SAP's Integration Strategy
Intelligent Enterprises are Integrated Enterprises

SAP User Groups, May 16th 2019

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SAP SE

THE BEST RUN **SAP**

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Agenda

- Intelligent Enterprise
- Out-of-the-Box Integration
- Open Integration
- Holistic Integration
- AI-Driven Integration
- Total Workforce Management Roadmap
- Key Take Aways

Agenda

- **Intelligent Enterprise**
- Out-of-the-Box Integration
- Open Integration
- Holistic Integration
- AI-Driven Integration
- Total Workforce Management Roadmap
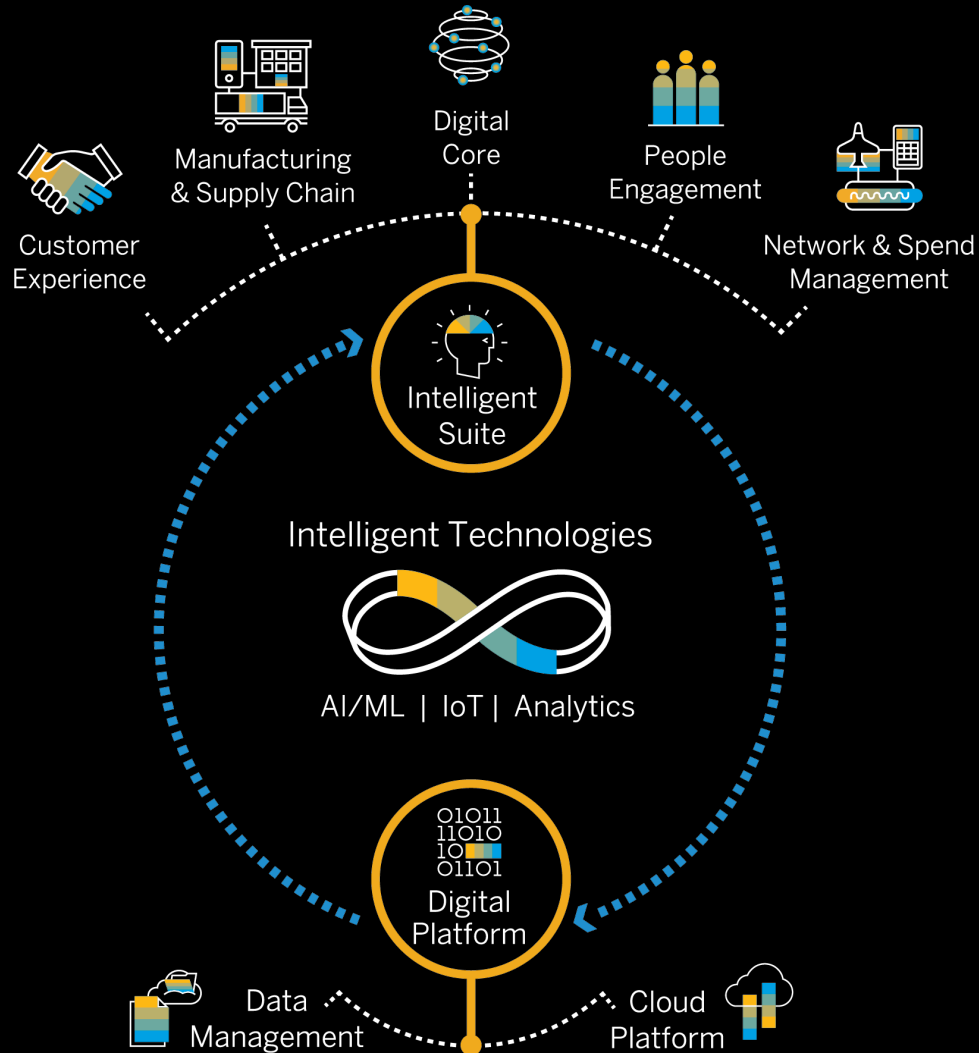- Key Take Aways

SAP Strategy for the Intelligent Enterprise
Key Building Blocks

Customer Experience

Manufacturing & Supply Chain

Digital Core

People Engagement

Network & Spend Management

Intelligent Suite

Intelligent Technologies

AI/ML | IoT | Analytics

Digital Platform

Data Management

Cloud Platform

1

Intelligent Suite

Retain modularity and flexibility of independent solutions while delivering a harmonized, integrated experience.

2

Intelligent Technologies

Simplify, automate and innovate next generation business processes by leveraging AI/ML, IoT and analytics.
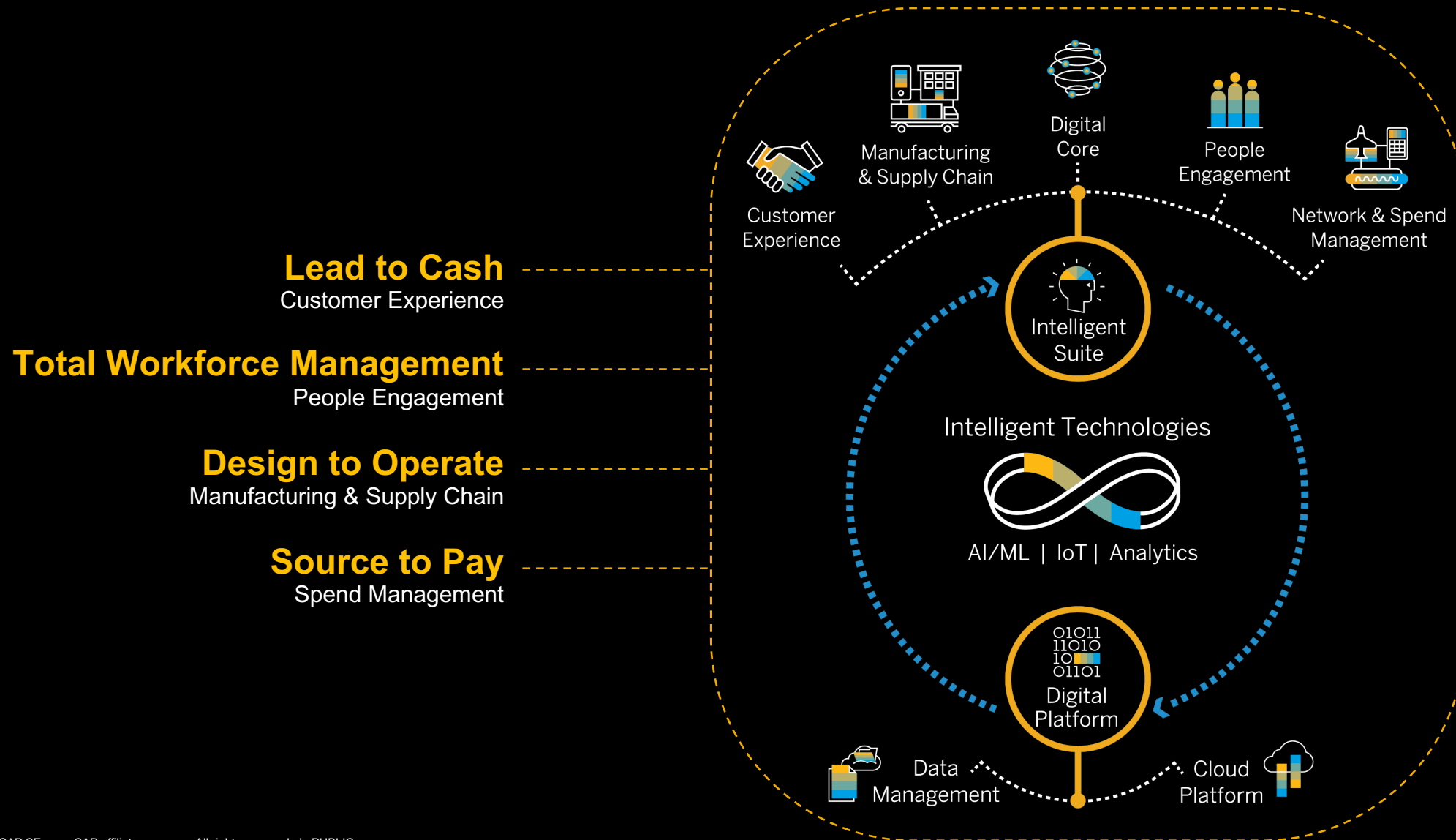
3

Digital Platform

Manage data from any source and rapidly develop, integrate, and extend intelligent applications.
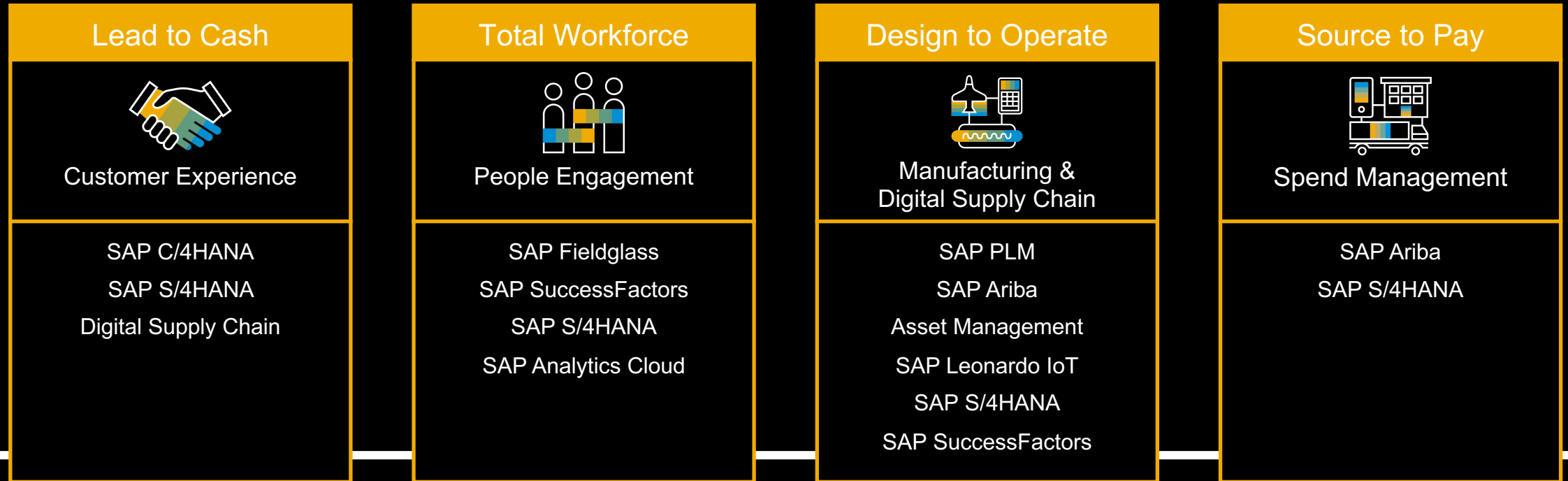
SAP Approach for the Intelligent Enterprise

Focused Execution Along Key Scenarios

Lead to Cash
Customer Experience

Total Workforce Management
People Engagement

Design to Operate
Manufacturing & Supply Chain

Source to Pay
Spend Management

Customer Experience

Manufacturing & Supply Chain

Digital Core

People Engagement

Network & Spend Management

Intelligent Suite

Intelligent Technologies

AI/ML | IoT | Analytics

01011
11010
10
01101

Digital Platform

Data Management

Cloud Platform

SAP Approach for the Intelligent Enterprise
Focused Execution Along Key Scenarios

Lead to Cash	Total Workforce	Design to Operate	Source to Pay
Customer Experience	People Engagement	Manufacturing & Digital Supply Chain	Spend Management
SAP C/4HANA	SAP Fieldglass	SAP PLM	SAP Ariba
SAP S/4HANA	SAP SuccessFactors	SAP Ariba	SAP S/4HANA
Digital Supply Chain	SAP S/4HANA	Asset Management	
	SAP Analytics Cloud	SAP Leonardo IoT	
		SAP S/4HANA	
		SAP SuccessFactors	

NEXT GENERATION BUSINESS PROCESSES

Embedded Intelligence | Harmonized Experience | Unified Integration | Flexible Extension

The Intelligent Enterprise Powers the Best Run Workforce

SAP Vision of Total Workforce Management

Enabling the end-to-end business process of planning, sourcing, and managing the total workforce, and facilitating a holistic talent strategy to achieve agility and game-changing business outcomes.
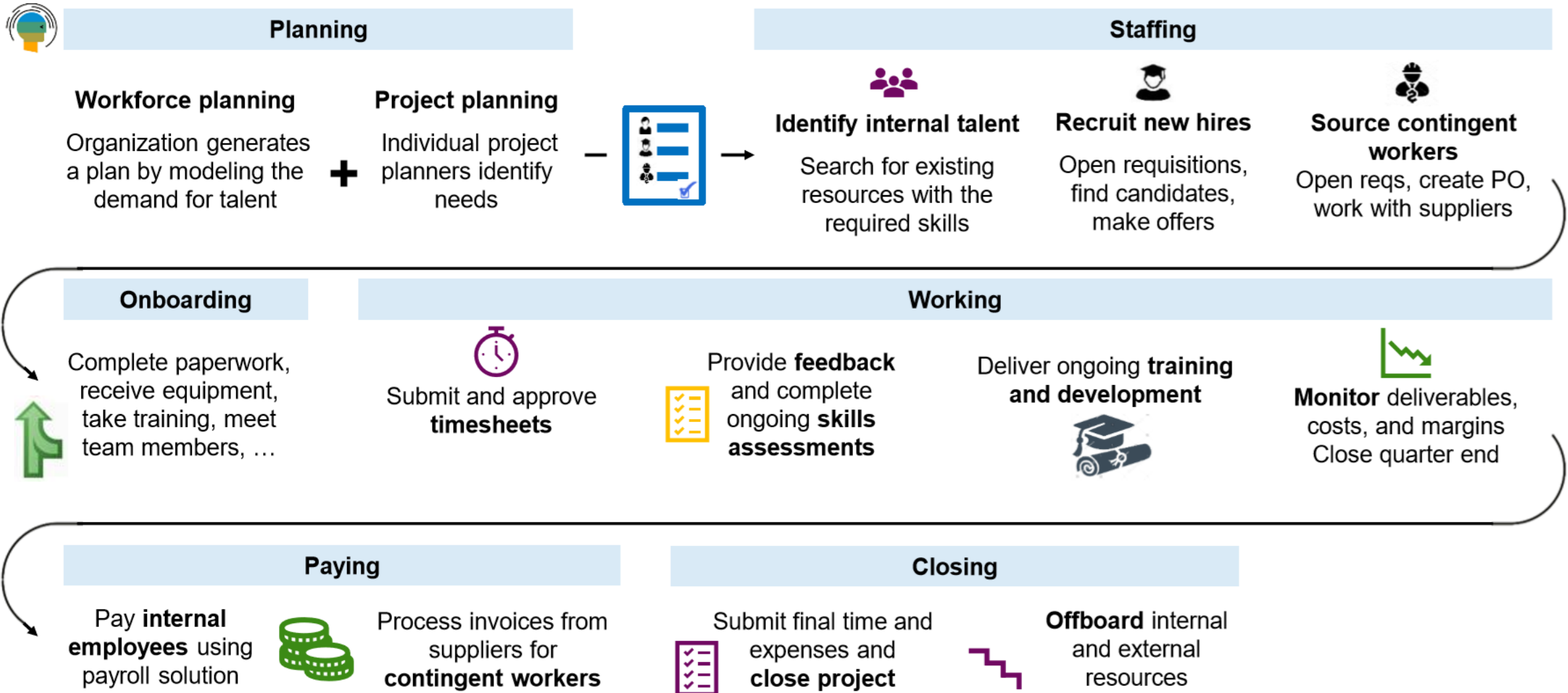
Business Benefits

- Visibility into people and finances and collaboration across the enterprise
- Align talent strategy to key business priorities, leveraging an agile workforce
- Drive worker engagement with new and meaningful experiences
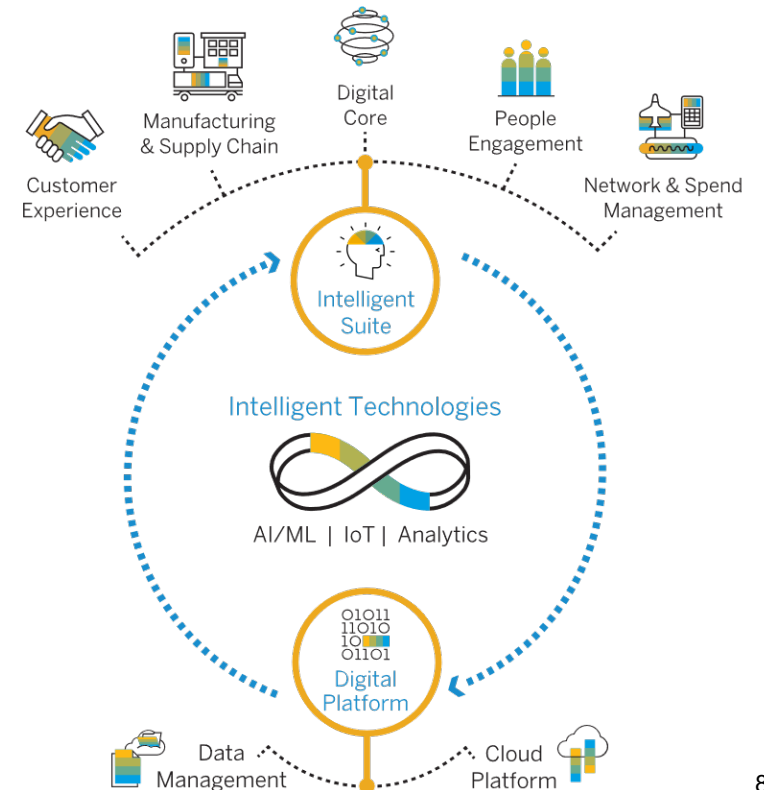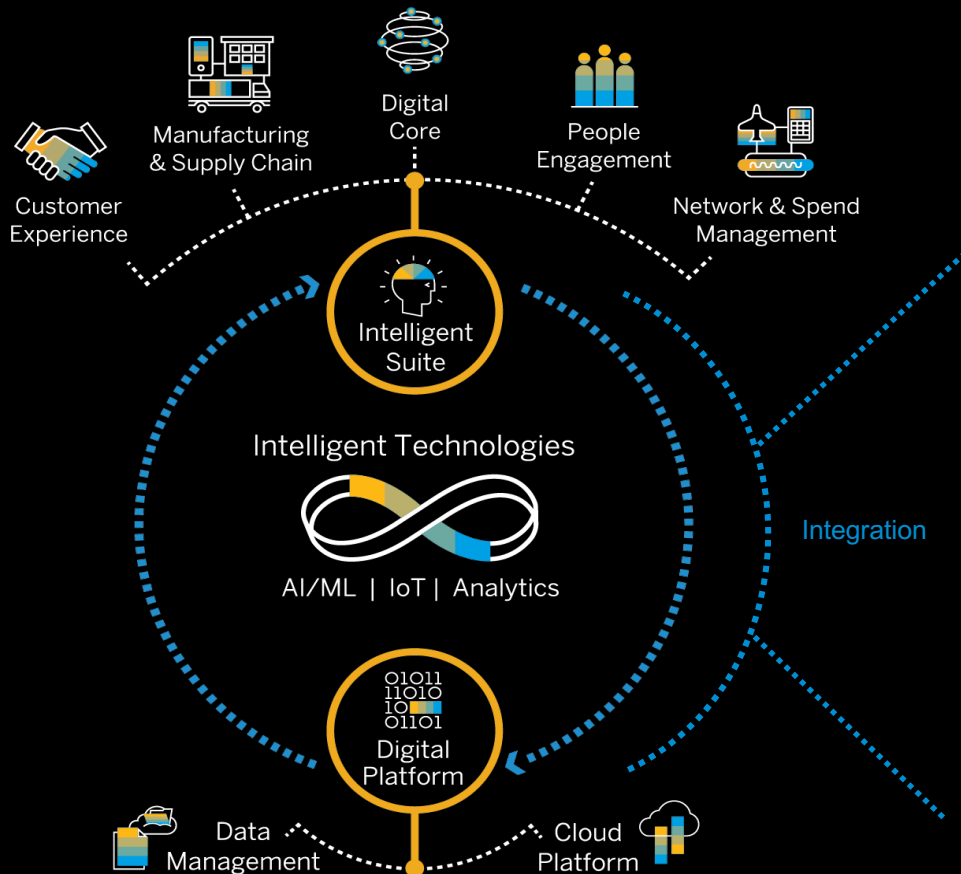
Total Workforce Management Process

Visibility and Intelligence Across Permanent Employees and Contingent Workers

Planning

Workforce planning
Organization generates a plan by modeling the demand for talent

+

Project planning
Individual project planners identify needs

Staffing

Identify internal talent
Search for existing resources with the required skills

Recruit new hires
Open requisitions, find candidates, make offers

Source contingent workers
Open reqs, create PO, work with suppliers

Onboarding

Complete paperwork, receive equipment, take training, meet team members, …

Working

Submit and approve **timesheets**

Provide **feedback** and complete ongoing **skills assessments**

Deliver ongoing **training and development**

Monitor deliverables, costs, and margins Close quarter end

Paying

Pay **internal employees** using payroll solution

Process invoices from suppliers for **contingent workers**

Closing

Submit final time and expenses and **close project**

Offboard internal and external resources

SAP Integration Strategy for the Intelligent Enterprise
Key Integration Principles

1

OUT-OF-THE-BOX
INTEGRATION

2

OPEN
INTEGRATION

3

HOLISTIC
INTEGRATION

4
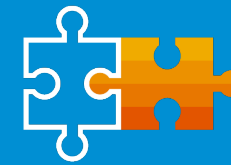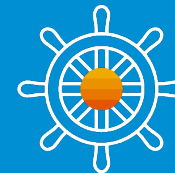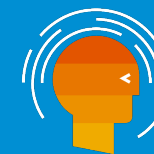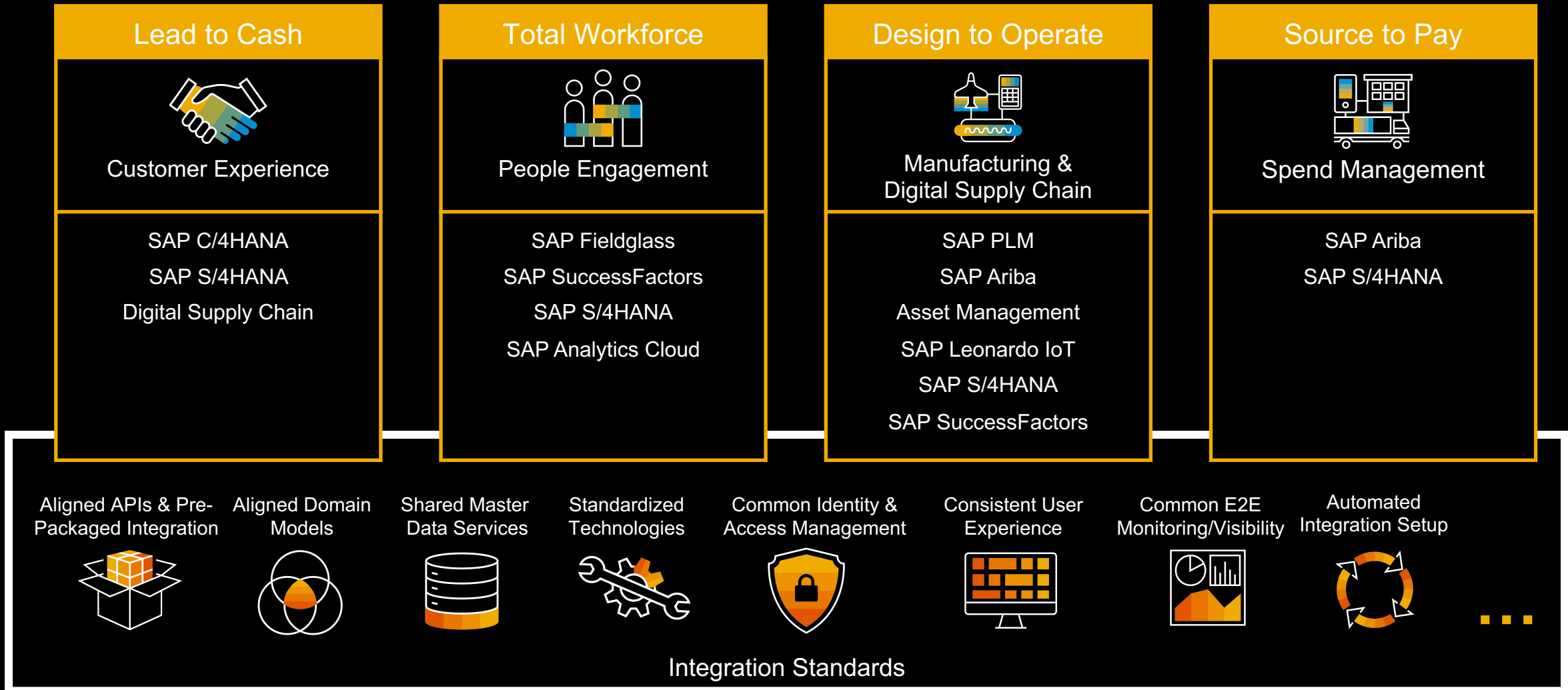
AI-DRIVEN
INTEGRATION

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SAP Integration DNA for the Intelligent Suite
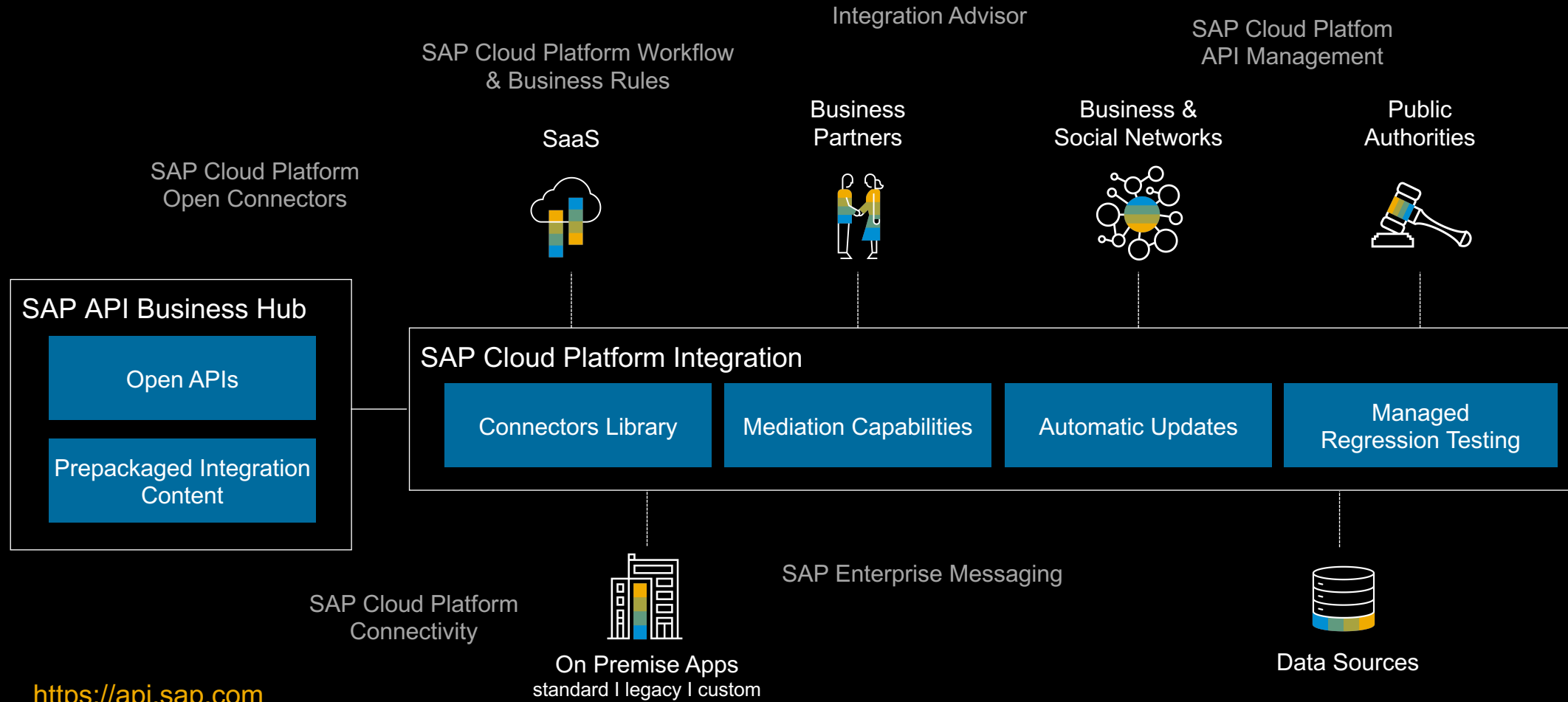## Stepwise Adoption of Integration Standards Along Key Scenarios

OUT-OF-THE-BOX
INTEGRATION

Lead to Cash

Customer Experience

SAP C/4HANA

SAP S/4HANA

Digital Supply Chain

Total Workforce

People Engagement

SAP Fieldglass

SAP SuccessFactors

SAP S/4HANA

SAP Analytics Cloud

Design to Operate

Manufacturing &
Digital Supply Chain

SAP PLM

SAP Ariba

Asset Management

SAP Leonardo IoT

SAP S/4HANA

SAP SuccessFactors

Source to Pay

Spend Management

SAP Ariba

SAP S/4HANA

Aligned APIs & Pre-Packaged Integration

Aligned Domain Models

Shared Master Data Services

Standardized Technologies

Common Identity & Access Management

Consistent User Experience

Common E2E Monitoring/Visibility

Automated Integration Setup

. . .

Integration Standards

SAP's IPaaS for Cloud and Hybrid Integration
SAP Cloud Platform Integration Suite

Integration Advisor

SAP Cloud Platform Workflow & Business Rules

SAP Cloud Platform API Management

SaaS

Business Partners

Business & Social Networks

Public Authorities

SAP Cloud Platform Open Connectors

SAP API Business Hub

Open APIs

Prepackaged Integration Content

SAP Cloud Platform Integration

Connectors Library	Mediation Capabilities	Automatic Updates	Managed Regression Testing

SAP Enterprise Messaging

SAP Cloud Platform Connectivity

On Premise Apps
standard I legacy I custom

Data Sources

https://api.sap.com

Digital Building Blocks for Modern Apps and Open Integration
SAP API Business Hub

Rich Catalog + **API Sandbox** + **Ease of Consumption** + **Pre-packaged Accelerators**

Rich Catalog	API Sandbox	Ease of Consumption	Pre-packaged Accelerators
Central place for APIs from SAP and its partners	One click-test experience for developers via API Sandbox	Code Generations and IDE integrations	Pre-packaged integrations and best practice templates
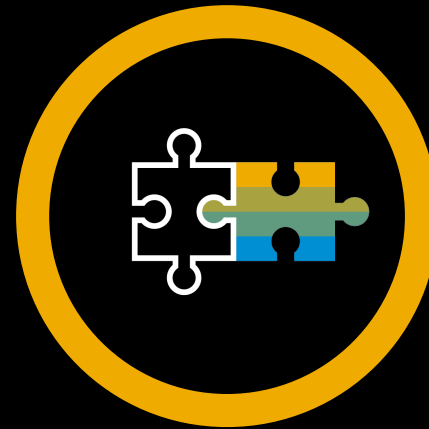
https://api.sap.com

Pre-delivered Process Integration
Example: Total Workforce Management

Break down the silos between HR and Procurement

From vacation position initiate a requisition for hiring permanent employee in Recruiting or for sourcing external worker through SAP Fieldglass

Centrally Manage Your Entire Workforce

SAP SuccessFactors, SAP Fieldglass, SAP S/4HANA Cloud, and SAP Cloud Platform help to apply business and talent management principles to the entire workforce and to manage all talent in a unified way.

SAP SuccessFactors ♡   **SAP Fieldglass**

Employee Central

Position profile   Position data   Requisition

Contingent worker profile   External worker data   Staffing with contingent worker
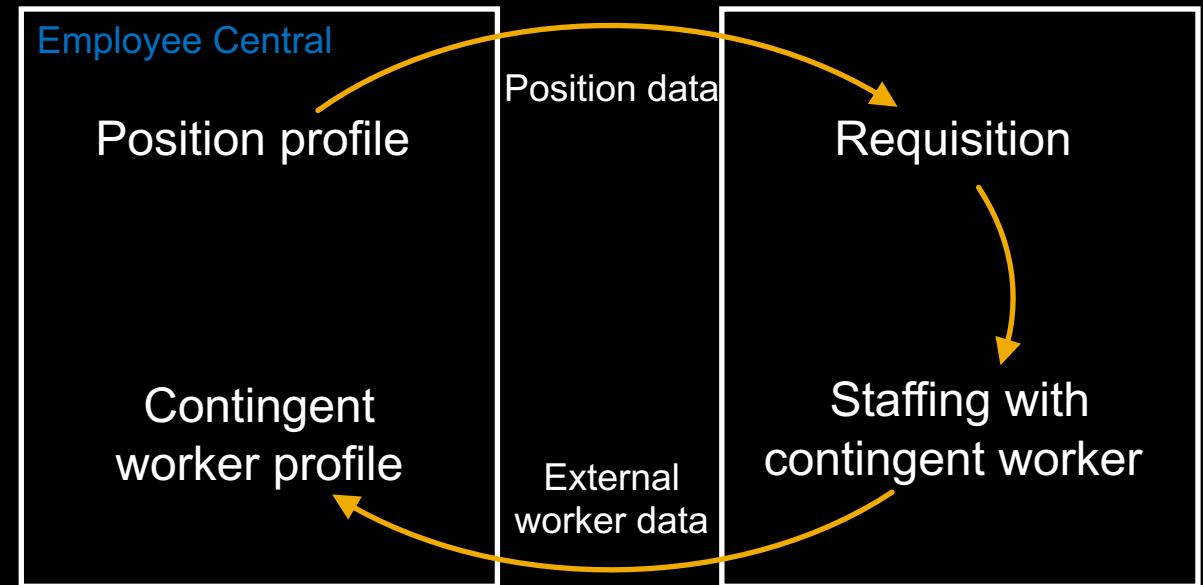
Managing and analyzing the total workforce

Reusable Business Services for the Intelligent Suite
Evolve SAP Cloud Platform into a Business Process Platform
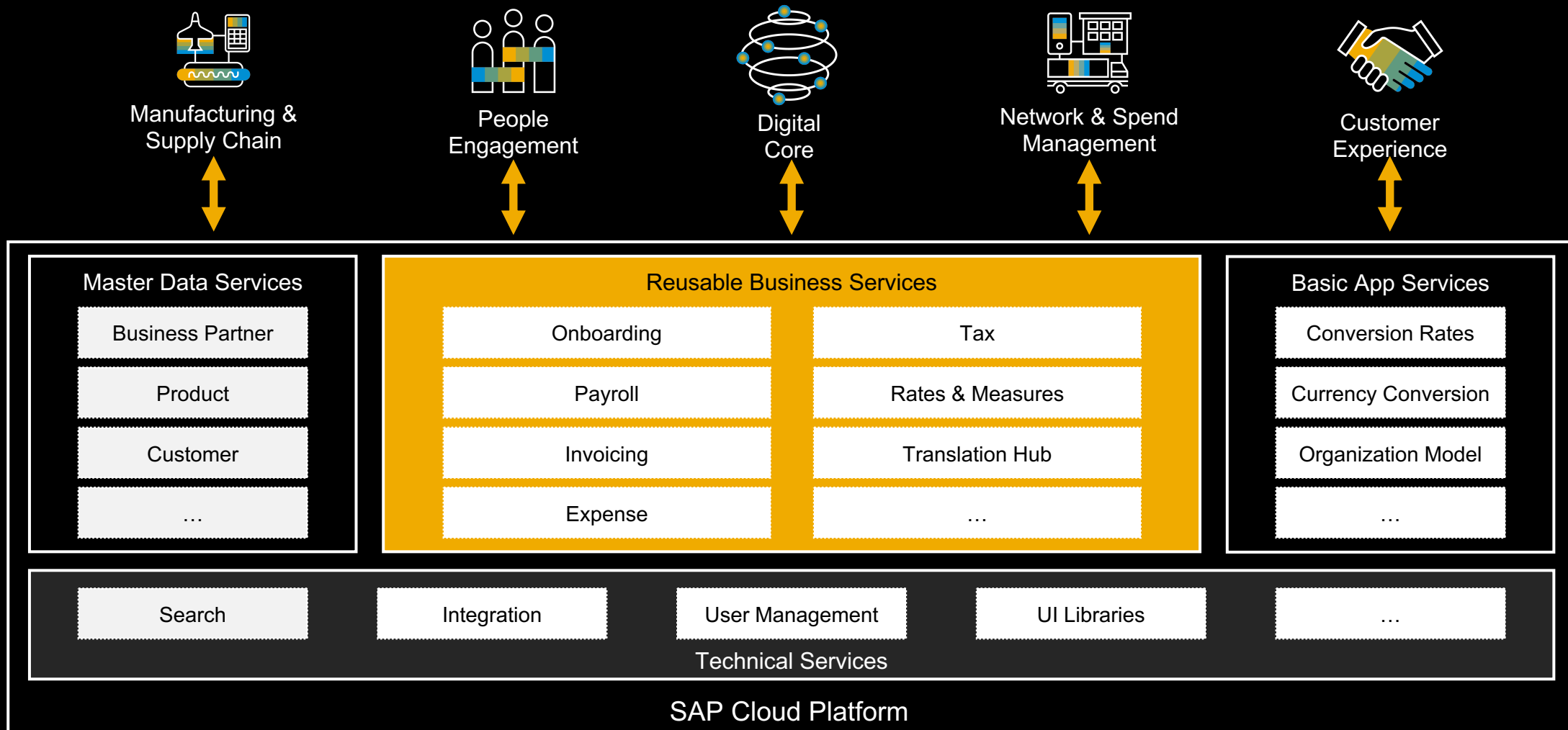
Manufacturing &
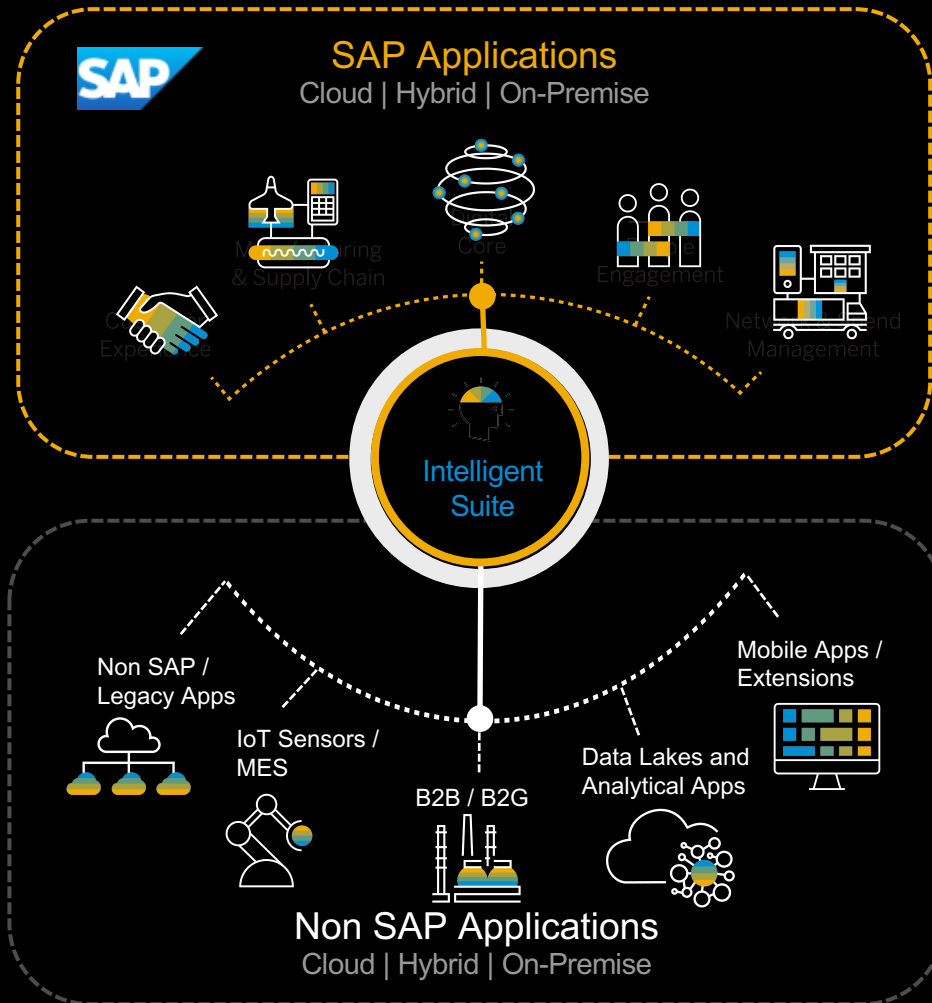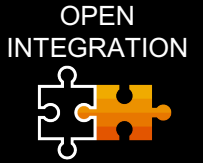Supply Chain

People
Engagement

Digital
Core

Network & Spend
Management

Customer
Experience

Master Data Services	Reusable Business Services		Basic App Services
Business Partner	Onboarding	Tax	Conversion Rates
Product	Payroll	Rates & Measures	Currency Conversion
Customer	Invoicing	Translation Hub	Organization Model
…	Expense	…	…

Search	Integration	User Management	UI Libraries	…

Technical Services

SAP Cloud Platform

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- Holistic Integration
- AI-Driven Integration
- Total Workforce Management Roadmap
- Key Take Aways

Integration Beyond SAP
Intelligent Suite as part of a Hybrid Customer Landscape

SAP Applications
Cloud | Hybrid | On-Premise

Manufacturing & Supply Chain

Core

Customer Engagement

Customer Experience

Network and Management

Intelligent Suite

Non SAP / Legacy Apps

IoT Sensors / MES

B2B / B2G

Data Lakes and Analytical Apps

Mobile Apps / Extensions

Non SAP Applications
Cloud | Hybrid | On-Premise

Hybrid Customer Landscape

- Challenge: Very heterogenous landscapes

- Openness and modularity is key

- Digital Platform: SAP Cloud Platform and the SAP Data Hub provide exhaustive capabilities to integrate any third party application, data source or real-world objects

Examples

- SAP Cloud Platform Open Connectors

- SAP Intelligent Robot Process Automation

- SAP Cloud Platform Integration Advisor

Accelerated Integration of Non-SAP Applications
SAP Cloud Platform Open Connectors
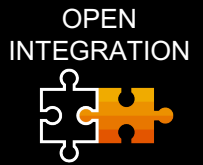
SAP Cloud Platform Open Connectors providing feature rich, pre-built connectors
to over 160 non-SAP cloud or on-premise applications

- Out of the box connectivity to 3rd Party APIs via harmonized RESTful APIs

- Develop and map canonical data model to extend pre-build connectors

- Easily build API composition across connectors

- Built-in API documentation in Open API Spec
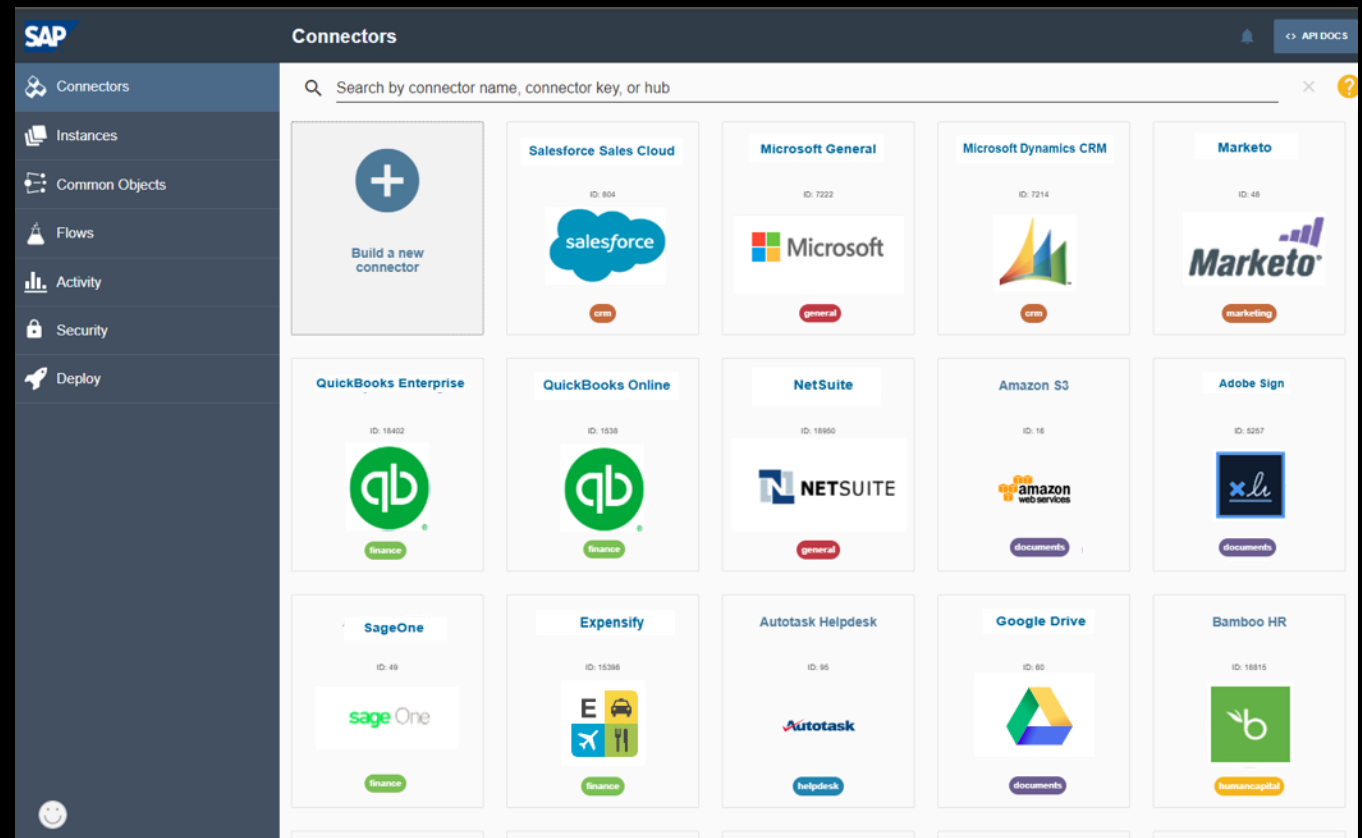
Automatically replicating tedious actions across the Intelligent Suite
SAP Intelligent Robotic Process Automation
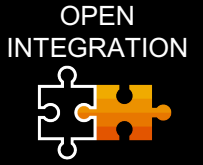
SAP® S/4HANA

SAP S/4HANA Cloud

SAP C/4HANA

SAP Ariba

SAP SuccessFactors

SAP Concur

SAP Fieldglass

SAP Leonardo Intelligent
Technologies

Capture the
process flow

Assemble
skills to bots

Mimic the user
and repeat

Check health
and expedite

✓ Third-party tools
✓ Non-SAP systems
✓ Legacy applications
✓ Web applications
✓ Internet portals

SAP® Cloud Platform

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Integration Solution Advisory Methodology (ISA-M)
Simplify Integration by a Systematic Approach

Overview

- Helps enterprise architects to shape their integration strategy
- Collection of typical integration styles and patterns
- Mapping to integration services (based on customer context)
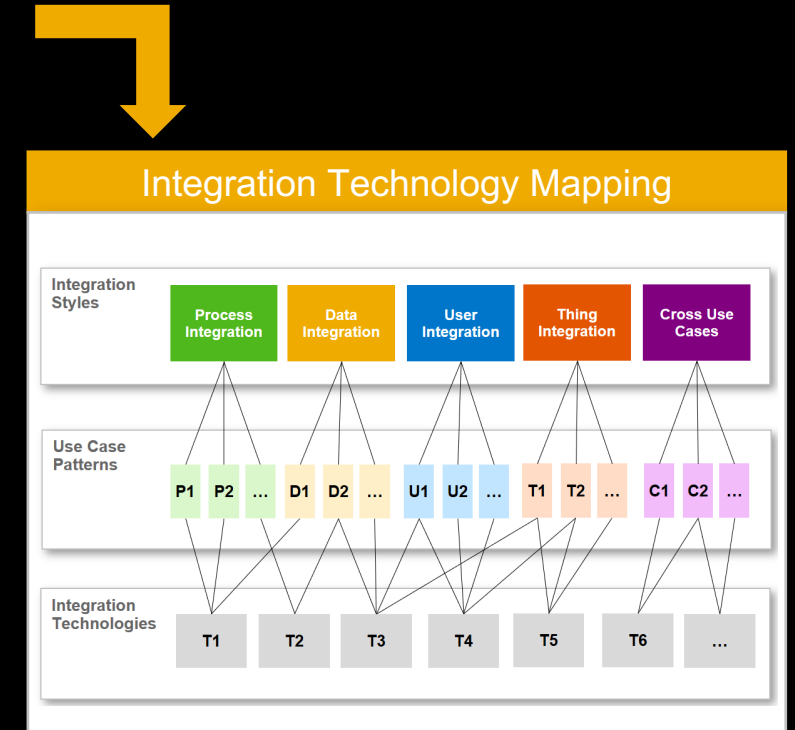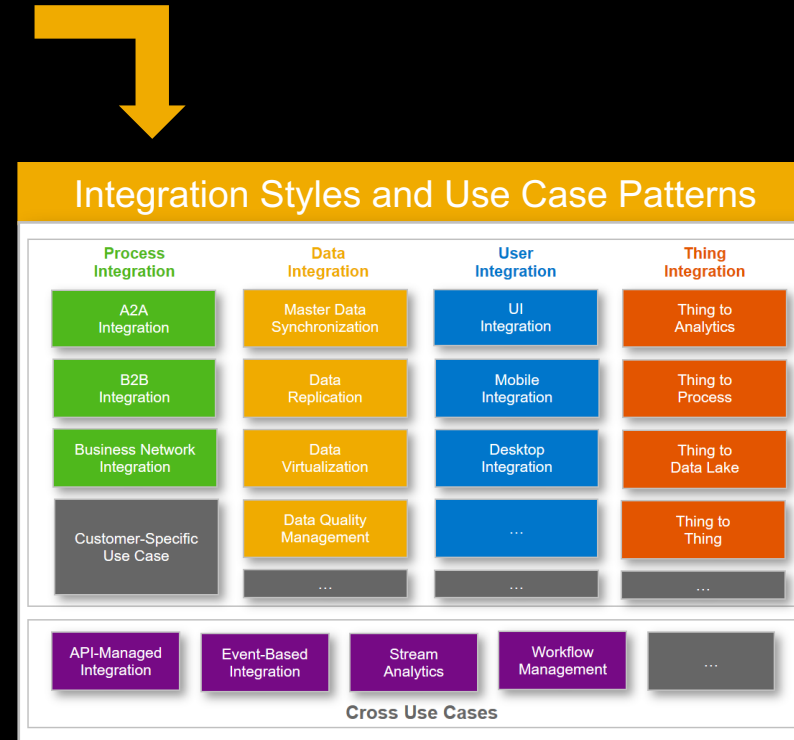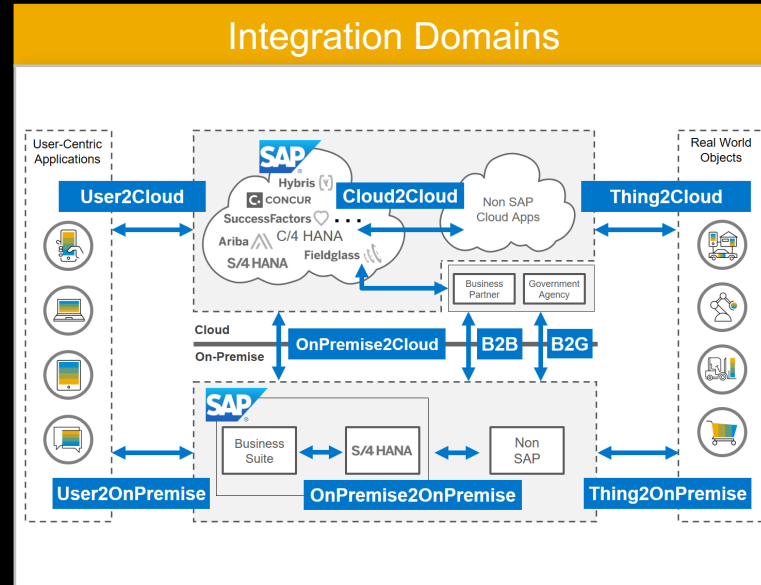- Open to SAP and Non-SAP integration technologies

ISA-M Template

- Free PPT template available
- Successfully adopted in multiple global organizations
- SAP Consulting Services (optional)
- +900 registered customers, partners and SAP consultants

Integration Solution Advisory Methodology (ISA-M)
Simply Integration by a Holistic Integration Approach

HOLISTIC INTEGRATION

Integration Domains

User-Centric Applications

Real World Objects

User2Cloud | Cloud2Cloud | Thing2Cloud

SAP
Hybris
CONCUR
SuccessFactors
Ariba
C/4 HANA
S/4 HANA
Fieldglass

Non SAP Cloud Apps

Business Partner | Government Agency

Cloud
On-Premise

OnPremise2Cloud | B2B | B2G

SAP
Business Suite | S/4 HANA | Non SAP

User2OnPremise | OnPremise2OnPremise | Thing2OnPremise

Integration Styles and Use Case Patterns

Process Integration	Data Integration	User Integration	Thing Integration
A2A Integration	Master Data Synchronization	UI Integration	Thing to Analytics
B2B Integration	Data Replication	Mobile Integration	Thing to Process
Business Network Integration	Data Virtualization	Desktop Integration	Thing to Data Lake
Customer-Specific Use Case	Data Quality Management	…	Thing to Thing
	…	…	…

API-Managed Integration	Event-Based Integration	Stream Analytics	Workflow Management	…

Cross Use Cases

Integration Technology Mapping

Integration Styles

Process Integration	Data Integration	User Integration	Thing Integration	Cross Use Cases

Use Case Patterns

P1 P2 … D1 D2 … U1 U2 … T1 T2 … C1 C2 …

Integration Technologies

T1	T2	T3	T4	T5	T6	…

UX Integration for a consistent experience
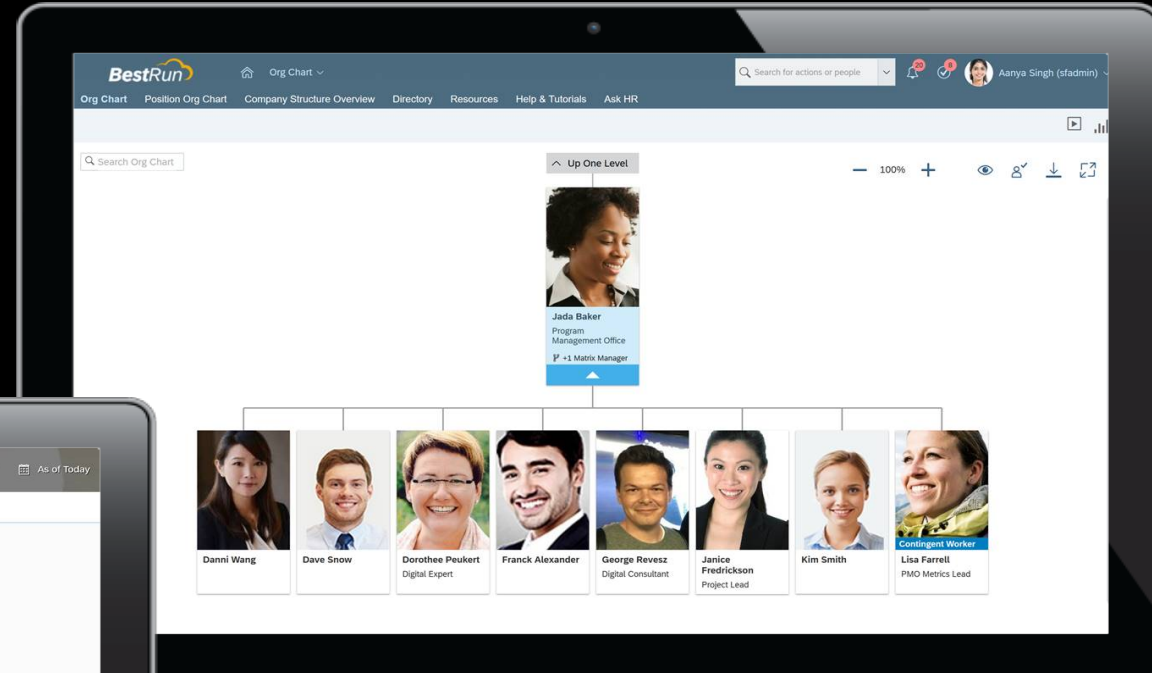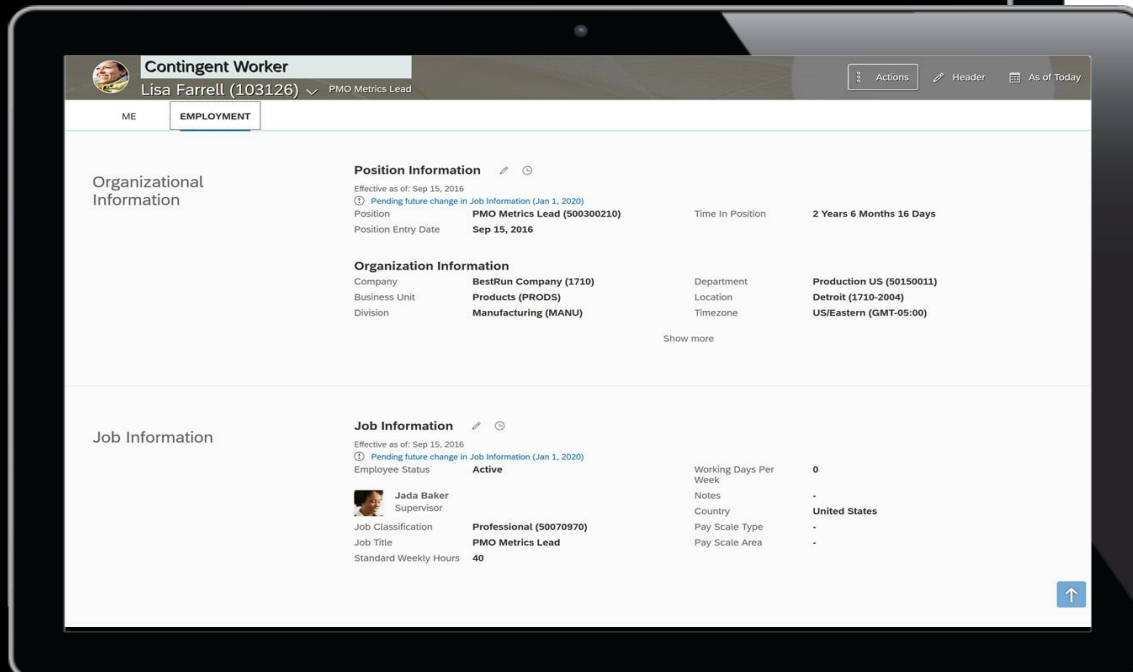## Example: Total Workforce Management

Inclusion and Visibility

- Making external workers visible to everyone and expanding the reach of select HR practices:

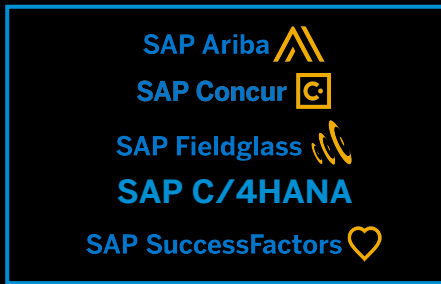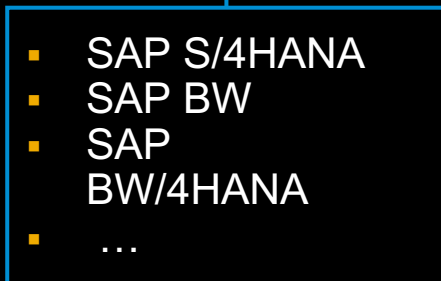- Contingent worker profile in SAP SuccessFactors Employee Central, display in org chart, people search

Analytics Integration: Embedding Analytics into SAP Applications
360° Cross-Analytics for the Intelligent Enterprise

SAP Ariba
SAP Concur
SAP Fieldglass
SAP C/4HANA
SAP SuccessFactors

SAP content and connectivity

- SAP S/4HANA
- SAP BW
- SAP BW/4HANA
- …

Partner Data like Benchmarks

3rd party content and connectivity

3rd party apps and data

SAP® Analytics Cloud

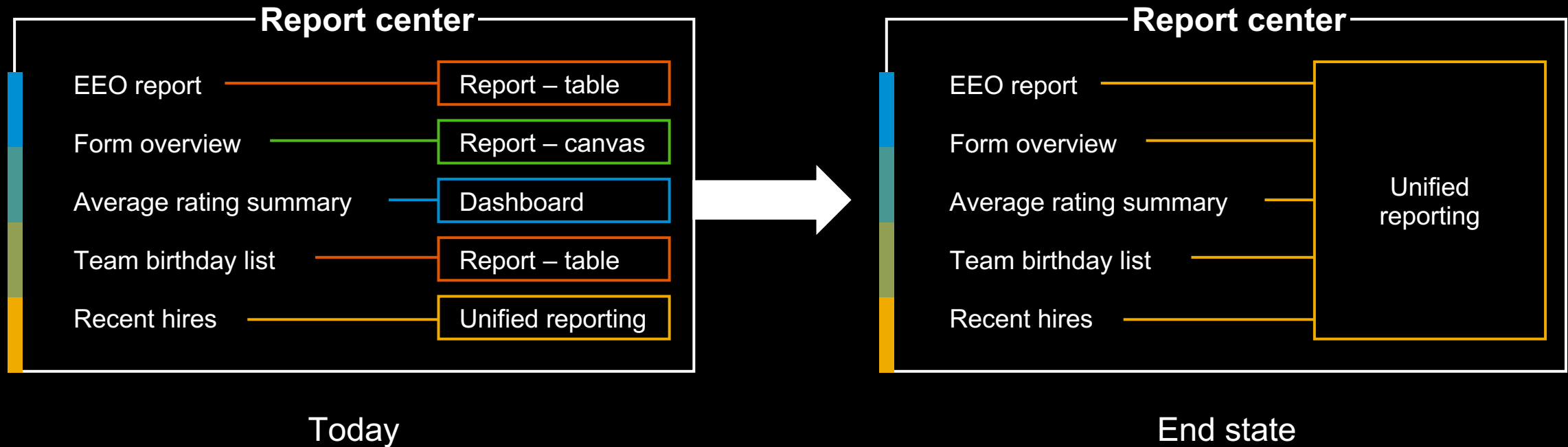# Suite-wide reporting and insights enabled by SAP Analytics Cloud
Example: SAP SuccessFactors

- Live SuccessFactors data

- Intuitive and guided

- Beautiful visualizations

- Accelerated

- Interactive

What is the impact to my end users?
Example: SAP SuccessFactors

Report center

EEO report	Report – table
Form overview	Report – canvas
Average rating summary	Dashboard
Team birthday list	Report – table
Recent hires	Unified reporting

Today

Report center

EEO report	
Form overview	
Average rating summary	Unified reporting
Team birthday list	
Recent hires	

End state

*LMS plateau report designer reports not included in report center – found through standard LMS navigation

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Typical E2E Flow for Integration Content Development
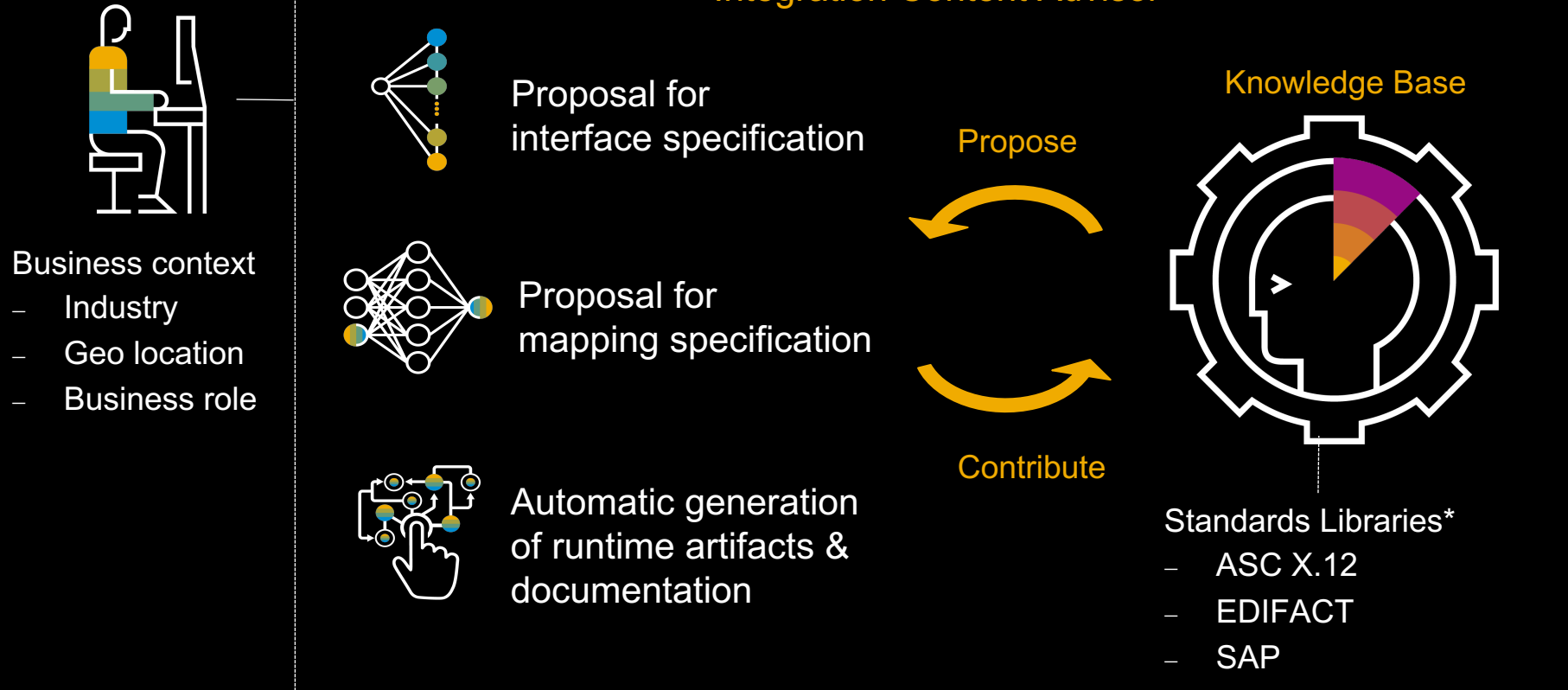## Key Effort is the Semantic Definition of Integration Mappings

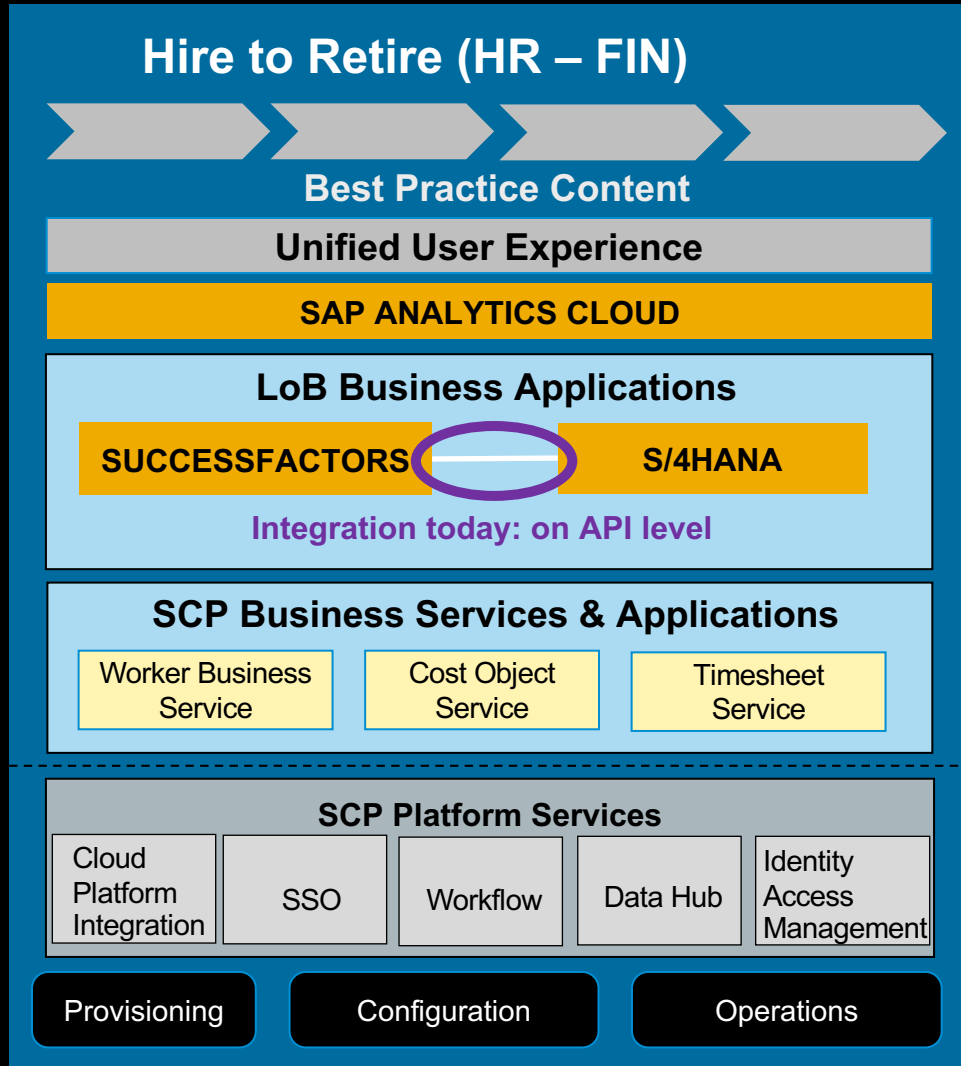| Business requirements	Interface specification	Mapping specification	Technical implementation	Testing and correction	Production
Set business context	Define message implementation guideline (MIG)	Define mapping guidelines (MAG)	Create runtime artifacts Deploy	Compare results with specifications	Transport to production system

Efforts	~ 50%			~ 20%	~ 30%	< 2%
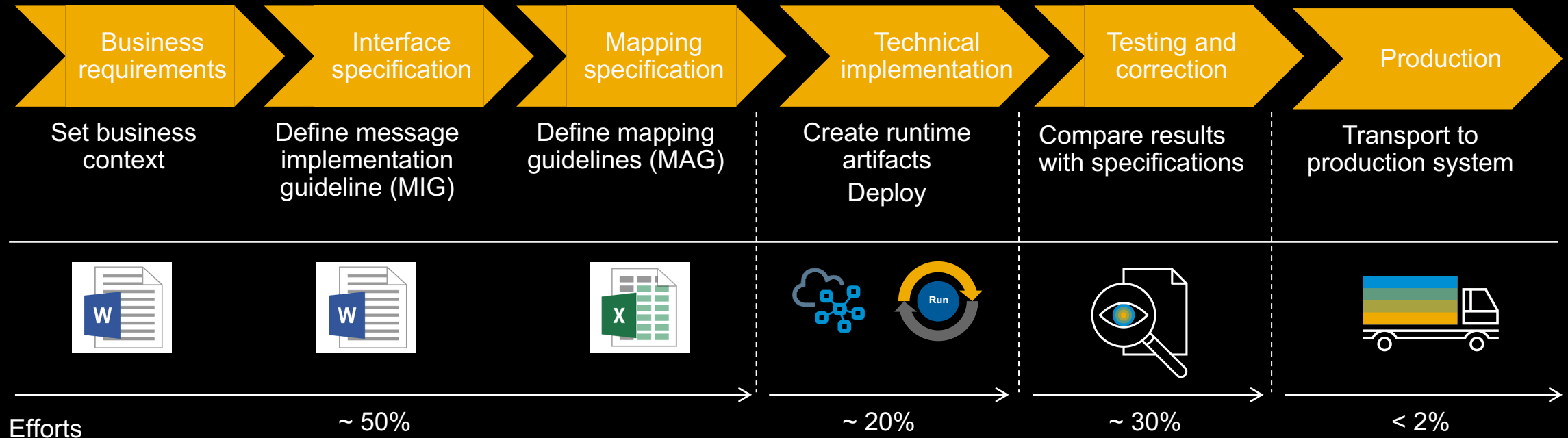
"Only 5% of the interface is a function of the middleware choice.
The remaining 95% is a function of application semantics."

Source: Gartner Group

Machine Learning meets Crowd Sourcing
Example: SAP Cloud Platform Integration Advisor

Integration Content Advisor

Business context
- Industry
- Geo location
- Business role

Proposal for interface specification

Proposal for mapping specification

Automatic generation of runtime artifacts & documentation

Propose

Contribute

Knowledge Base

Standards Libraries*
- ASC X.12
- EDIFACT
- SAP

Leverage machine learning and crowd sourcing to reduce interface implementation efforts by 60% or more.

Intelligent Technologies for End-to-End Automation
SAP Intelligent Robot Process Automation

AI-DRIVEN INTEGRATION

Interact

Execute

Optimize

Conversational AI (CAI)

Chatbots to interface and hand-over to execution bot

Interfacing

+

Intelligent RPA

Multiple bot workflows for execution (attended +unattended)

Performing Tasks

+
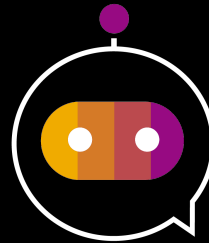
Machine Learning (ML)

Self-learning bots with dynamic adaptability

Learn from exceptions

SAP Intelligent RPA seamlessly integrated

Agenda

Intelligent Enterprise

Out-of-the-Box Integration

Open Integration

Holistic Integration

AI-Driven Integration

Total Workforce Management Roadmap

Key Take Aways

Delivering Integrated Business Processes

Example: Hire-to-Retire subprocess of Total Workforce Management

Hire to Retire (HR – FIN)

Best Practice Content

Unified User Experience

SAP ANALYTICS CLOUD

LoB Business Applications

SUCCESSFACTORS	S/4HANA

Integration today: on API level

SCP Business Services & Applications

Worker Business Service	Cost Object Service	Timesheet Service

SCP Platform Services

Cloud Platform Integration	SSO	Workflow	Data Hub	Identity Access Management

Provisioning	Configuration	Operations

Integrated Business Processes go beyond an integration on API level!

- They drive end-to-end integration across the whole stack. From UX down to domain model into the applications and technology.

- From integration through data exchange to integration through data sharing based on re-usable business services

- End-to-End Business Process Documentation (descriptive and executable) available on SAP API Business Hub.

Total Workforce Management Roadmap Excerpt

Functional Enhancements

- Unified talent development
- Onboarding 2.0, enhanced Recruiting/Employee Central integration for pending hires
- Central SAP Cloud Identity Access Governance and SAP Cloud Platform Identity Authentication
- Re-open expense report (changes on allocation level) and delta posting in FIN
- Employee Central Payroll Integration inclusive Payment and Taxation
- Support for multiple work orders per worker in SAP SuccessFactors Employee Central

Functional Enhancements

- Integration of workforce planning into financial planning
- Re-open expense report (e.g. adding additional receipts, update travel allowance) and delta posting in FIN (also for SAP S/4HANA OP 2009)
- Transfer of employee assignment per cost object (Staffing List)
- Transfer of cost object approver
- Clock in/out time
- Harmonized Timesheets

Functional Enhancements

- HCM Payroll Integration inclusive Payment and Taxation
- Transfer of expense report receipts to SAP S/4HANA

One Master Data

Company code and bank master data replicated from SAP S4/HANA to SAP SuccessFactors

One Master Data

- Controlling Object Service
- Bank Master Data Service
- Worker Business Service as a business service

TODO | 2019 | 2020 | 2021

Seamless UX

- UX consistency across SAP products
- Support for customer-defined in-app assistance through SAP Enable Now
- Custom enhancements for posting text (Cloud BAdIs)

Seamless UX

- UX harmonization, theming and branding
- Expense Reimbursement Payment Confirmation
- Central Inbox

Seamless UX

- Re-imagine workforce experience
- SAP SuccessFactors digital assistant
- Combined mobile app
- One Business Configuration

Intelligence & Analytics

- SAP Fieldglass content available on standalone SAP Analytics Cloud
- Resume Ranking using Machine Learning

Intelligence & Analytics

- Updated workforce planning templates
- CFO Dashboard
- People Analytics, embedded and advanced editions
- SAP Analytics Cloud Dashboards based on Expense Data

Intelligence & Analytics

- Embedded SAP Analytics Cloud
- Support for workforce planning SAP Analytics Cloud
- People Analytics, planning edition
- Statistic cost objects handling for expense reports
- SAP Data Hub to orchestrate data from SAP Fieldglass, SAP Ariba, SAP Concur, and SAP Analytics Cloud
- One common exchange rate

Integration Excellence

- Support for SAP Cloud Platform for core SAP Fieldglass solution
- Payroll Postings Employee Central Payroll to SAP S/4HANA Cloud (additional countries)
- Integration of Project systems requisitions into SAP Fieldglass solutions
- Replace Concur Layer add-on in SAP S/4HANA OP (S/4H OP 2009)
- Integration support for SAP Cloud Identity

Integration Excellence

- Integration for Travel & Expense Report
- Cost object integration
- Contingent Worker Business Service
- Employee Integration with Worker Business Service
- Controlling object integration
- Integration of foundation objects Employee Central & Learning
- Organizational Structure business service

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SAP Integration Strategy for the Intelligent Enterprise
Key Takeaways

1 OUT-OF-THE-BOX INTEGRATION

SAP provides integrated E2E business processes including plug-and play integrations enabled by a standardized application and technology portfolio.

2 OPEN INTEGRATION
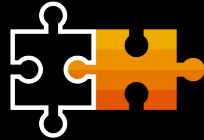
SAP provides exhaustive third party integration capabilities supported by its partner ecosystem. Public API's allow any type of custom extensions.

3 HOLISTIC INTEGRATION

SAP covers all flavors of integration (Process, B2B, Data, UX, Analytics, IoT). A methodology helps customers to shape their integration strategy.

4 AI-SUPPORTED INTEGRATION

SAP is investing into simplification of the E2E integration experience. AI techniques will be embedded into next generation services.

Q & A

Appendix

CIO Guides for Integration
Two Complementary Guides for Enterprise Architects

2017
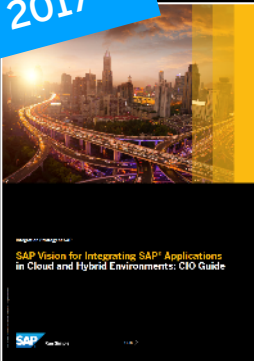
SAP Vision for Integrating SAP Applications in Cloud and Hybrid Environments

- Describes SAP's long term Vision for Integration

- Key Integration Use Cases

- API Alignment

- Process Integration Guidance

- Data Integration Guidance

https://www.sap.com/documents/2017/05/eebd96bd-b97c-0010-82c7-eda71af511fa.html

2018

Process and Data Integration in Hybrid Landscapes

- Refined Guidance for Process, B2B and Data Integration

- Integration Solution Advisory Methodology (ISA-M)

- SAP API Strategy

- Integration Automation

- SAP S/4HANA Transition Guidance

https://www.sap.com/documents/2018/06/de3238a0-077d-0010-87a3-c30de2ffd8ff.html

SAP Application Integration Roadmaps
Common Roadmap
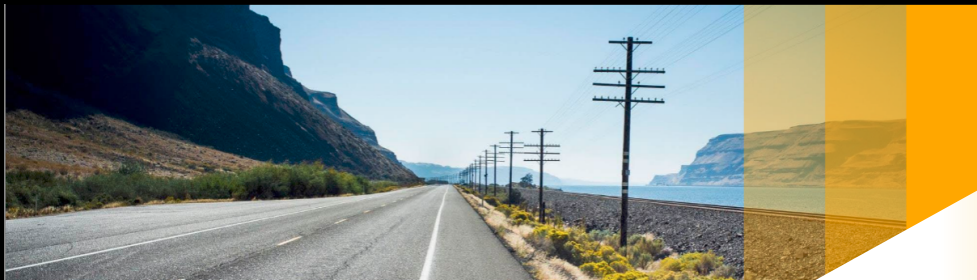
SAP Road Map for **Cloud Integration**

October 2018

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SAP SuccessFactors

SAP C/4HANA

SAP Concur

SAP Fieldglass

SAP Integrated Business Planning

SAP S/4HANA

SAP Ariba

SAP ERP

https://www.sap.com/products/roadmaps
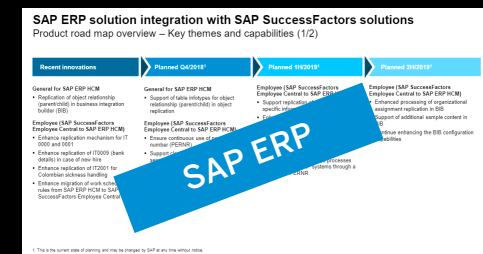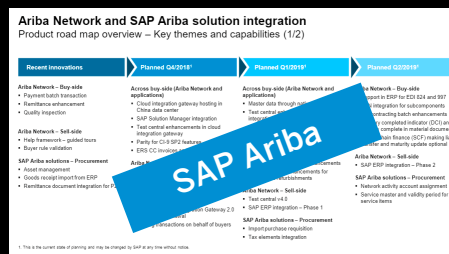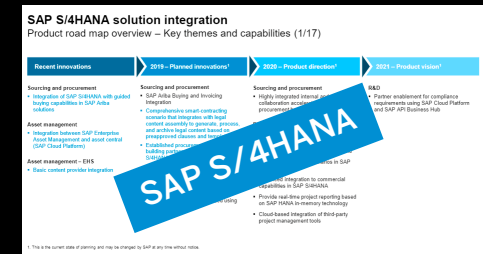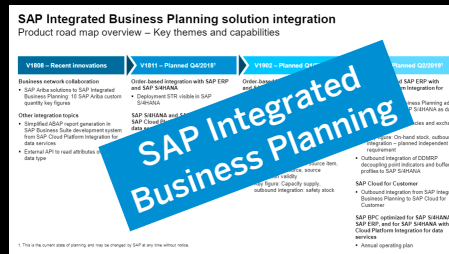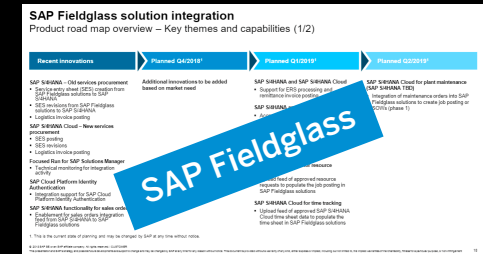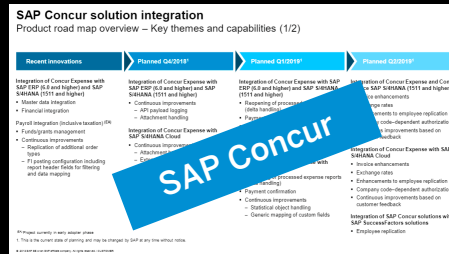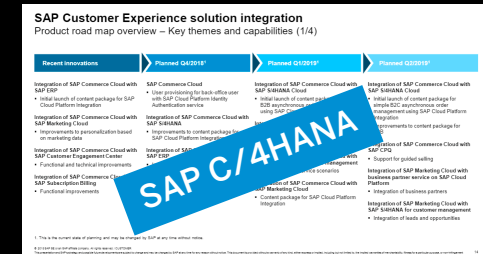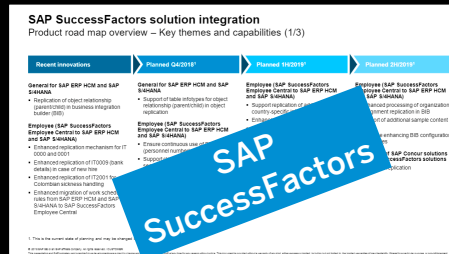
Thank you.

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