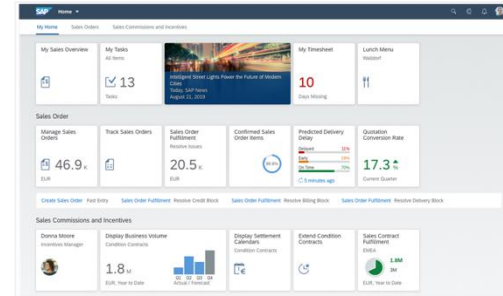
Blog post: [Learn about the Key Components of SAP Work Zone and the Experience for the End User](#)

SAP Fiori user experience

Options for SAP Fiori launchpad

User experience

SAP Fiori launchpad



[SAP Fiori design guidelines: SAP Fiori launchpad](#)

Available with

SAP Fiori front-end server

SAP Launchpad service



**SAP NetWeaver
(ABAP)**



**SAP Business
Technology Platform
(multi-cloud)**

Platform

[SAP Fiori deployment options and recommendations](#)

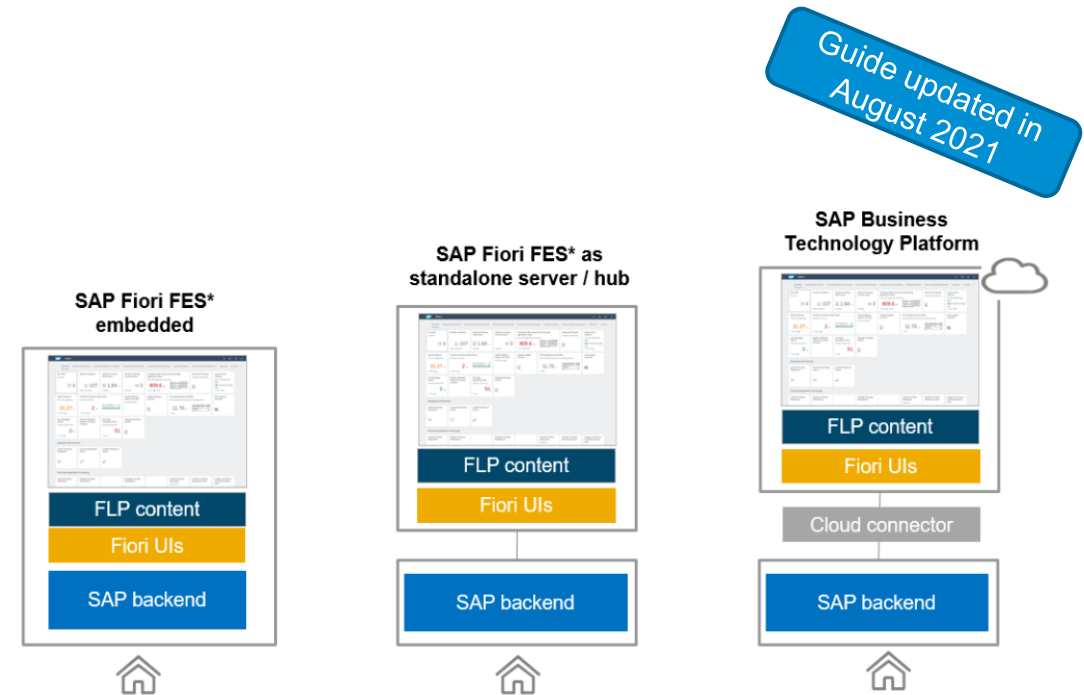
Excursus: SAP Fiori deployment options and recommendations

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



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

SAP Work Zone at a Glance



SELF SERVICE INTRANET

Easy-to-manage, self-service for the entire organization



EMPLOYEE-FOCUSED

Personalized and easy to use with role-based data



LAUNCHPAD

A centralized location for your SAP business applications, data and processes



COMMUNICATE AND ENGAGE

Self-sufficient, freeform layout and drag-and-drop design to engage employees



TEAM COLLABORATION

Self-service personal, project, topical, departmental and community workspaces



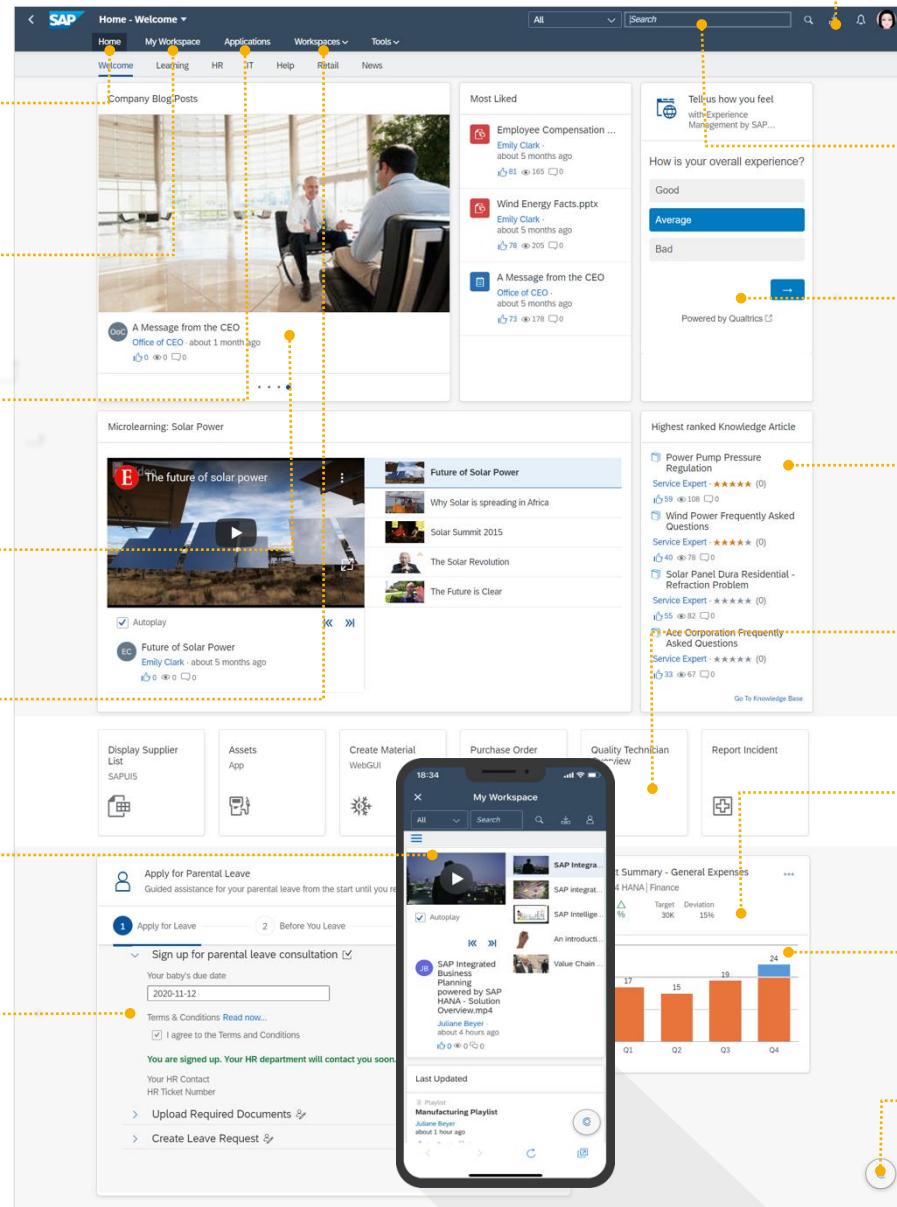
MOBILE READY

Anytime, anywhere access with responsive web and a dedicated mobile app



CREATE GUIDED WORKFLOW EXPERIENCES

Use a template project to build guiding user experiences on top of workflows



MY INBOX

Process workflow tasks that matter to you within the integrated My Inbox application



SEARCH

Discover and find information with powerful content and document indexing



INTEGRATE EXPERIENCE MANAGEMENT

Engage, monitor and measure with Qualtrics embedded within the experience



KNOWLEDGE BASE

Create, retain and share knowledge across the entire organization



SAP BUSINESS APPS

Quick access to SAP S/4HANA and other frequently used business apps



UI5 INTEGRATION CARDS

Embed and display SAP and third-party business data from across your organization



EXTEND AND DEVELOP

Extend with full IDE based on SAP Business Application Studio



INTEGRATE CONVERSATIONAL AI

Develop and integrate chatbots



The Strategic UI Technology of SAP Fiori: **SAPUI5**



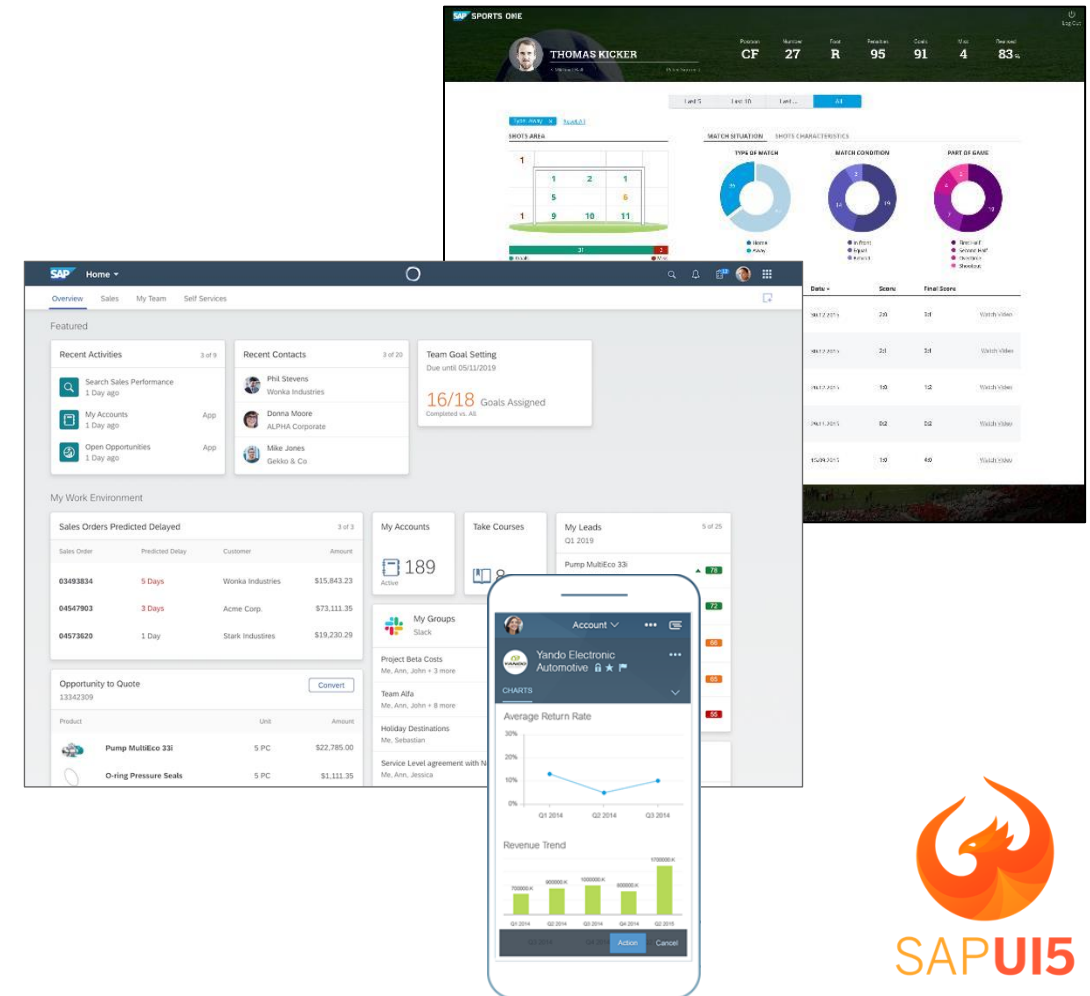
Building Modern Web Applications with SAPUI5

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

As the reference UI technology for the SAP Fiori user experience, SAPUI5 provides:

- A consistent SAP Fiori user experience across SAP solutions (and beyond)
- Efficient development for Web applications
- Easy integration into SAP's single point of entry
- Enterprise qualities like accessibility
- Generic adaptation capabilities for UI flexibility

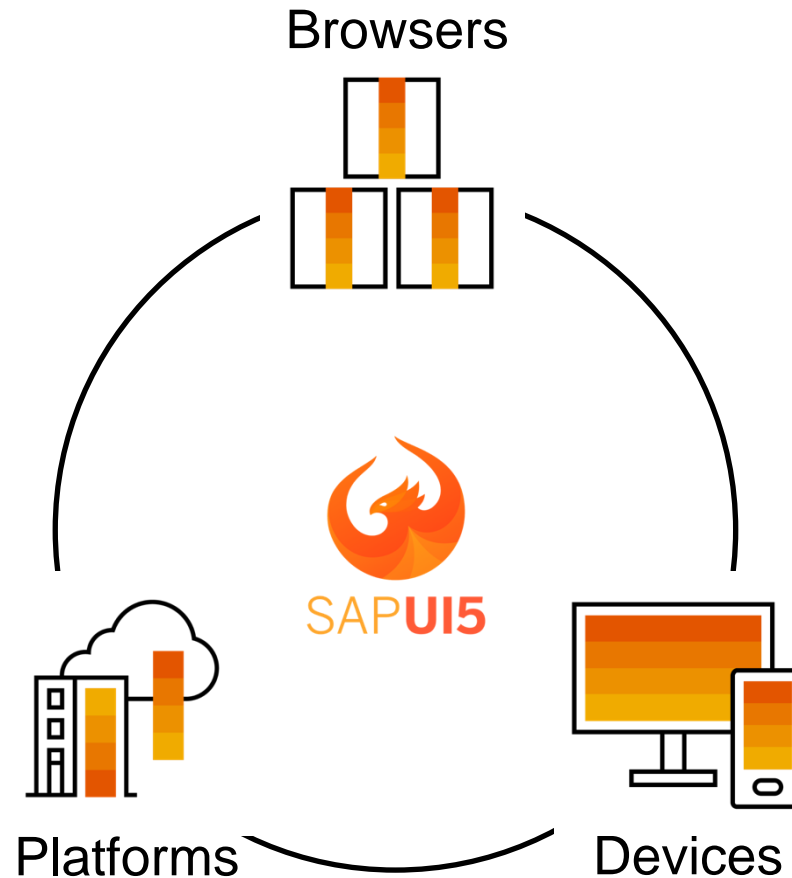
[Video: What is SAPUI5?](#)



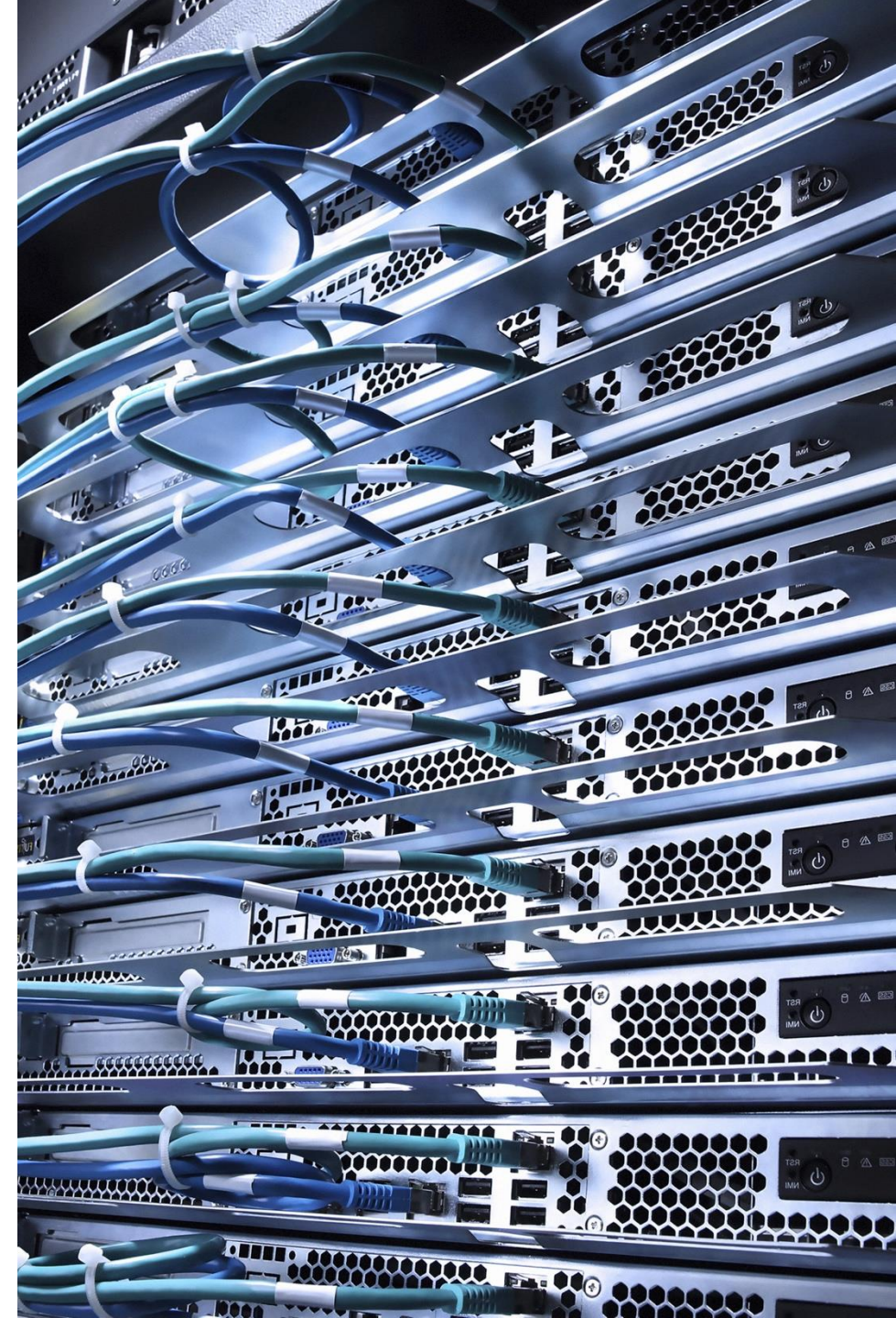
SAPUI5 applications

A single app
implementation
for all

- Browsers
- Platforms
- Devices

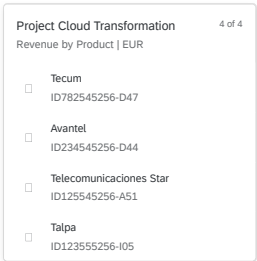


[SAPUI5 Browser and Platform Support](#)



UI5 Web Components provide reusable controls without full SAPUI5 framework

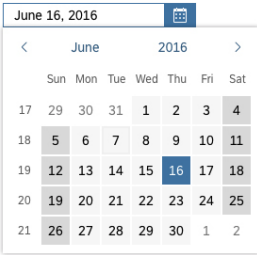
UI5 Web Components



Project Cloud Transformation
Revenue by Product | EUR

- Tecum
ID782545256-D47
- Avantel
ID234545256-D44
- Telecomunicaciones Star
ID125545256-A51
- Talpa
ID123555256-I05

ui5-card

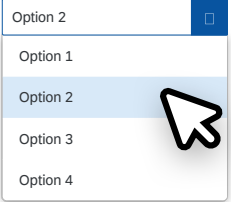


June 16, 2016

< June 2016 >

Sun	Mon	Tue	Wed	Thu	Fri	Sat
17	29	30	31	1	2	3
18	5	6	7	8	9	10
19	12	13	14	15	16	17
20	19	20	21	22	23	24
21	26	27	28	29	30	1

ui5-datepicker



Option 2

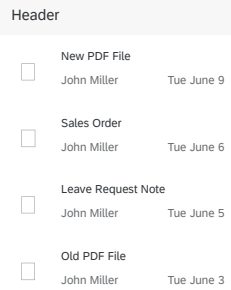
Option 1

Option 2

Option 3

Option 4

ui5-combobox



Header

- ☐ New PDF File
John Miller Tue June 9
- ☐ Sales Order
John Miller Tue June 6
- ☐ Leave Request Note
John Miller Tue June 5
- ☐ Old PDF File
John Miller Tue June 3

ui5-list



Programming Models



React



Angular



VueJS

UI5 Web Components are not a successor of SAPUI5, they are complementary.
Going forward: [UI5 Web Components enablement for OpenUI5/SAPUI5](#)

UI5 Web Components [home page](#)

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

The screenshot displays the SAPUI5 Card Explorer web application. The main heading is "UI Integration with Cards", followed by the subtitle "The new way for developers, key users, and end users to create and share business content in an easy, declarative, and consistent way." Below this is a blue button labeled "Open Card Explorer".

On the right side, there is a large circular graphic containing several sample cards:

- Travel Budget**: A bar chart showing budget usage for Michael Adams, Donna Moore, Richard Wilson, and Julie Adams. The total is 20.2 k, with a target of 50k.
- Projected Monthly Revenue**: A line chart showing revenue trends for July 2018, with a target of 150MM and a deviation of +37.6%.
- Card Adventure Ltd.**: A contact card for Julie Adams, Executive Assistant, including mobile, phone, email, and company details.

At the bottom, there are three key features highlighted:

- Declarative**: Based on JSON schema. Design-time and runtime tooling support. Portable to any device and host environment. Rich feature set.
- Consistent**: SAP Fiori design language and customer theming. Accessible. All enterprise product standards included.
- Easy To Consume**: UI5, Custom Element and Web Component support. Included JSON-based data consumption. Configurable styling. Speech and behavior.

UI5 Community



<https://openui5.org/ui5con>

Twitter: [@UI5con](#)

UI5con ON AIR, July 2021
Recordings on [YouTube playlist](#)

[UI5con ON AIR 2022](#)

ON AIR
UI5con

2022

JOIN US JULY 7-8

PROPOSE YOUR TOPIC

Now open

Ends April 11

Efficiently Developing SAPUI5 apps: SAP Fiori elements

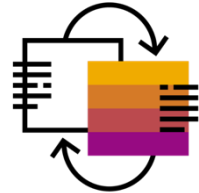


SAP Fiori elements boosts SAPUI5 development efficiency



Developer Productivity

- Focus on **business logic** and back-end services
- Write **less UI code**
- **Reduce** development and maintenance **costs**



UX Consistency

- Comply with the **latest SAP Fiori design** specification
- Deliver a **centrally managed** user experience
- Include **uniform** layout, navigation, search, filtering, and more



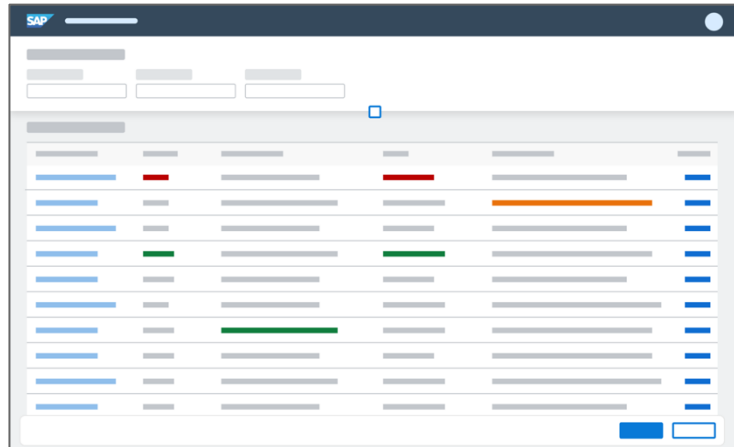
Enterprise Readiness

- Deliver **high quality** SAPUI5 applications to end-users
- Ensure **stable, optimize** UI code out of the box
- Include **standard enterprise features** (accessibility, mobile, translation support, ...)

SAP Fiori elements takes you from floorplans to enterprise-ready applications

Provided by:

SAP Fiori elements framework



Floorplans

- Overview page
- List Report page
- Object page
- Analytical list page
- Worklist page

Provided by:

Application developers

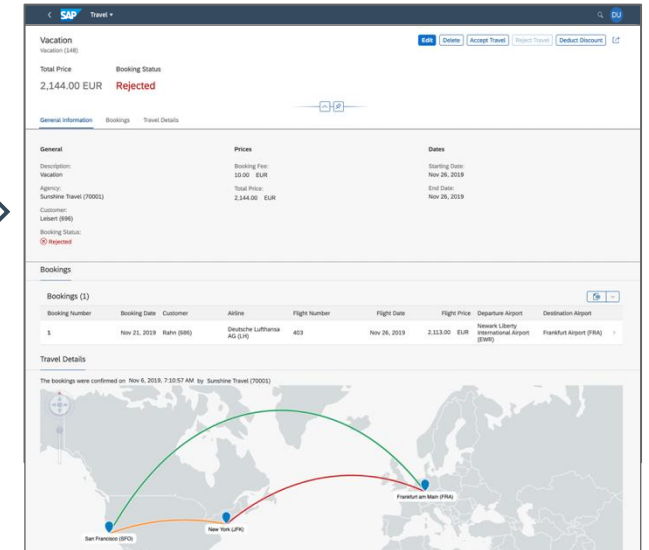
mandatory

Travel	Agency	Customer	Starting Date	End Date	Booking Fee	Total Price	Booking Status
Vacation	Not Only By Bike (70050)	Mathias (360)	Oct 4, 2021	Oct 4, 2021	30.00 EUR	5,909.00 EUR	Rejected
Vacation	Rocky Horror Tours (70048)	Heiler (243)	Oct 8, 2021	Oct 8, 2021	30.00 EUR	4,709.00 EUR	Accepted
Vacation	Not Only By Bike (70050)	Müller (755)	Oct 8, 2021	Oct 8, 2021	10.00 EUR	4,659.00 EUR	Open
Vacation	Miles and More (70049)	Sommer (531)	Oct 8, 2021	Oct 8, 2021	10.00 EUR	3,856.00 EUR	Open
Vacation	Not Only By Bike (70050)	Heiler (234)	Oct 8, 2021	Oct 8, 2021	30.00 EUR	5,568.00 EUR	Accepted
Vacation	Rocky Horror Tours (70048)	Jeremias (31)	Oct 8, 2021	Oct 8, 2021	10.00 EUR	2,257.00 EUR	Rejected
Vacation	Not Only By Bike (70050)	Cesari (353)	Oct 8, 2021	Oct 8, 2021	30.00 EUR	14,753.00 EUR	Accepted
Vacation	Miles and More (70049)	Waldmann (207)	Oct 8, 2021	Oct 8, 2021	10.00 EUR	5,767.00 EUR	Open
Vacation	Not Only By Bike (70050)	Simonsen (248)	Oct 9, 2021	Oct 9, 2021	20.00 EUR	7,968.00 EUR	Open
Vacation	Miles and More (70049)	Simonsen (248)	Oct 9, 2021	Oct 9, 2021	10.00 EUR	3,313.00 EUR	Open

OData service

Annotations

optional



Configuration

Custom code

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

Variant Mgmt

Search

Data Lists

Filtering

Actions

Sorting

Personalization

Export to Excel

Navigation

Editing (incl. draft mgmt.)

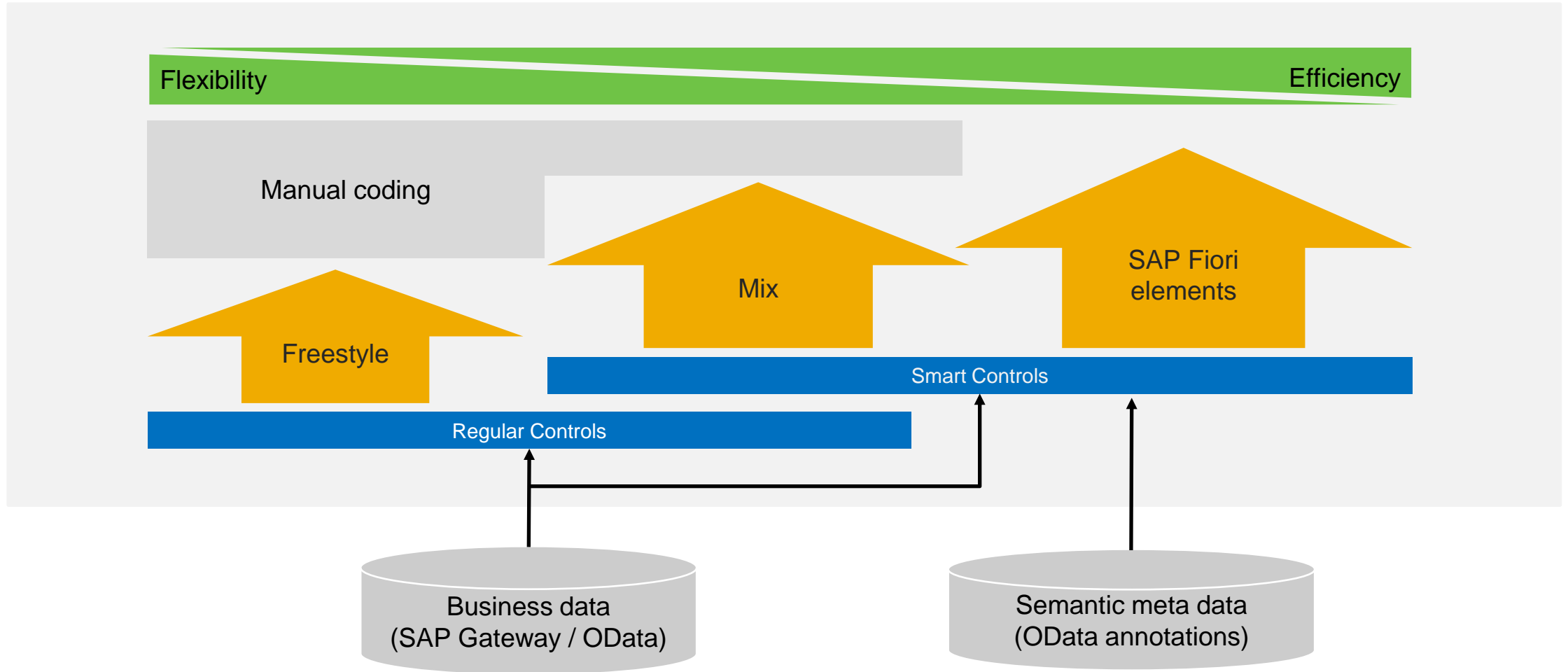
Object Details

The image displays two SAP Fiori elements application screens. The top screen, 'Manage Product Catalog', shows a list of products with columns for Preview Image, Product, Name, Category, Supplier, Star Ratings, and Price. It includes search and filter controls at the top. The bottom screen, 'Visitor Chair - Green', shows detailed information for a specific product, including its category, availability, price, star ratings, and a list of reviews. Arrows point from various UI elements to labels: 'Variant Mgmt' points to the 'Standard' dropdown; 'Search' points to the search bar; 'Data Lists' points to the product list; 'Filtering' points to the filter icons; 'Actions' points to the 'Assign Supplier', 'Create', and 'Delete' buttons; 'Sorting' points to the sort icon; 'Personalization' points to the 'Adjust Filters (1)' button; 'Export to Excel' points to the export icon; 'Navigation' points to the 'Assign Supplier' button; 'Editing (incl. draft mgmt.)' points to the 'Edit' icon; and 'Object Details' points to the detailed view of the 'Visitor Chair'.

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?



Provided by:
Application Developers

- Semantic metadata / annotation
- Behavior
- Consumption hints

“Consumption hints”

Which fields allow a human to identify the entity?

Which fields are clickable?

Robot Arm Series 9
PO-48865

Manufacturer: Robotech
Factory: Florida, OL
Supplier: Robotech (234242343)

Status: Delivery
Delivery Time: 12 days
Assembly Option: To Be Selected
Monthly Leasing Installment: 379.99 USD

General Information | Assembly Options | Contact Information

Order Details

Order ID: 589946637
Contract: 10045876
Transaction Date: May 6, 2018

Expected Delivery Date: June 23, 2018
Factory: Florida, OL
Supplier: Robotech

Configuration Details

Model: Robot Arm Series 9
Color: White (default)
Socket: Default Socket 10
Axis: 6 Axis
Leasing Installment: 379.99 USD per month

Assembly Options

Work Items with Errors (23)

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

SAPUI5 View

“This entity can be edited”

“This is the currency for the amount”

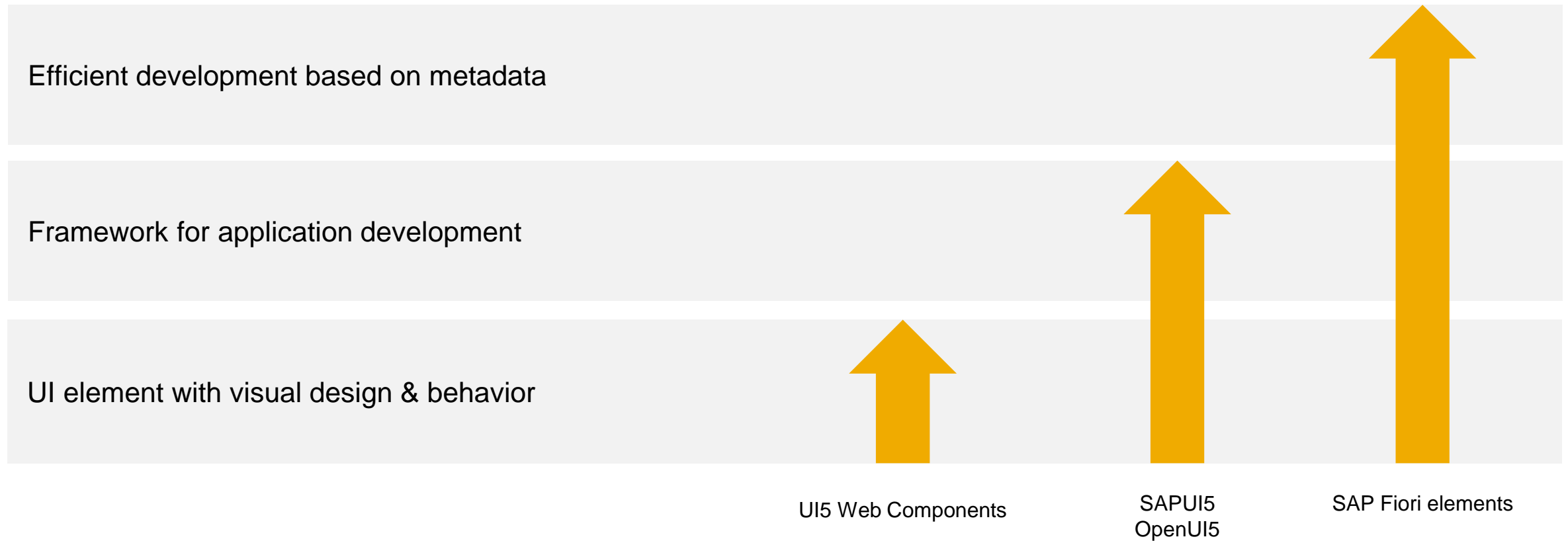
“These fields shall be displayed together in a form”

“Behavior like creatable, updatable”

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



SAPUI5 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

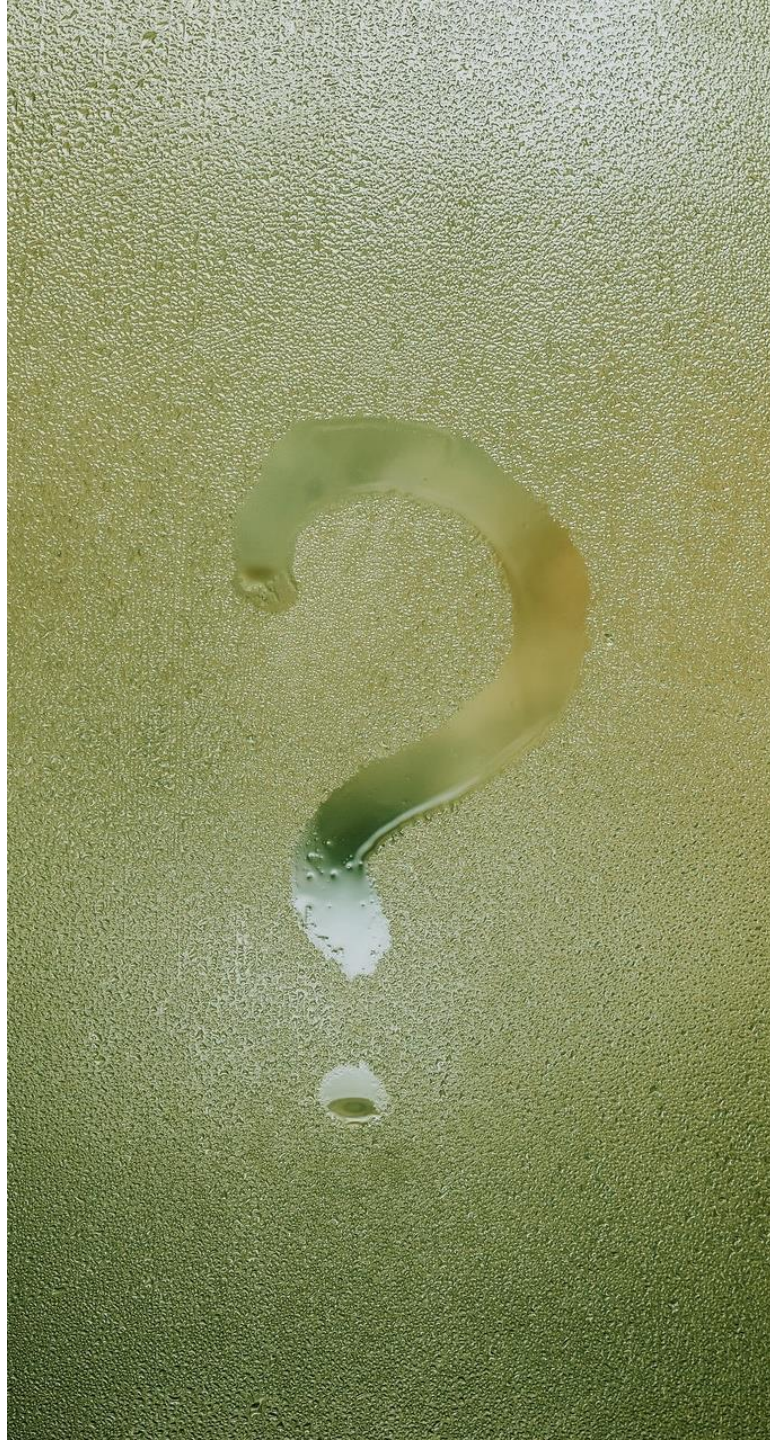
SAPUI5

- <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](#)



**When developing software,
do you look for ...?**

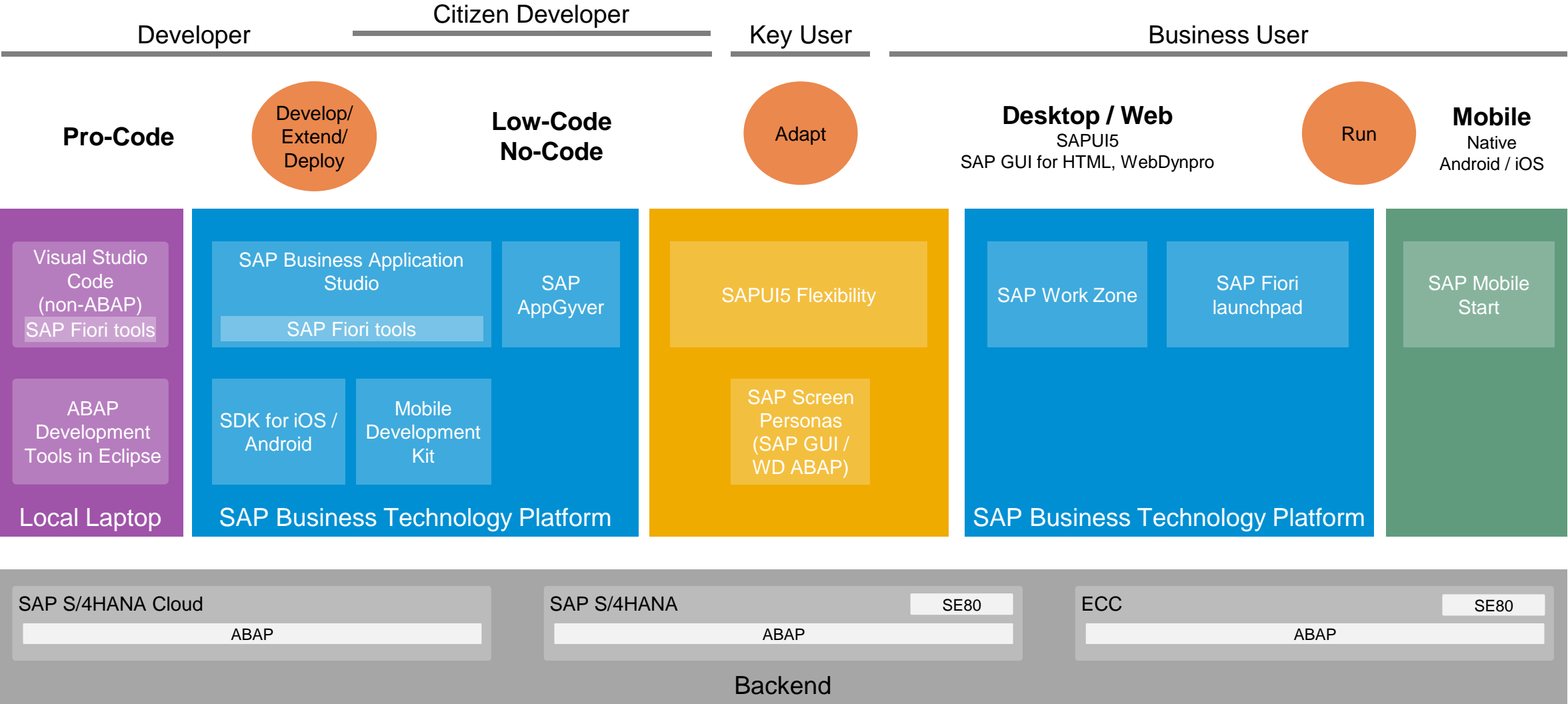
- **“more guidance”
(wizards, templates,
Low-Code/No-Code)**
- **“more flexibility”
(code editors, command
line, opensource tools)**



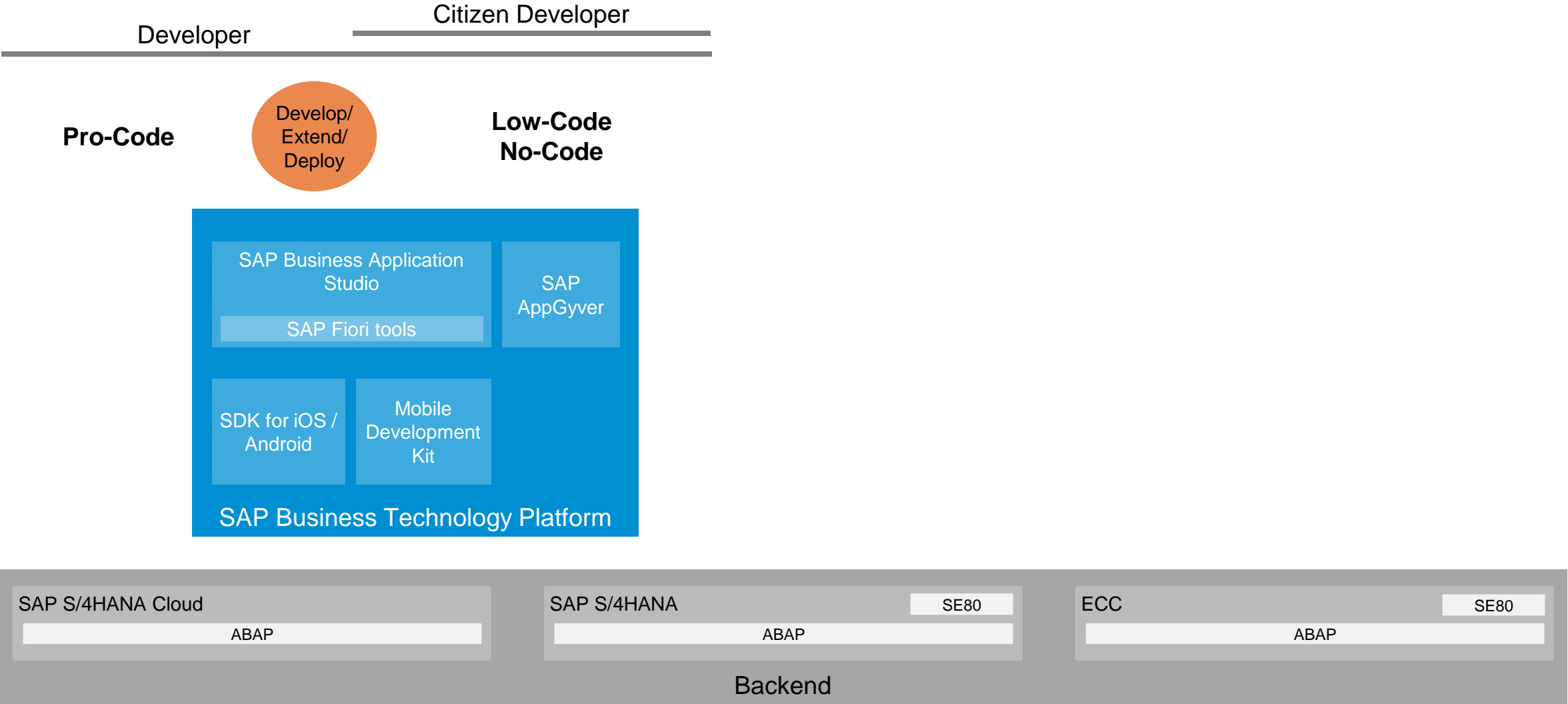
**When developing software,
which environment do you
use?**

- **SE80**
- **Eclipse / ADT**
- **SAP Web IDE**
- **SAP Business
Application Studio (BAS)**
- **VSCode**

SAP Fiori User Experience Enabled by Technologies & Tools




SAP Fiori User Experience Enabled by Technologies & Tools



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



A graphic on the left side of the slide featuring a stylized building facade with a grid of windows. The background is a gradient of orange and red, with several diagonal, semi-transparent bands of different colors (blue, purple, pink) crossing over it. The text 'SAP BUSINESS TECHNOLOGY PLATFORM' is written in large, white, bold, sans-serif capital letters, positioned over the building and the lower part of the graphic.

SAP BUSINESS TECHNOLOGY PLATFORM

Accelerate innovation to
unlock your business
potential

What is SAP BTP?

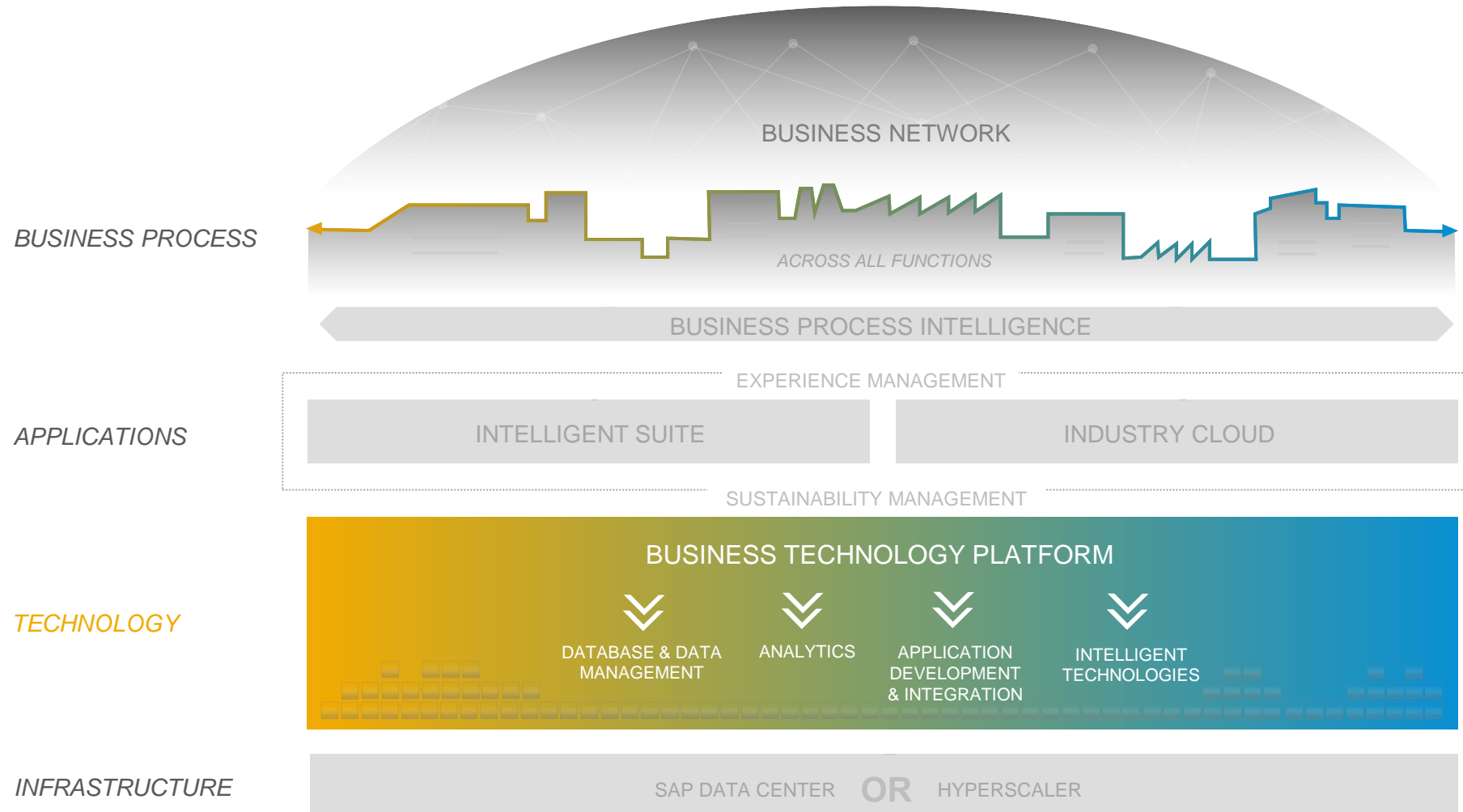
The platform that brings together application development, data and analytics, integration, and AI capabilities into one unified environment optimized for SAP applications

It is a comprehensive solution with:

- An intuitive, modern development environment for both IT and citizen developers
- Prebuilt data models, integrations, workflows, app templates, and AI business services
- Self-service data discovery, modeling, planning and analytics, for business users in a governed environment
- Availability on Microsoft™ Azure™, AWS™, Google Cloud™ and Alibaba Cloud™

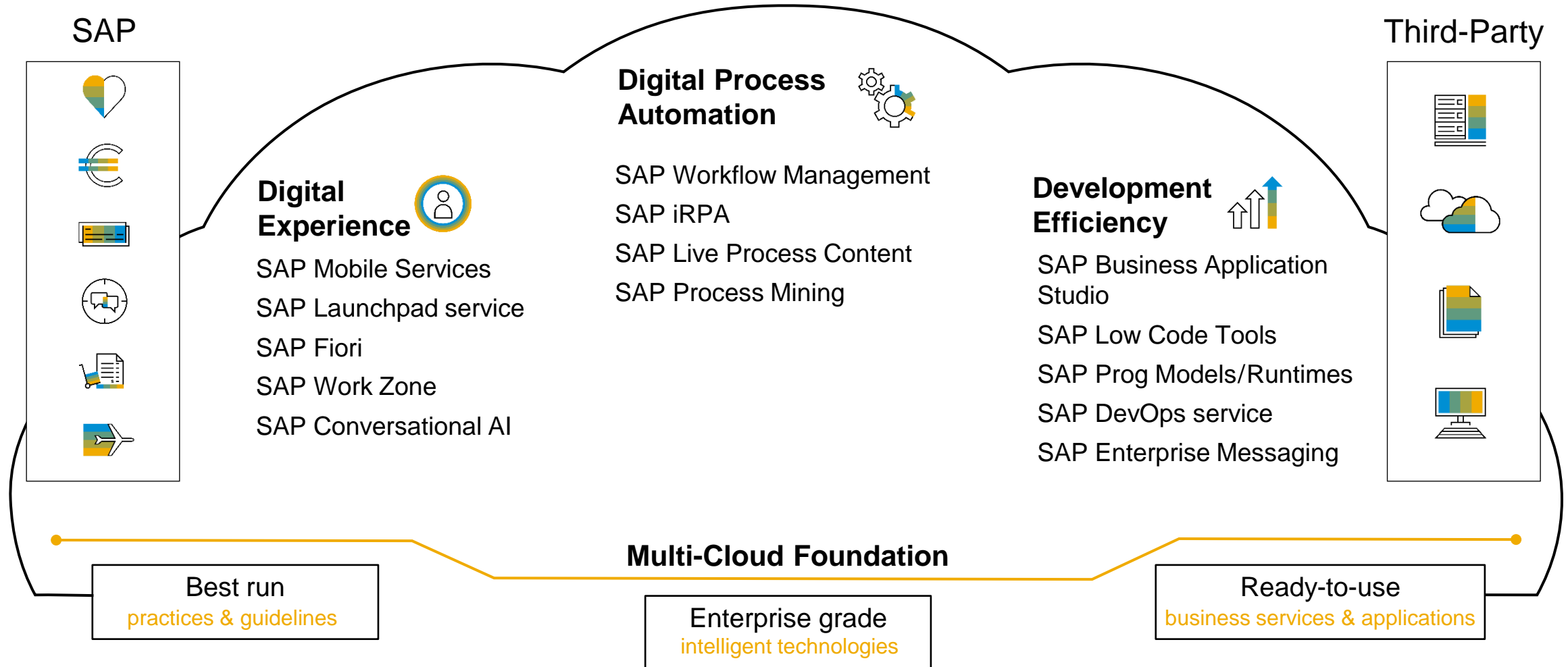
SAP Supports Your Low-Code/No-Code Strategy

Simplify Development of Applications and Extensions with SAP Business Technology Platform



SAP Extension Suite

Simplify development of your application extensions



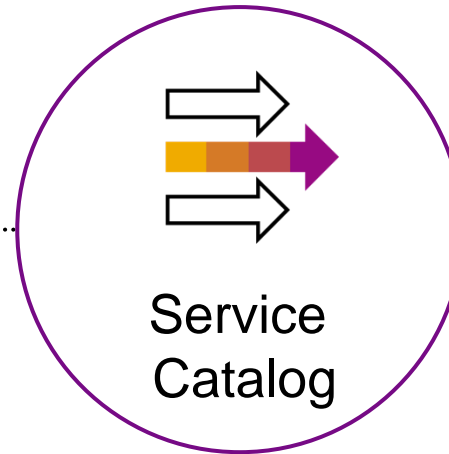
Find out more



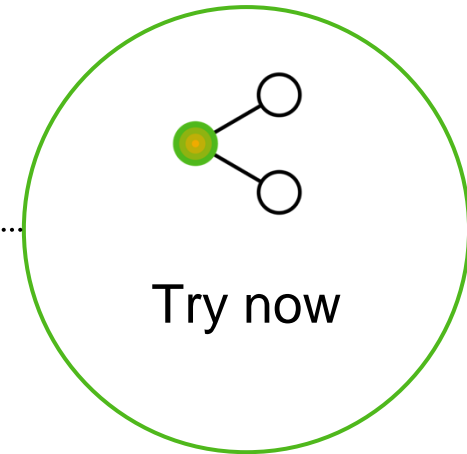
[Road Map Explorer](#)



[Find your mission](#)



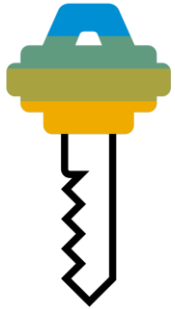
[Discover SAP BTP services](#)



[Try SAP BTP](#)

SAP Business Application Studio

Value Proposition



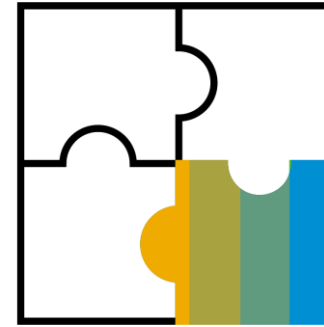
Turn-key Solution

Instantly spin-up pre-packaged environments with tools and runtimes, tailored for developing SAP business applications



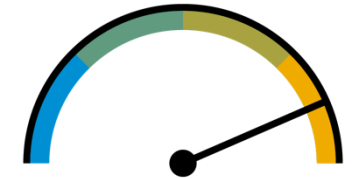
Simplified Development

Enjoy a seamless end-to-end development environment with a desktop like experience in the cloud
- available anywhere, anytime



Integrate SAP Solutions

Build smarter, more intelligent applications integrating SAP services, technologies, and solutions to cater for your business needs

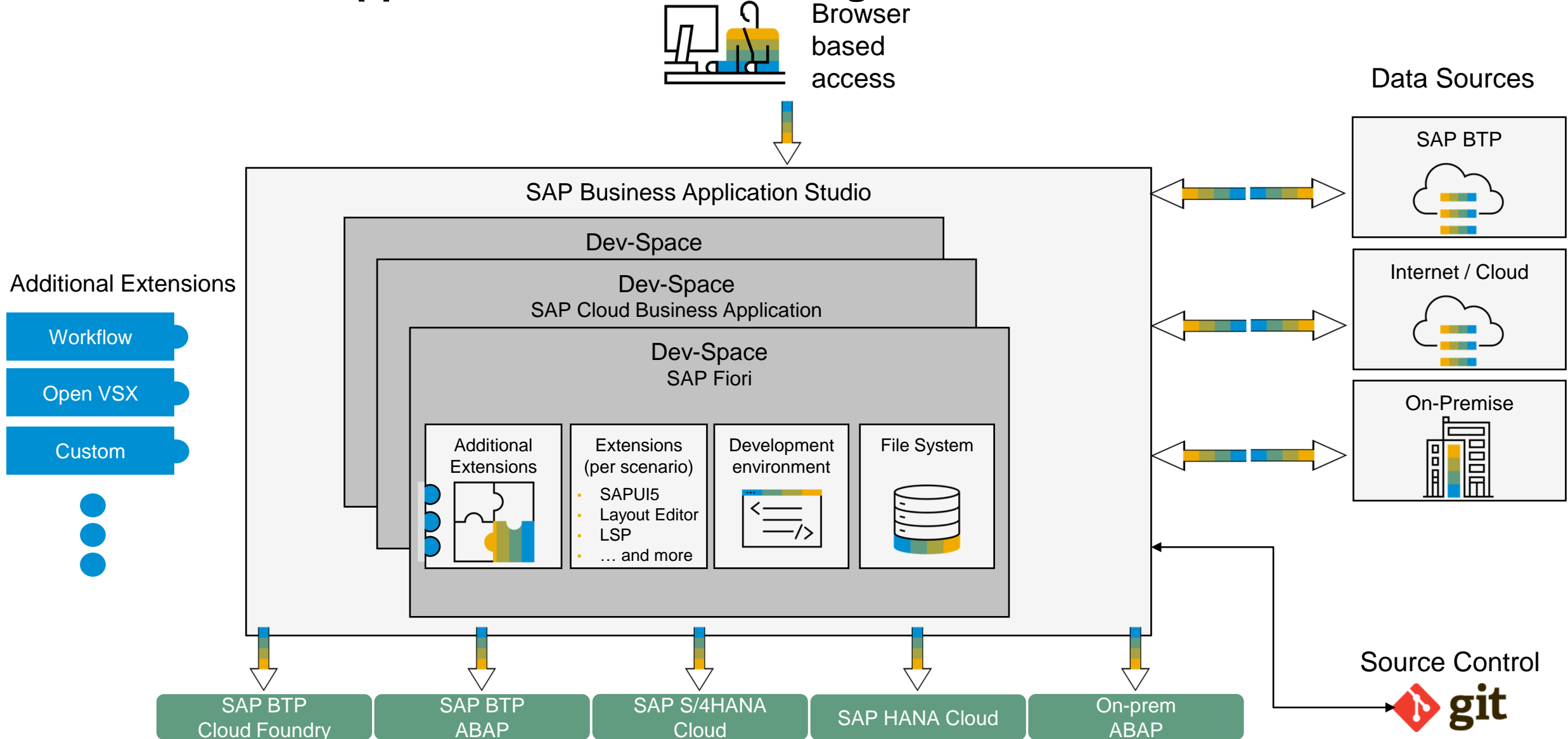


Ultimate Productivity

Accelerate app development using wizards, optimized code & graphical editors, local test run & debug, terminal (CLI) access, quick deployment, and more

SAP Business Application Studio is built on Open Source and leading industry standards

SAP Business Application Studio - The Big Picture



SAP Business Application Studio vs. SAP Web IDE

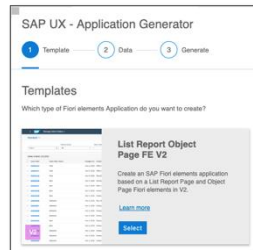
For more information:
see [blog post](#)

	SAP Business Application Studio	SAP Web IDE Full Stack
Available on	SAP BTP, Cloud Foundry environment	SAP BTP, Neo environment
Deployment target	SAP BTP, Cloud Foundry environment, on premise ABAP, SAP HANA Cloud SAP BTP, ABAP environment, SAP S/4HANA Cloud	SAP BTP, Cloud Foundry environment, on-premise ABAP, SAP HANA Cloud SAP BTP Neo environment
Solution	Instantly spin-up pre-packaged isolated environments /Dev-spaces (“virtual machine on the cloud”) with tools and runtimes, tailored per business scenario which provide more control over the environment . Create custom dev space for a team of developers*	Generic workspace that contains many tools. Some tools are not necessarily required for the target business scenario
Experience	Embraces VS Code experience , provides the ability to add custom extensions Desktop like experience in the cloud including local test, run & debug, terminal (CLI) access & superior code editors	SAP proprietary experience Browser based experience
Support for various personas	<ul style="list-style-type: none">• Better support for cloud & full stack developers with improved code editors for Java and Node.js• Web/mobile developers• Additional personas can be supported with a suited experience per persona	<ul style="list-style-type: none">• Cloud and full stack developers – partial• Web/mobile developers• Similar experience for all personas
Open Source & standards	Based on open source & leading industry standards Provides possibility to quickly integrate capabilities and technologies that exist in the market	Uses open sources but majority is proprietary SAP proprietary framework with limited number of extensions

SAP Fiori tools guides developers through the full cycle

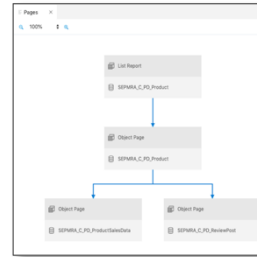
Application Generator

Creates the project environment for development



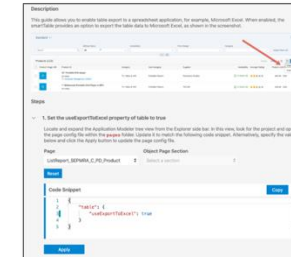
Page Map & Editor

Allows editing of the structure of the app: pages, properties, and navigation



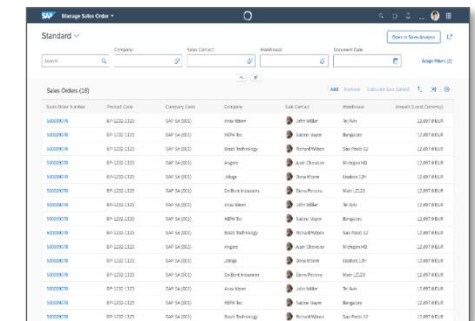
Guided Development

Provides step-by-step development instructions and generates code snippets in-line



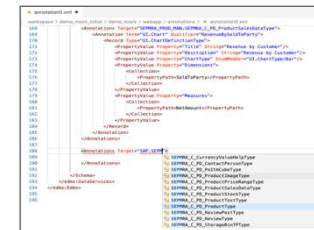
Application Preview

Provides preview of web app in the browser either with mock data or live data



Code Completion

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



Service Modeler

Visualizes service entities, relations, properties, and annotations



Available in
SAP Business
Application Studio
and
Visual Studio Code

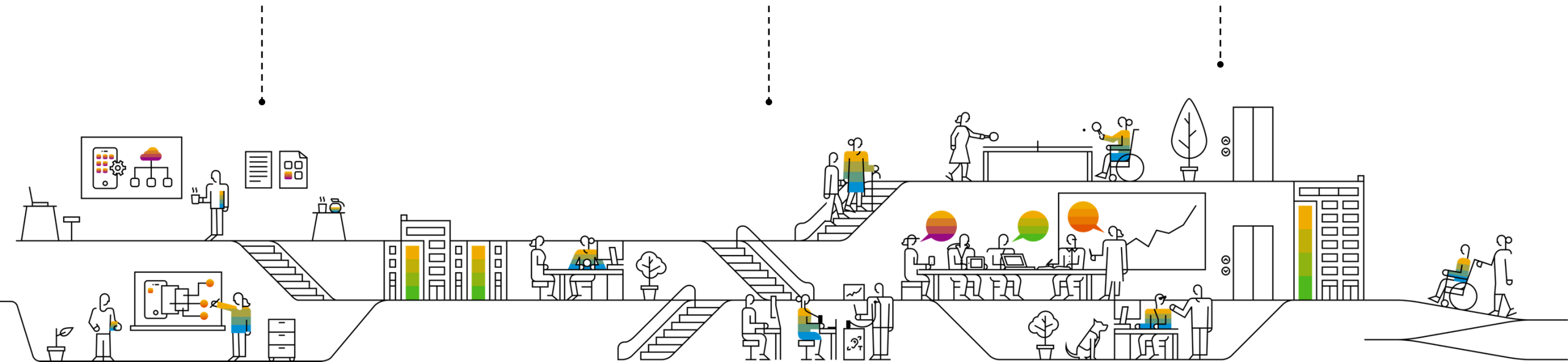
Roles

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

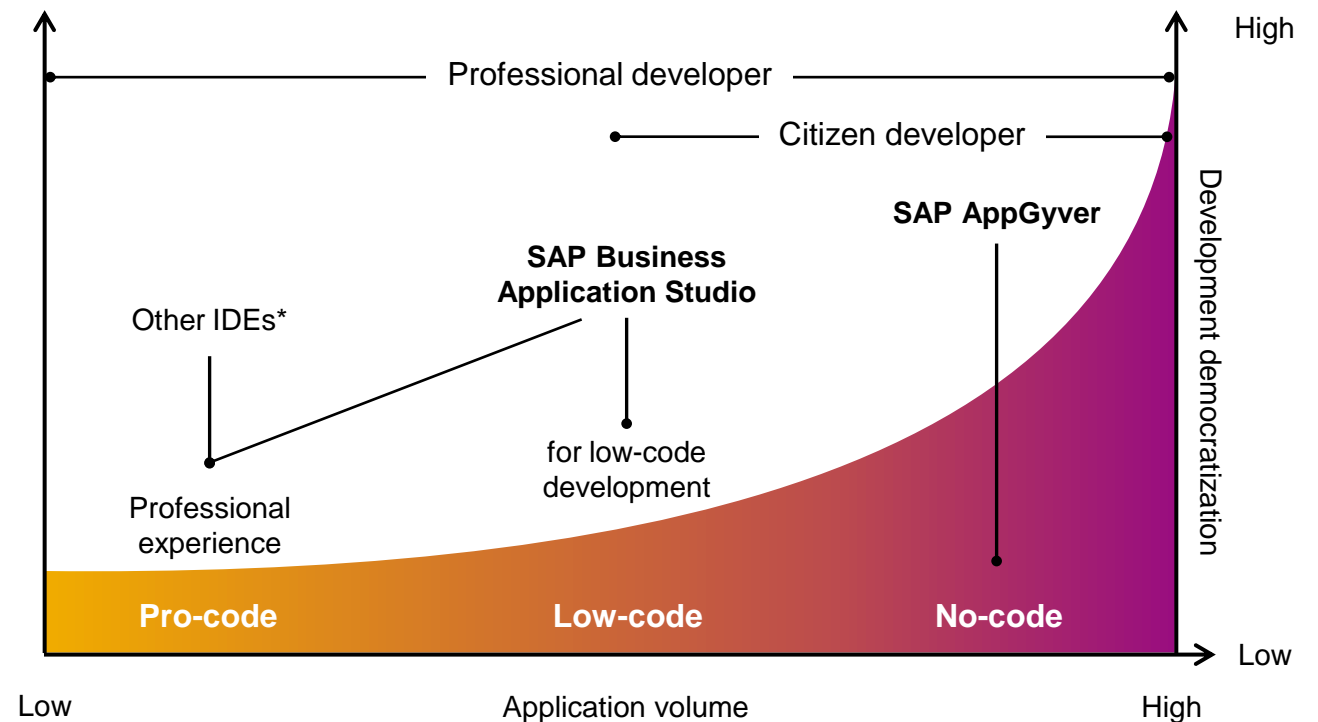


- Uses tools of choice to create cloud native applications and reusable services
- Designs, develops, deploys, tests, and hands over to production
- Understands the concept of a development lifecycle, testing, and versioning
- Ensures governance and security

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

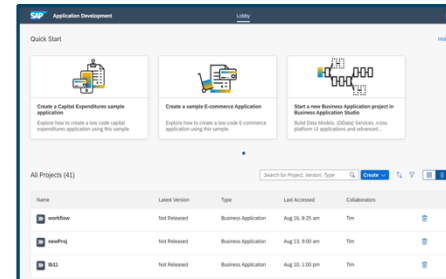


i.e. VS Code + extensions

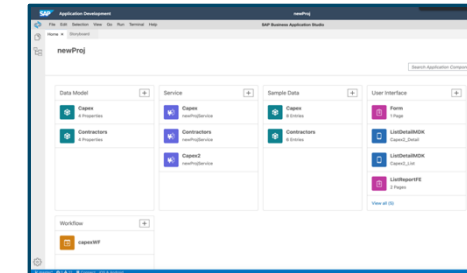
Key capabilities of SAP Business Application Studio

Use a Modern, Integrated Development
Environment for Today's Developers.

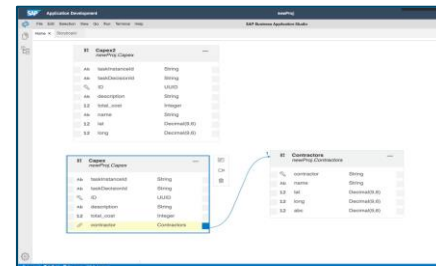
Single project studio for
citizen developer projects



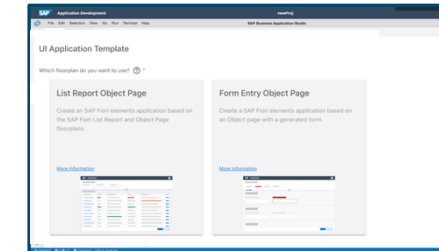
Simplified project artifact
structure and dependencies



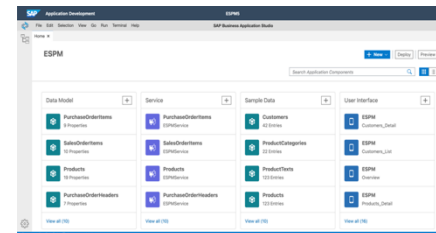
Visual data and
service modeling



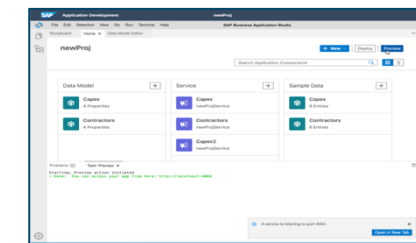
Low-code template-based
and freestyle UI development



Service center



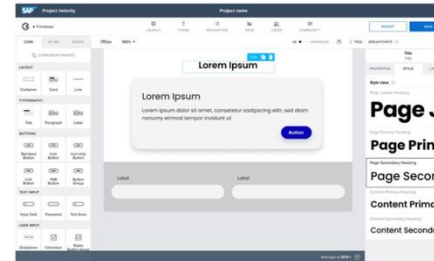
Single-click preview and
deployment



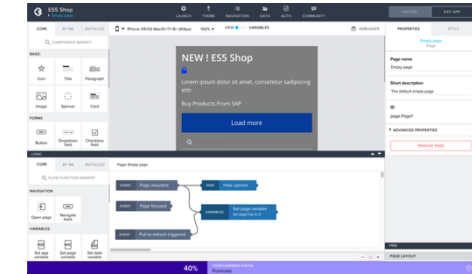
Key capabilities of SAP AppGyver

Powerful Features for Sophisticated App Development.

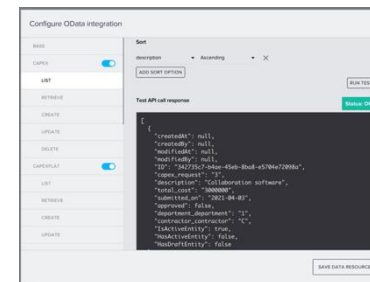
Drag and drop UI design with customizable components



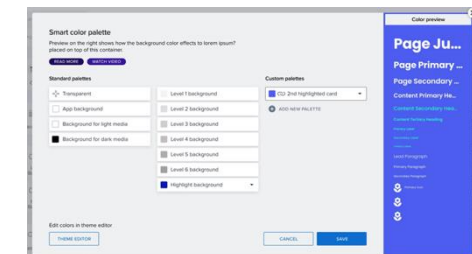
Build anything with visual logic



REST and OData support



Smart & reusable theming



Formulas: data transformations for business, finance & more

Formula editor

"VAT 24% of your hotel stays: "+ SUM_BY(appVars.stays, "price_per_night") * 0.24

Multiplatform native performance



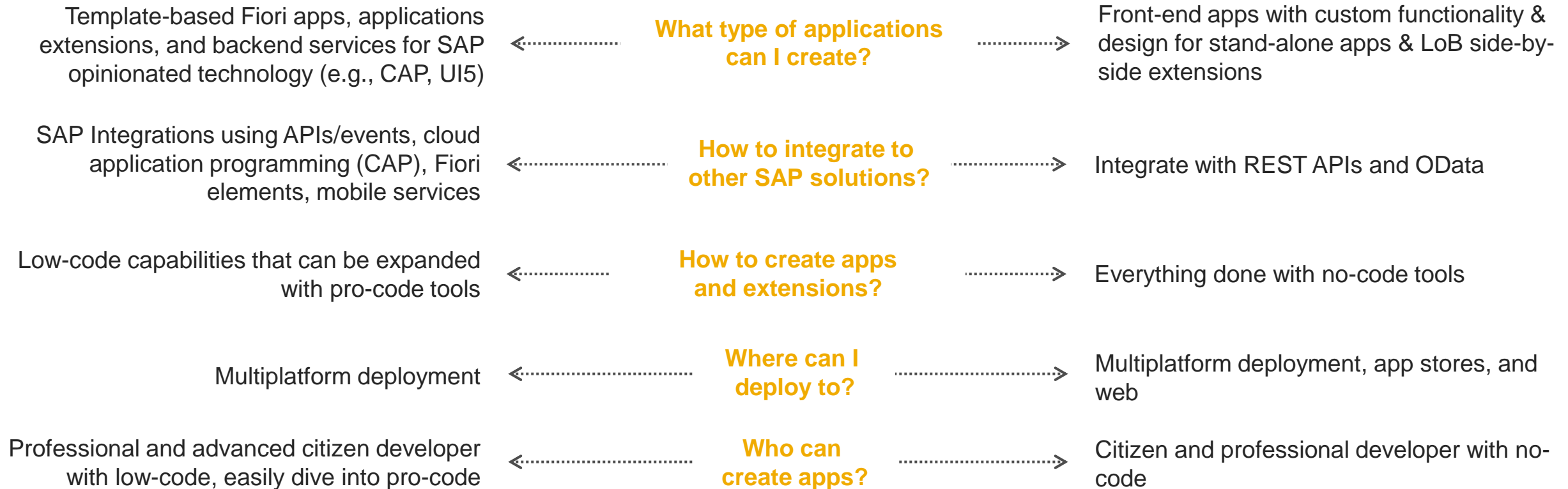
Boost Development Agility and Unleash Innovation

A Unified Developer Experience from No-Code to Pro-Code

SAP Business Application Studio for Low-Code Development



SAP AppGyver



SAP Business Application Studio

**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](#)

Recommended Tutorials

1. Tutorial: [Build an SAP Fiori App that Consumes Data from an On-Premise System](#)
2. Tutorial: [Create a List Report Object Page App with SAP Fiori Tools](#)
3. Tutorial: [Develop Full-Stack App Using Low-Code Capabilities of SAP Business Application Studio](#)

Contact information: SAPBusinessApplicationStudio@sap.com

SAP Business Application Studio – Migration from SAP Web IDE

**Learn
More!**

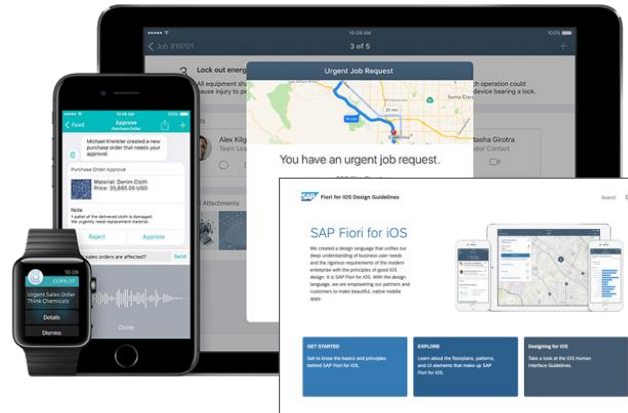


Migration: Neo / SAP Web IDE -> Cloud Foundry / BAS

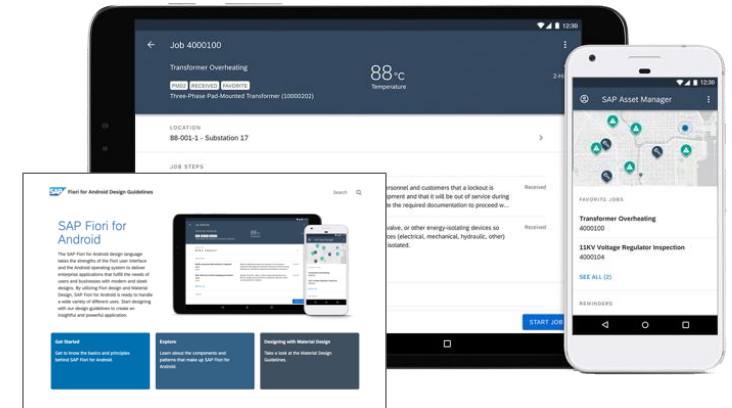
- [Migrating Fiori Application from SAP Web IDE to SAP Business Application Studio \(ABAP\)](#)
- [Migrating SAP Fiori Applications from Neo to Cloud Foundry Using SAP Business Application Studio](#)
- [Migrating from the Neo Environment to the Multi-Cloud Foundation \(Cloud Foundry and Kyma\)](#)
- [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](#)

SAP Fiori for Mobile

Native mobile Experience
for iOS and Android



SAP Fiori Design Language for Apple iOS
Available through SAP Cloud Platform SDK for iOS



Google



SAP Fiori Design Language for Google Android
Available through SAP Cloud Platform SDK for Android

SAP Fiori for native mobile apps



30–40 %
design time saved*



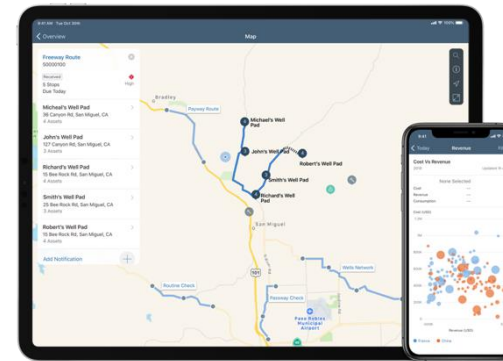
25–30 %
development time saved*

SAP Fiori for iOS



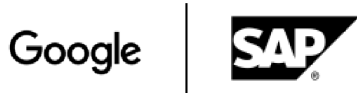
[Design Guidelines](#)

[SAP BTP SDK for iOS](#)



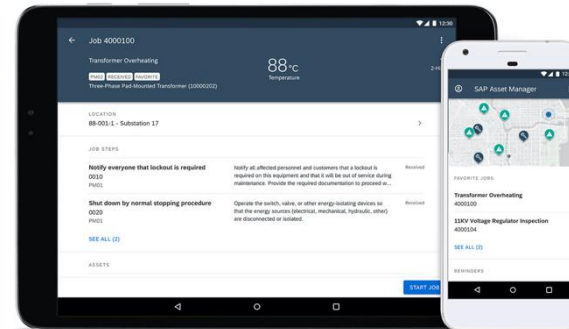
[SAP Mobile Development Kit](#)
(code once for both)

SAP Fiori for Android



[Design Guidelines](#)

[SAP BTP SDK for Android](#)



*findings for apps built by SAP IT

SAP Mobile Services

Native App Development – SAP BTP SDK for Android



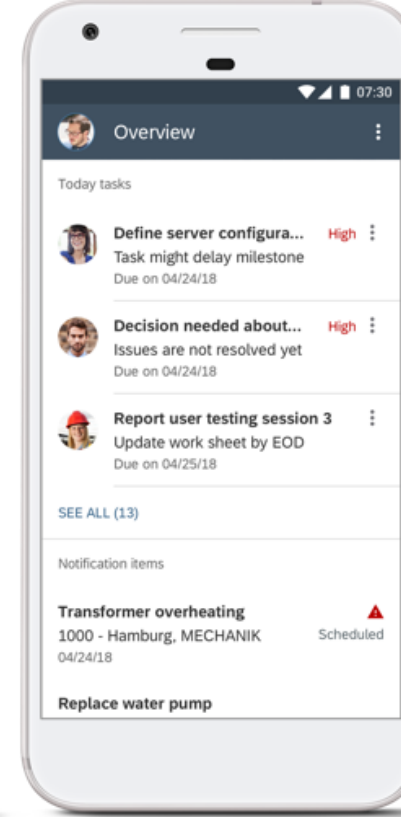
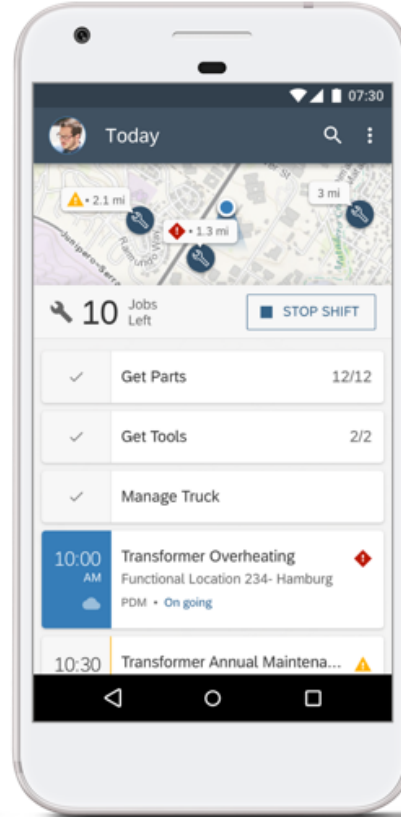
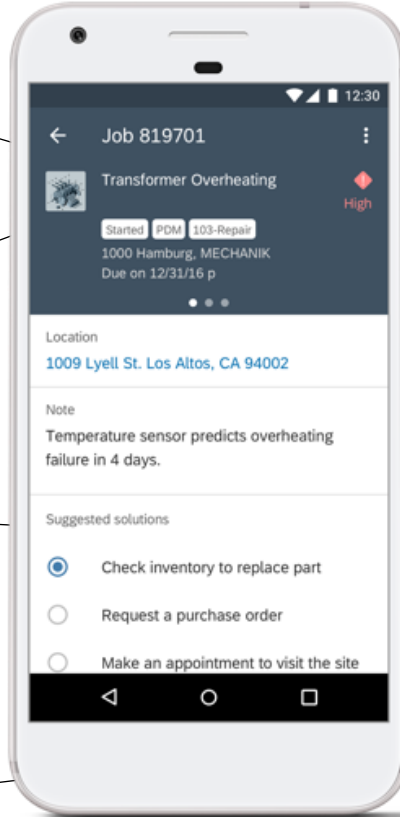
Benefits

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



Capabilities

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



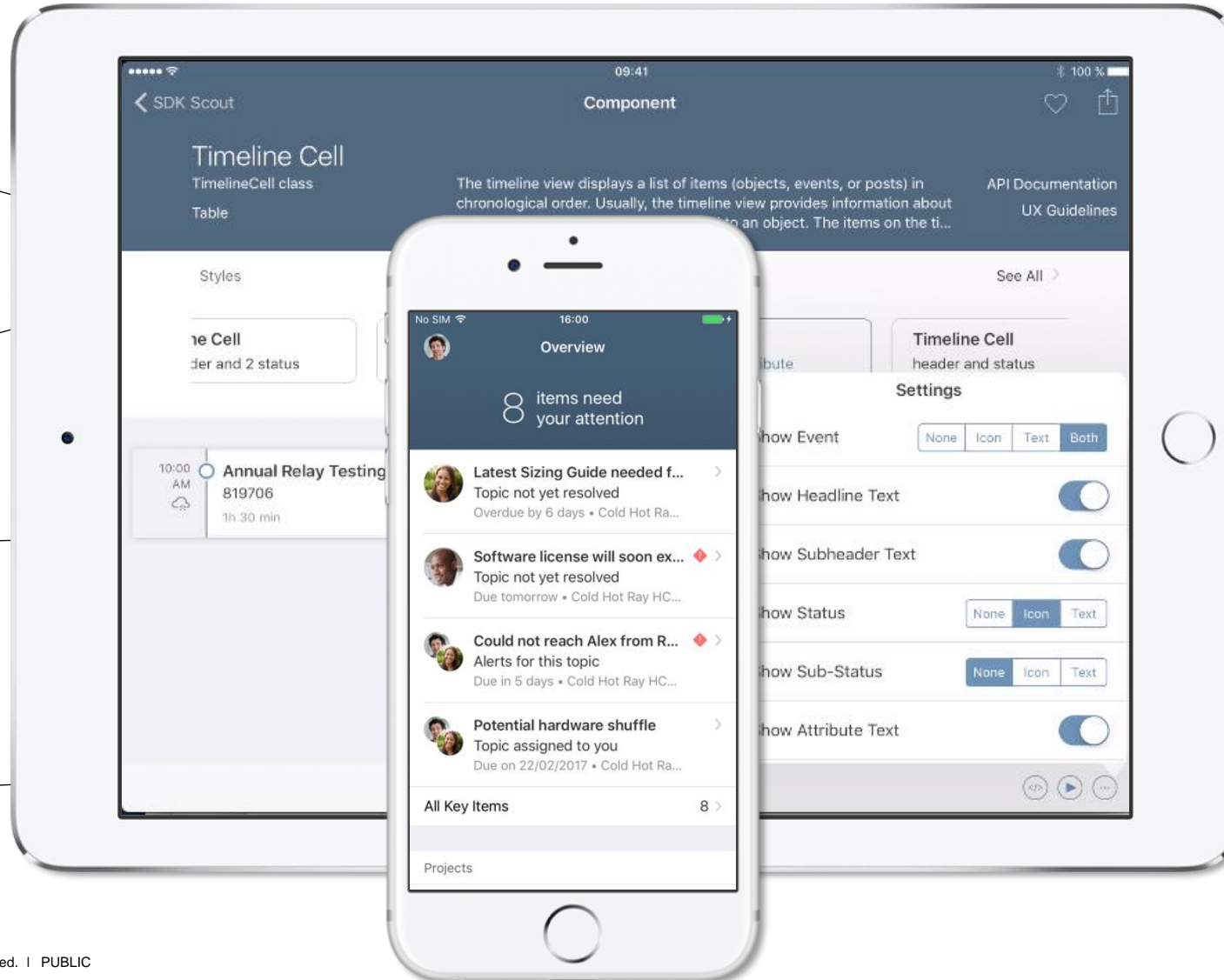
Benefits

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

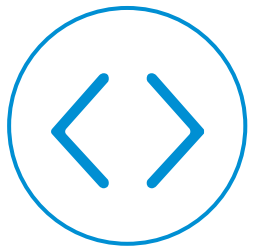
SAP Fiori for iOS design language

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



Benefits

Build, customize, and administer native mobile applications in a highly productive, metadata-driven model

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

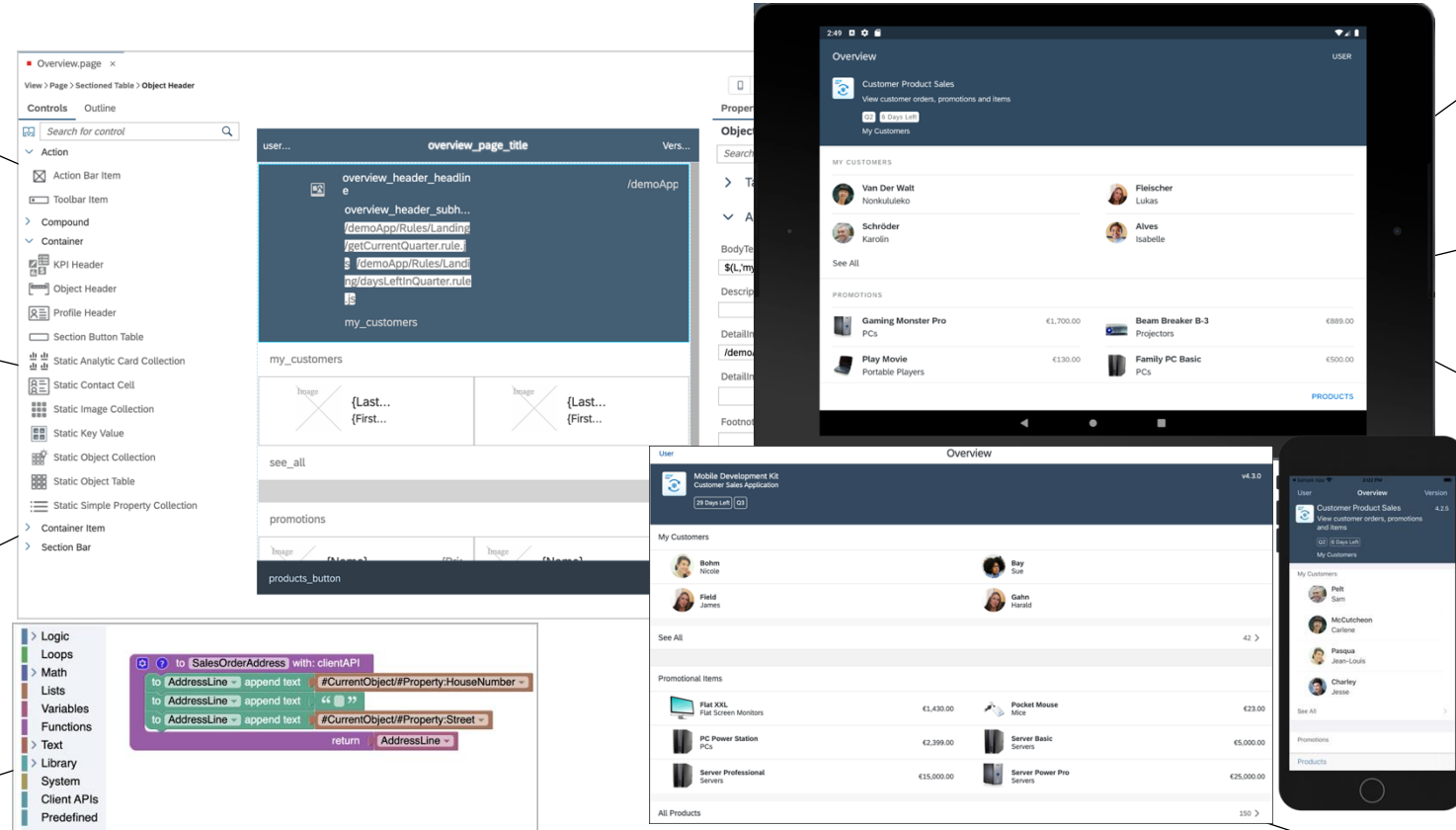
Robust **offline and online support**

Native SAP Fiori user experience

Extend functionality with custom extension controls

Cross-platform development supports iOS and Android

Web- Deployment



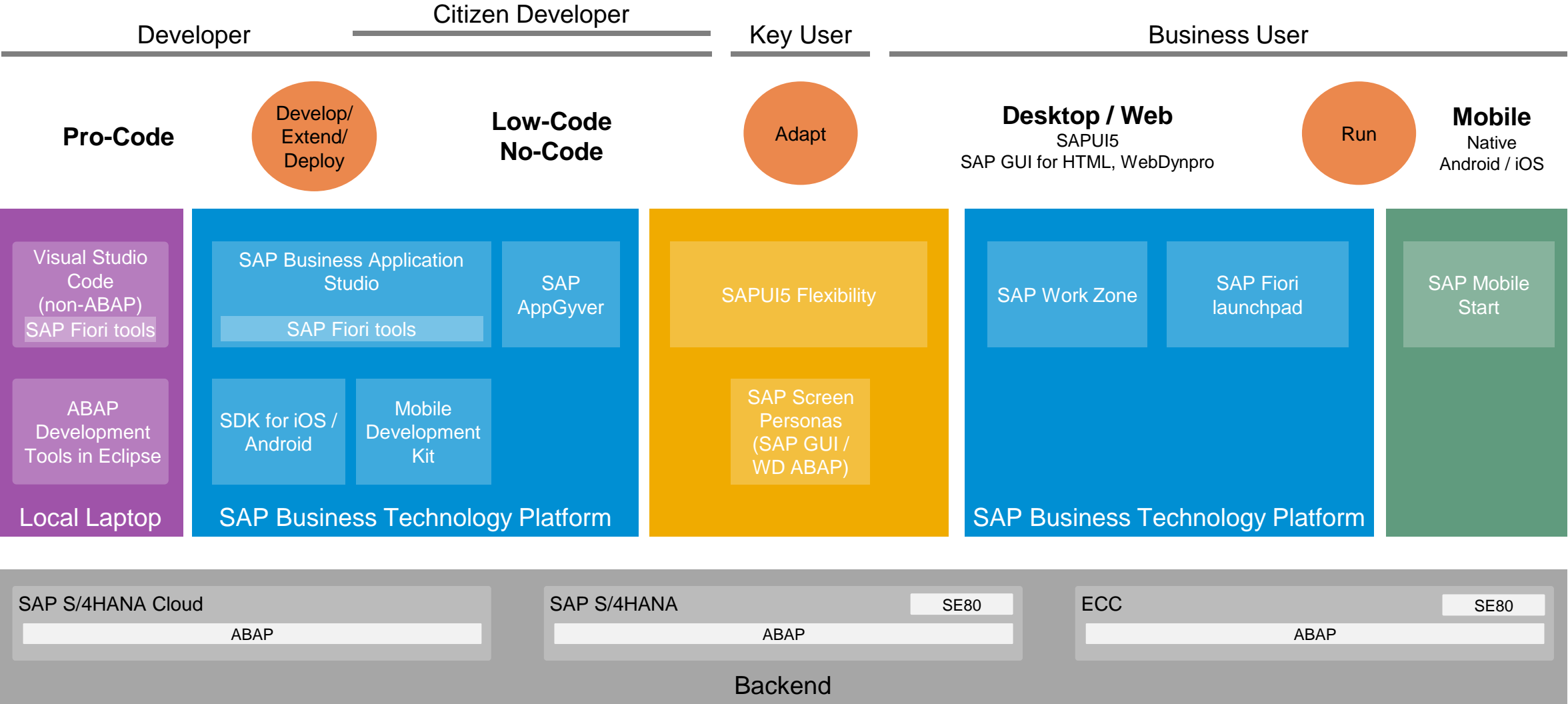
Create app configuration in Mobile Services

Use template to generate first metadata

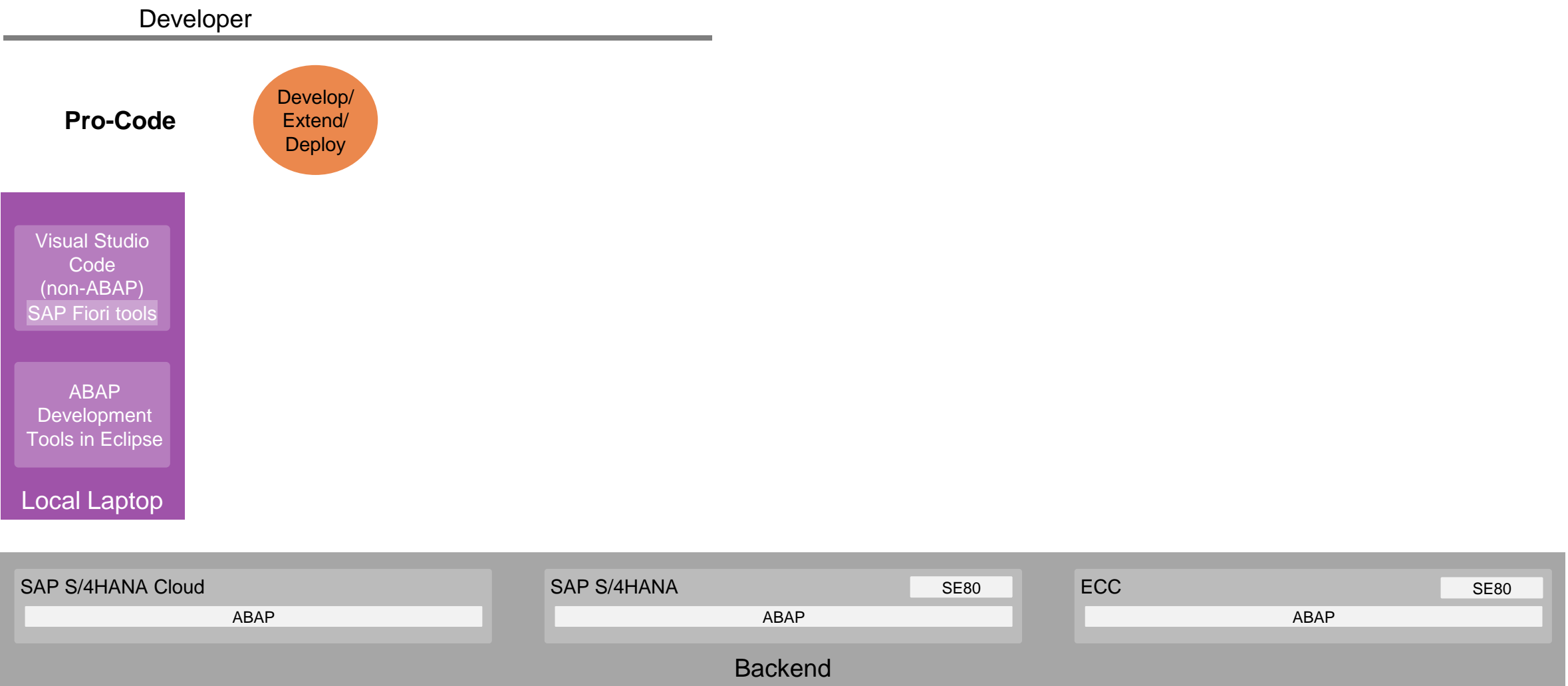
Modify app metadata

Deploy

SAP Fiori User Experience Enabled by Technologies & Tools



SAP Fiori User Experience Enabled by Technologies & Tools



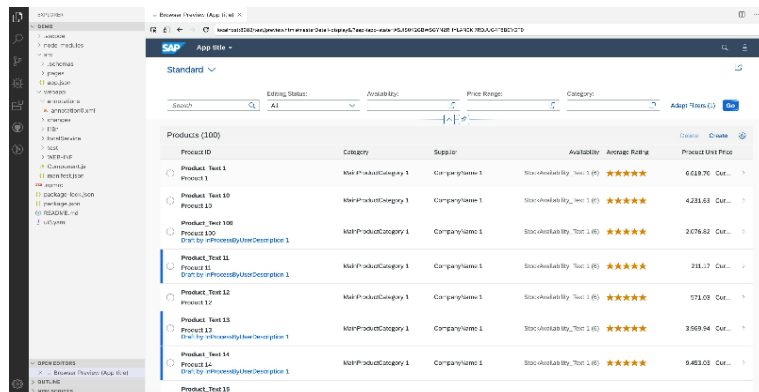
Local Development Environments: **Visual Studio Code (VSCode) &** **ABAP Development Tools (ADT) / Eclipse**



Visual Studio Code and SAP Business Application Studio

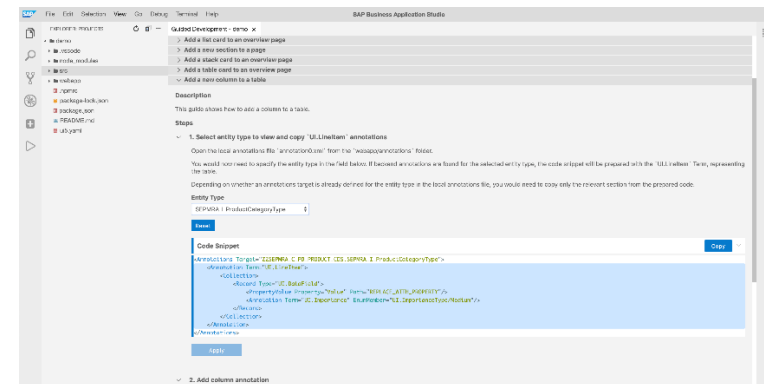
Visual Studio Code

- 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 open source Theia marketplace](#)
- Offers a remote development with VSCode desktop client*



Efficient ABAP development in Eclipse[®]

HIGH DEVELOPER PRODUCTIVITY WITH THE ABAP DEVELOPMENT TOOLS (ADT)

MODERN DEVELOPMENT TOOLSET

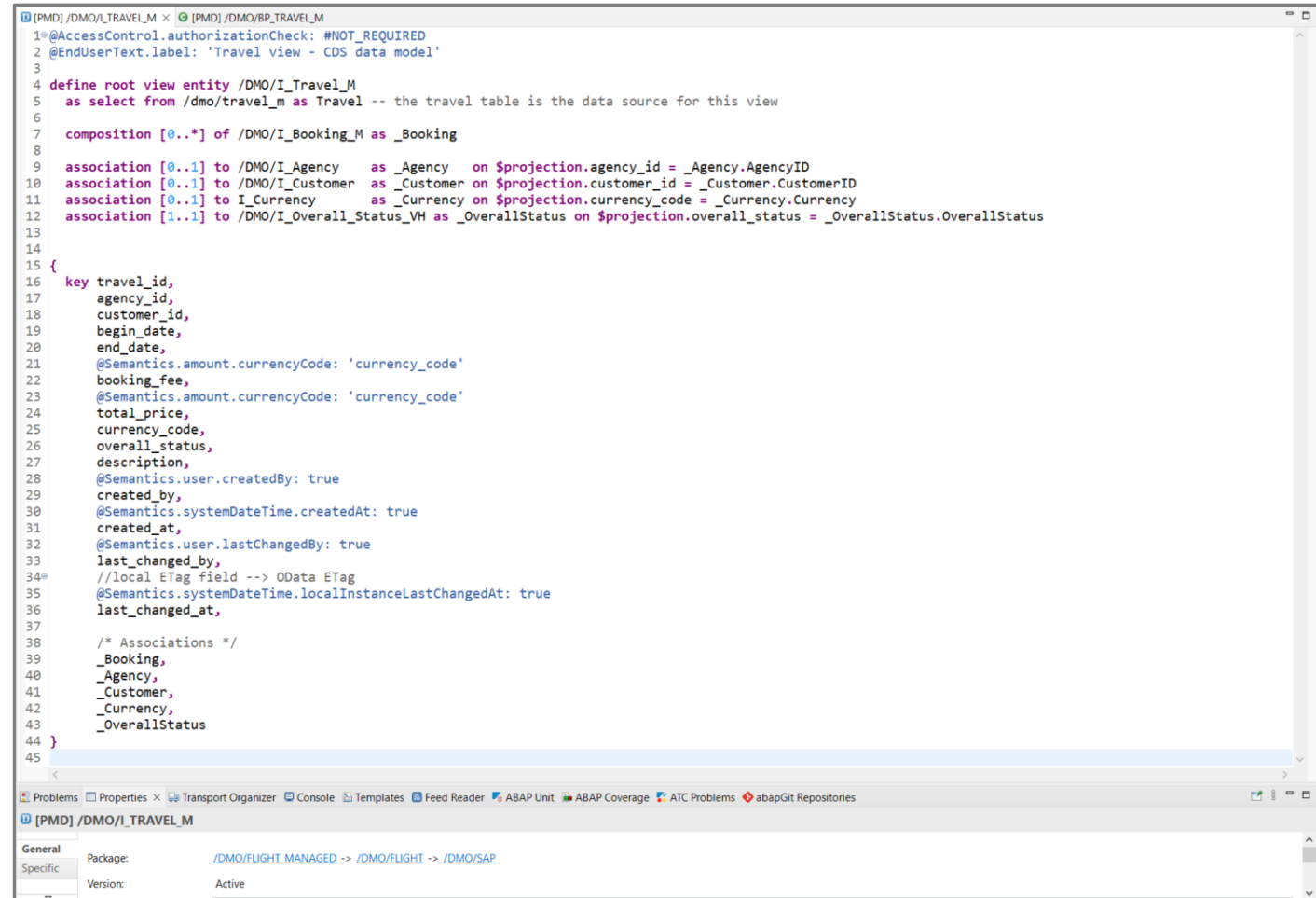
Fully eclipse-based
Syntax check, Code completion
Syntax highlighting, Pretty printing
Navigation, Search, Quick Fixes
Available for ABAP releases ≥ 7.31

QUALITY ASSURANCE

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

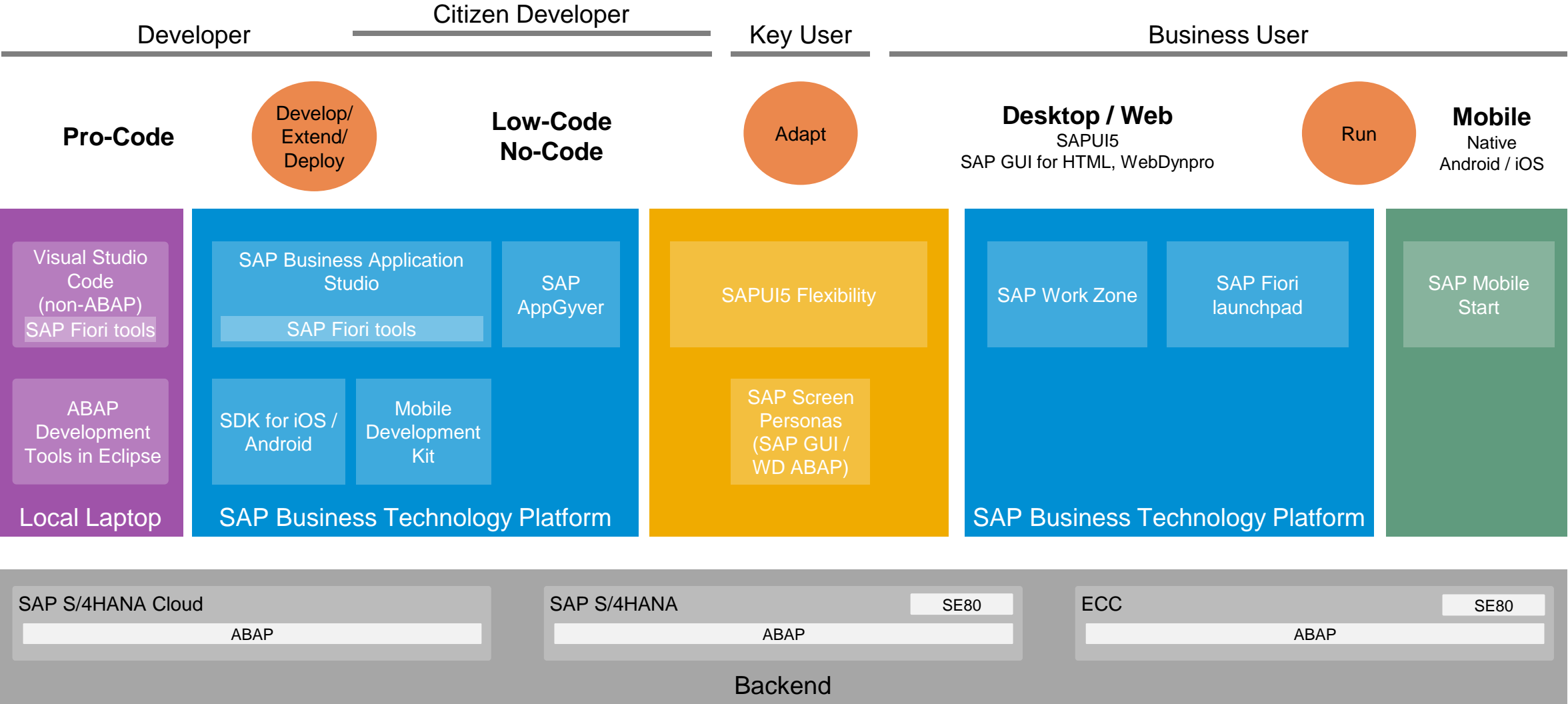
SUPPORTABILITY

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

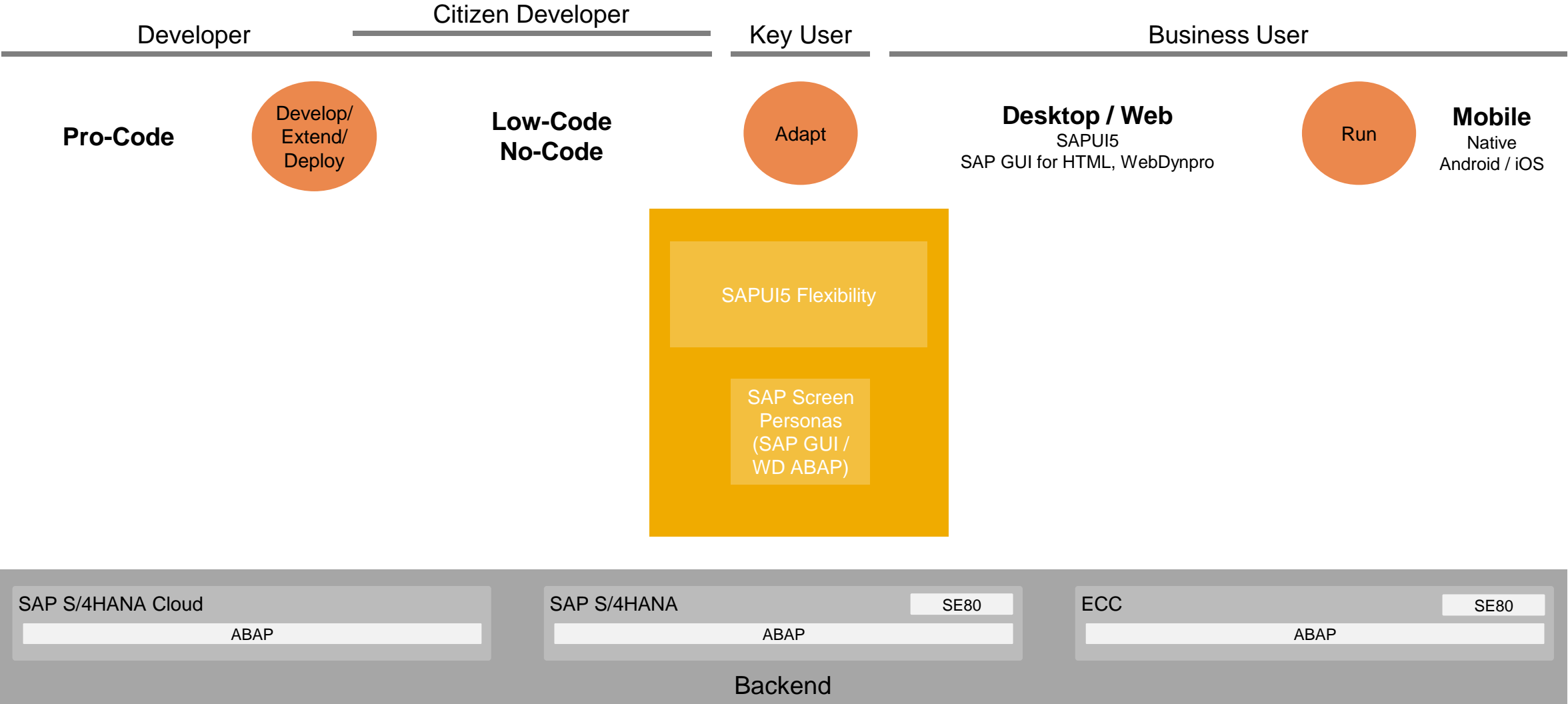


```
1* [PMD] /DMO/I_TRAVEL_M x [PMD] /DMO/FP_TRAVEL_M
2 @AccessControl.authorizationCheck: #NOT_REQUIRED
3 @EndUserText.label: 'Travel view - CDS data model'
4
5 define root view entity /DMO/I_Travel_M
6   as select from /dmo/travel_m as Travel -- the travel table is the data source for this view
7
8   composition [0..*] of /DMO/I_Booking_M as _Booking
9
10  association [0..1] to /DMO/I_Agency as _Agency on $projection.agency_id = _Agency.AgencyID
11  association [0..1] to /DMO/I_Customer as _Customer on $projection.customer_id = _Customer.CustomerID
12  association [0..1] to I_Currency as _Currency on $projection.currency_code = _Currency.Currency
13  association [1..1] to /DMO/I_Overall_Status_VH as _OverallStatus on $projection.overall_status = _OverallStatus.OverallStatus
14
15 {
16   key travel_id,
17   agency_id,
18   customer_id,
19   begin_date,
20   end_date,
21   @Semantics.amount.currencyCode: 'currency_code'
22   booking_fee,
23   @Semantics.amount.currencyCode: 'currency_code'
24   total_price,
25   currency_code,
26   overall_status,
27   description,
28   @Semantics.user.createdBy: true
29   created_by,
30   @Semantics.systemDateTime.createdAt: true
31   created_at,
32   @Semantics.user.lastChangedBy: true
33   last_changed_by,
34   //local ETag field --> OData ETag
35   @Semantics.systemDateTime.localInstanceLastChangedAt: true
36   last_changed_at,
37
38   /* Associations */
39   _Booking,
40   _Agency,
41   _Customer,
42   _Currency,
43   _OverallStatus
44 }
45
```


SAP Fiori User Experience Enabled by Technologies & Tools



SAP Fiori User Experience Enabled by Technologies & Tools



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](#)

The screenshot displays the SAP Fiori Apps Reference Library interface. On the left, a sidebar lists 'SAP Fiori lighthouse apps' with checkboxes and star icons. The 'Cash Flow Analyzer' app is selected and highlighted. The main content area shows the app's details for 'SAP S/4HANA'. A red arrow points to the 'Extensibility information' section, which includes fields for 'Required Back-End Product', 'Line of Business', 'App Launcher Title(s)', 'Application Type', 'Database', 'Device Type(s)', and 'App ID'. Below this, there are tabs for 'PRODUCT FEATURES' and 'IMPLEMENTATION INFORMATION'. A red arrow points to the 'Filter' icon at the bottom of the sidebar. The bottom right corner shows a preview of the 'Cash Flow Analyzer' app's user interface, displaying a table of bank account data.

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](#)

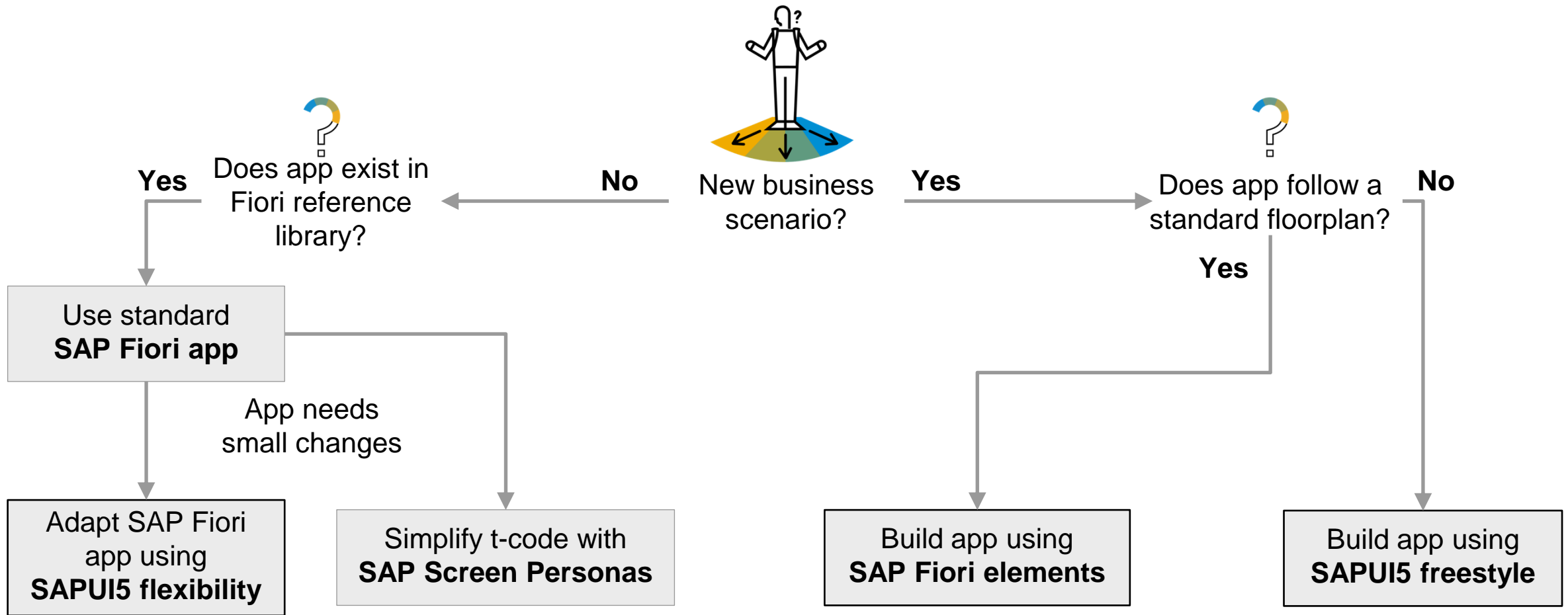
Learn more about solution capability: [Cash and Liquidity Management \(S/4\)](#)

Bank Account Group: Bank Hierarchy

Bank Name / Bank Account Number	Description	12/01/2018
122200		
ABN AMRO BANK N.V. - SA	ABN AMRO BANK	
ABN AMRO BANK N.V. - SA	ABN AMRO BANK	
ABN AMRO BANK N.V. - SA	ABN AMRO BANK	
BOC Global	BOC Global	
Bank 2 - SAMPLE BANK	Bank 2 - SAMPLE	
25800001	Dummy text	
Development Bank of S.	Development Bank	
9999990001	Bank 1 - S	
USD	Bank 1 - S	
48414243	Dummy text	
Paypal	Paypal	
9999990001	Dummy text	
9999990001	Dummy text	
Bank 1 - SAMPLE BANK	Bank 1 - SAMPLE	
Bank 1 - SAMPLE BANK	Bank 1 - SAMPLE	
Bank 1 - SAMPLE BANK	Bank 1 - SAMPLE	
Bank Hierarchy: Sample 1	Bank Hierarchy: Sa	

Filter

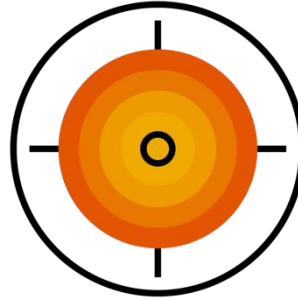
Choose the path to the SAP Fiori user experience based on your needs



SAPUI5 flexibility

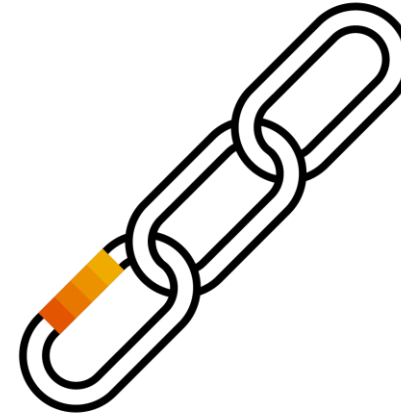
SAPUI5 flexibility provides an easy and cost-effective way to extend apps

Facilitates a **cost-efficient UI change process** for extending apps



Provides **intuitive low-code/no-code tooling** tailored to the needs of target personas

Ensures **lifecycle-stable and modification-free** UI changes based on deltas



Generic framework capability allows **massive scales** automatically to all UI5 apps

Value propositions

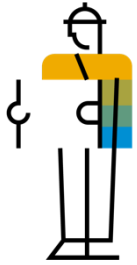
- Extend to adopt – more efficient way in contrast to building custom UIs from scratch
- Intuitive low-code/no-code process – even suitable for business users without programming skills
- Upgrade stable – further application and system upgrades without loss of extensions

SAPUI5 flexibility – Personas and their needs

Try it yourself! <https://ui5.sap.com/>

-> Demo apps -> SAPUI5 flexibility demo apps

Developer



I want to

- Add and change complex business logic
- Add new business objects and apps
- Decouple software lifecycle of standard and extensions

“I develop new or change existing apps for everybody.”

Key user

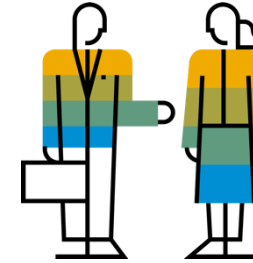


I want to

- Add custom fields
- Change field descriptions
- Change order of fields
- Add and manage views

“As a business expert, I adapt apps for my line of business.”

End user



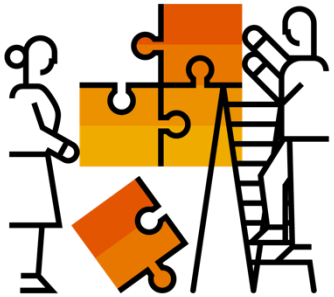
I want to

- Change order of columns in a table
- Hide sections and tabs
- Hide few apps on SAP Fiori launchpad

“I personalize apps for myself.”

SAPUI5 flexibility: Adaptation projects vs extension projects

Adaptation projects allow a developer to create variants of existing applications. What makes adaptation projects different from extension projects?



Adaptation project







- Supports SAP Fiori elements based applications and SAPUI5 freestyle
- Create app variants
- Generic framework feature
- No extension points needed
- Increased options
- Supports multiple layers

Extension project

- Does NOT support SAP Fiori elements based applications
- Extension via manifest configurations
- Some extension depend on applications
- Extend only in extension points
- Limited options (e.g. no extend of lifecycle methods)
- Only one layer

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		<ul style="list-style-type: none"> ✓ End user personalization ✓ Key user adaptation
At design time in SAP Business App Studio adaptation project		<ul style="list-style-type: none"> ✓ Developer adaptation
		<ul style="list-style-type: none"> ✗ Developer adaptation (planning in progress)
		<ul style="list-style-type: none"> ✓ Developer adaptation

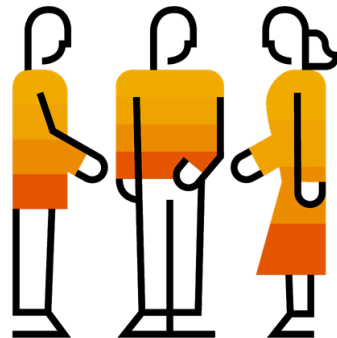
SAPUI5 Flexibility - Summary

Use SAPUI5 flexibility to deliver a tailored experience to your users

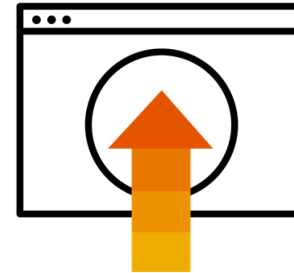
Adapt standard applications for
own use cases in a
cost-efficient way



Explore **intuitive tooling**
tailored for different personas



Benefit from upgrades of standard
applications while still keeping
your extensions functional thanks to
a modification-free approach



Gain more flexibility to **extend**
wherever needed compared to
classical “extension points”



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

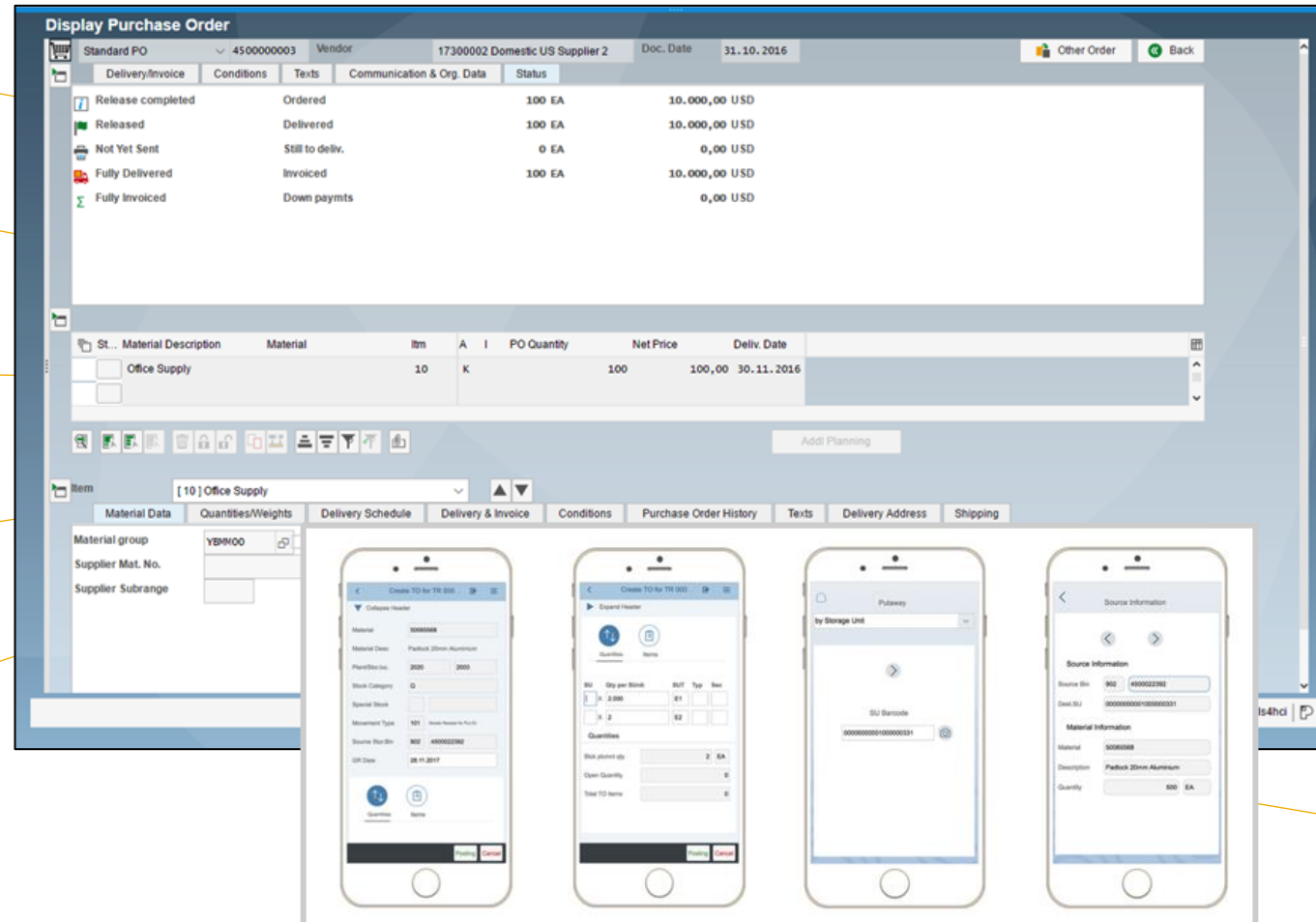
Hide / rearrange screen elements, reduce scrolling

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

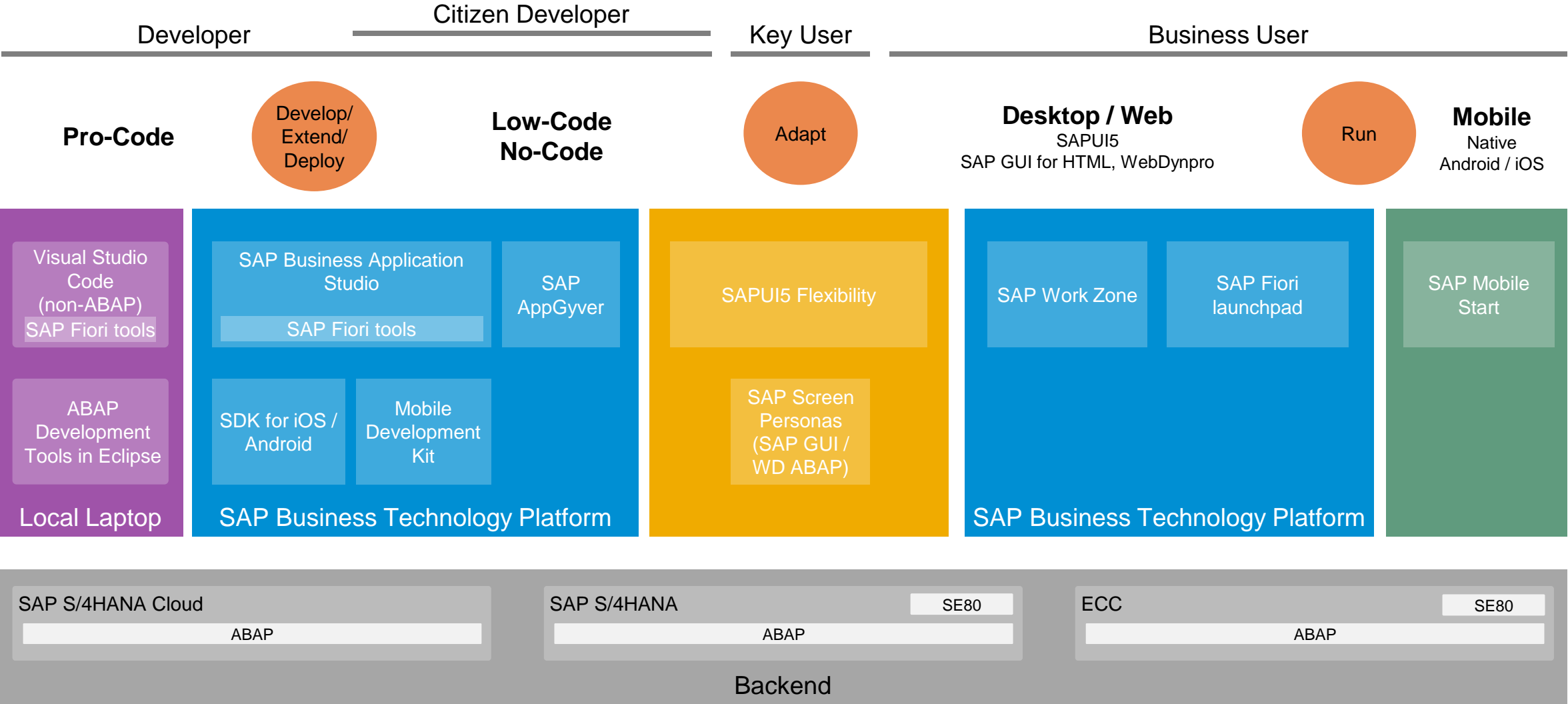
- [SAPUI5 Flexibility - All You Need to Know](#)
- [Blog post: Extending SAP-delivered SAP Fiori elements apps using adaptation projects](#)
- [Blog post: SAP Fiori Elements: Adaptation Project – Adding a Custom Filter to the List Report](#)

SAP Screen Personas

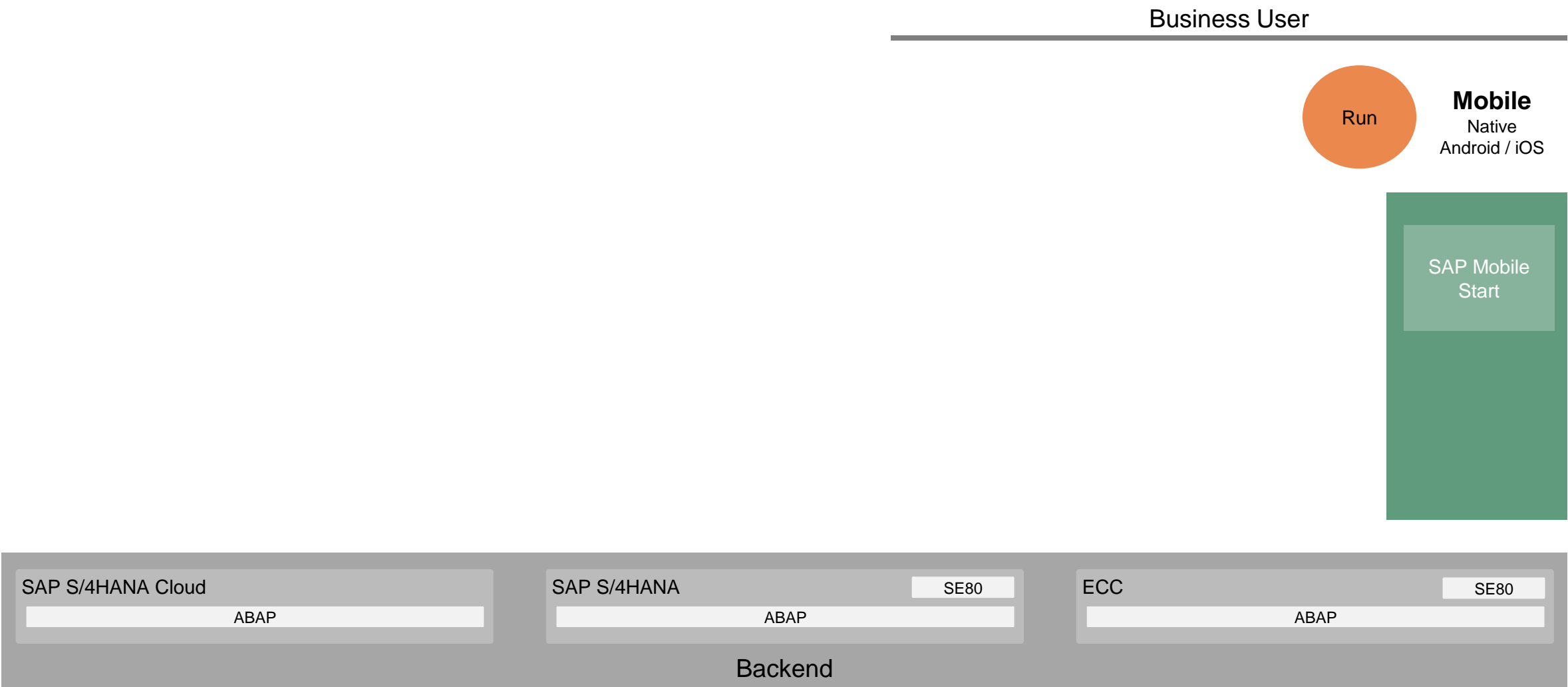
- [Tutorials: Get Started with SAP Screen Personas](#)



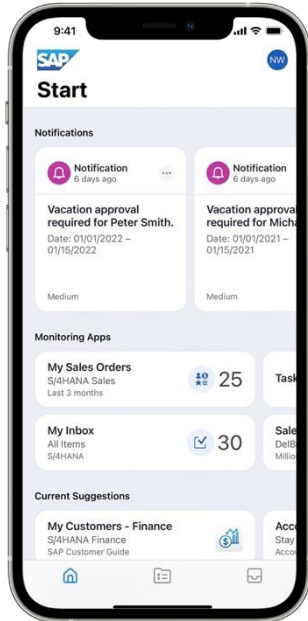
SAP Fiori User Experience Enabled by Technologies & Tools



SAP Fiori User Experience Enabled by Technologies & Tools

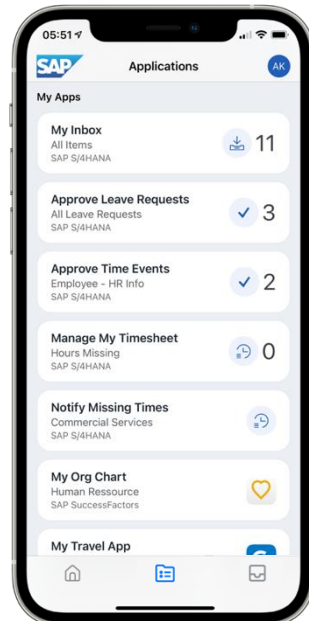


SAP Mobile Start



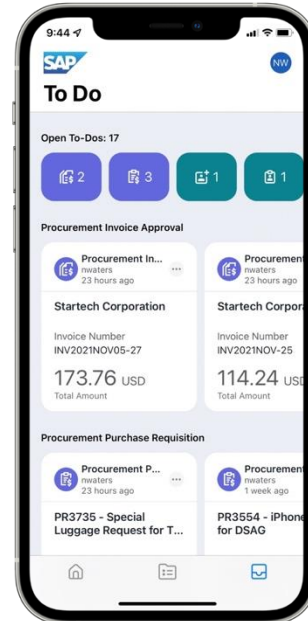
Start screen

Latest notifications,
& app suggestions



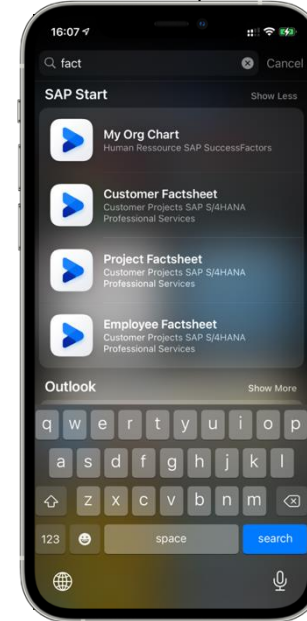
Applications screen

Native apps,
Web responsive apps,
Web links & News feeds



ToDo screen

Task and Notifications



Spotlight Search

iOS Integration



Widgets



Notifications

Persona centric

Content & structure
is set-up by IT admin

Supports

Single Sign On (SSO)
9 Languages
Tablet & Phone on iOS 14 or above
Android planned for Q2/2022

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

SAP Mobile Start

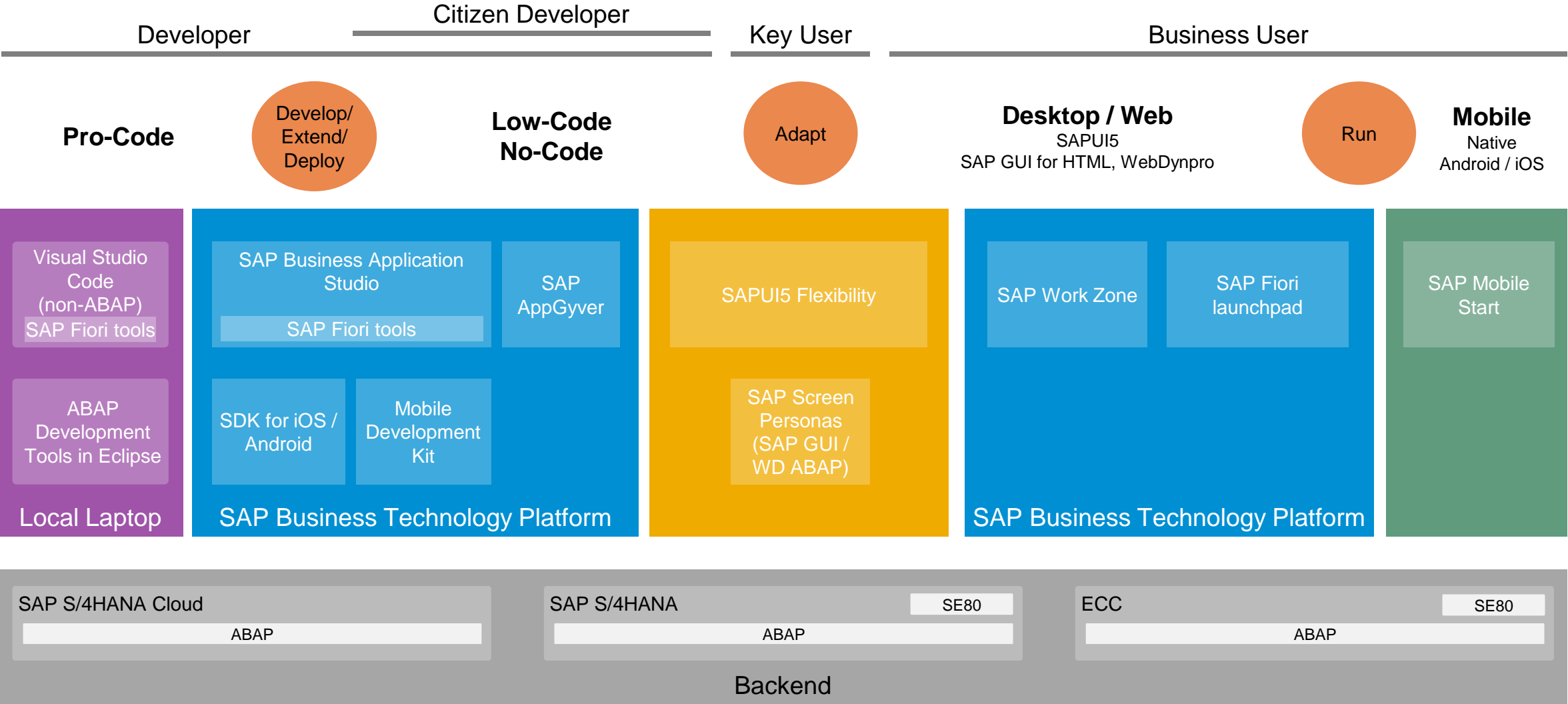
[SAP Asset Manager is the best-in-class mobile application](#)

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



Thank you.

... and don't panic!

Oliver Graeff

Director – Product Management, SAP



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Twitter: [@OliverGraeff](https://twitter.com/OliverGraeff)

LinkedIn: [olivergraeff](https://www.linkedin.com/in/olivergraeff)

Please take this super short survey:

<https://www.menti.com/i4yx6a6rra>

Voting code **4911 2528**



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