Future ERP Strategy: How to make Decision on your SAP S/4HANA Deployment Option?

Prepared by

Sven Fahn
Nicolas Löwe
Nour Hachemi

Prepared for

07.10.2021

BearingPoint®

We are glad to welcome you!

Sven Fahn

Nicolas Löwe

Nour Hachemi

Agenda

1. **Drivers for (re)considering Deployment Options**

2. **Introduction to Software Deployment Options**

3. **Deployment Options for S/4HANA**

4. **SAP S/4HANA Cloud or On-premise?**

5. **„RISE with SAP" as a possible transition into the cloud**
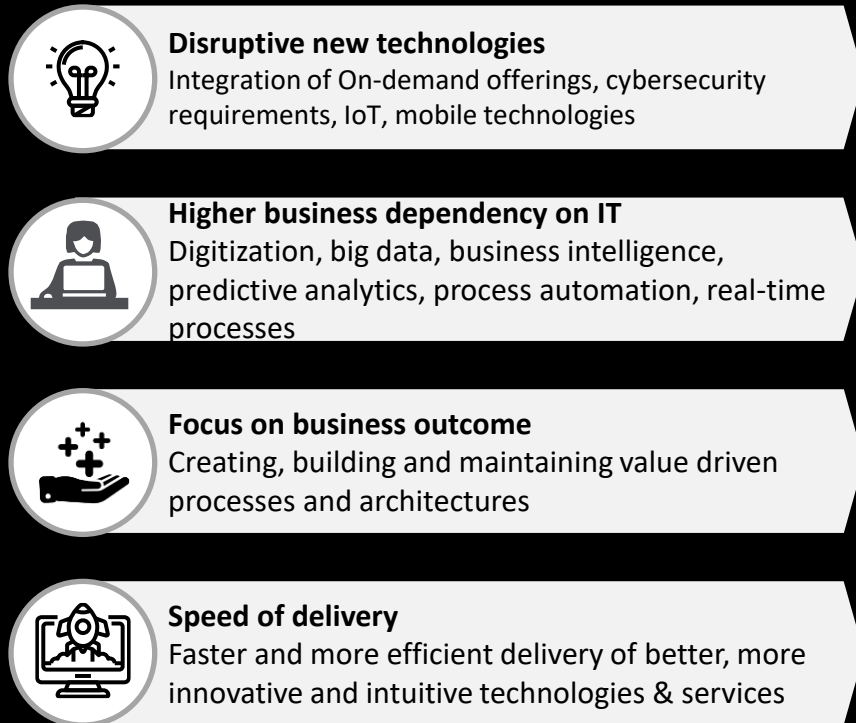
6. **Conclusion**

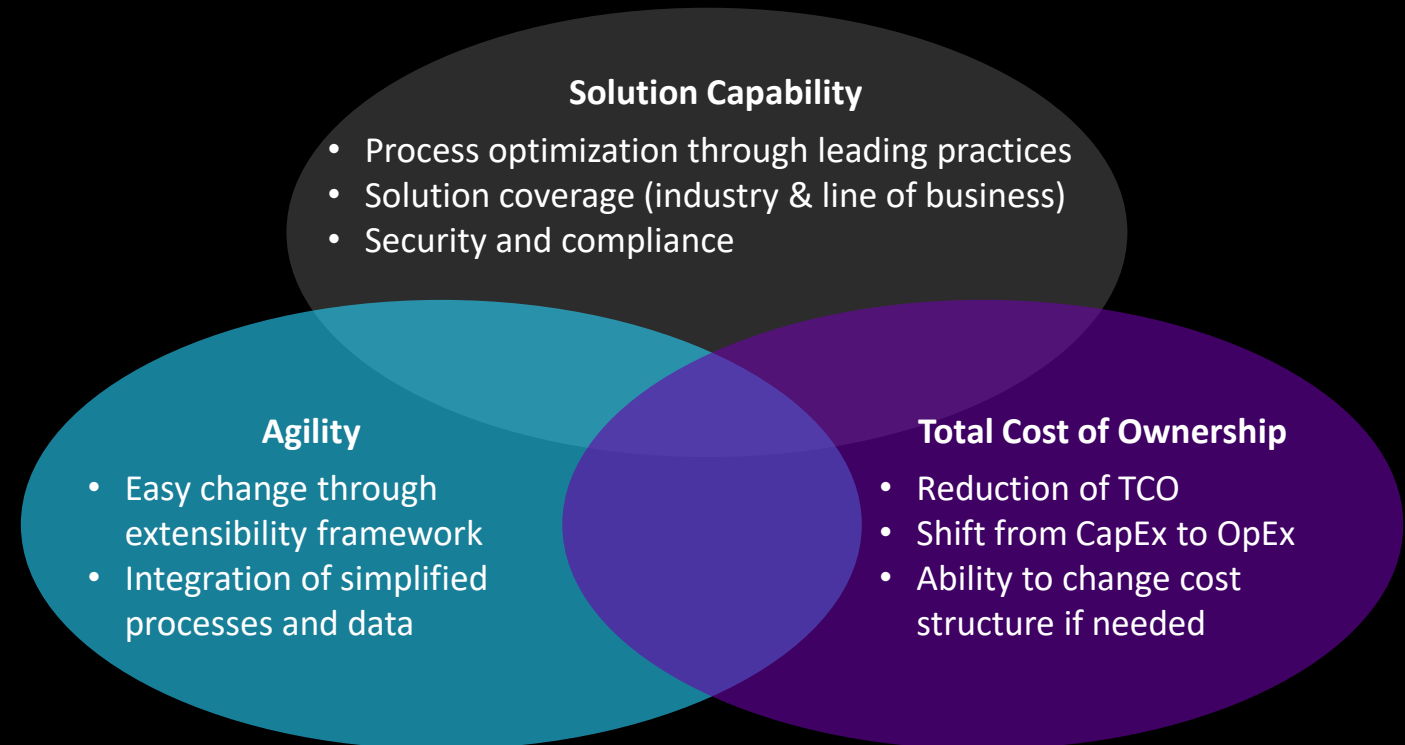# 1. Drivers for (re)considering Deployment Options

BearingPoint®

ERP Transformation to drive agility and reduce complexity

Agility & Cost factors drive the synergy between SAP S/4HANA deployment and operations approaches

Technological key levers

Disruptive new technologies
Integration of On-demand offerings, cybersecurity requirements, IoT, mobile technologies

Higher business dependency on IT
Digitization, big data, business intelligence, predictive analytics, process automation, real-time processes

Focus on business outcome
Creating, building and maintaining value driven processes and architectures

Speed of delivery
Faster and more efficient delivery of better, more innovative and intuitive technologies & services

Key selection criteria for ERP deployment options

Solution Capability

- Process optimization through leading practices
- Solution coverage (industry & line of business)
- Security and compliance

Agility

- Easy change through extensibility framework
- Integration of simplified processes and data

Total Cost of Ownership

- Reduction of TCO
- Shift from CapEx to OpEx
- Ability to change cost structure if needed

BearingPoint®

Major trends in ERP solutions in 2021 and beyond

The trend is to continue to invest on key technologies including cloud-based ERP system although operations are affected and short, mid-term actions have to be taken
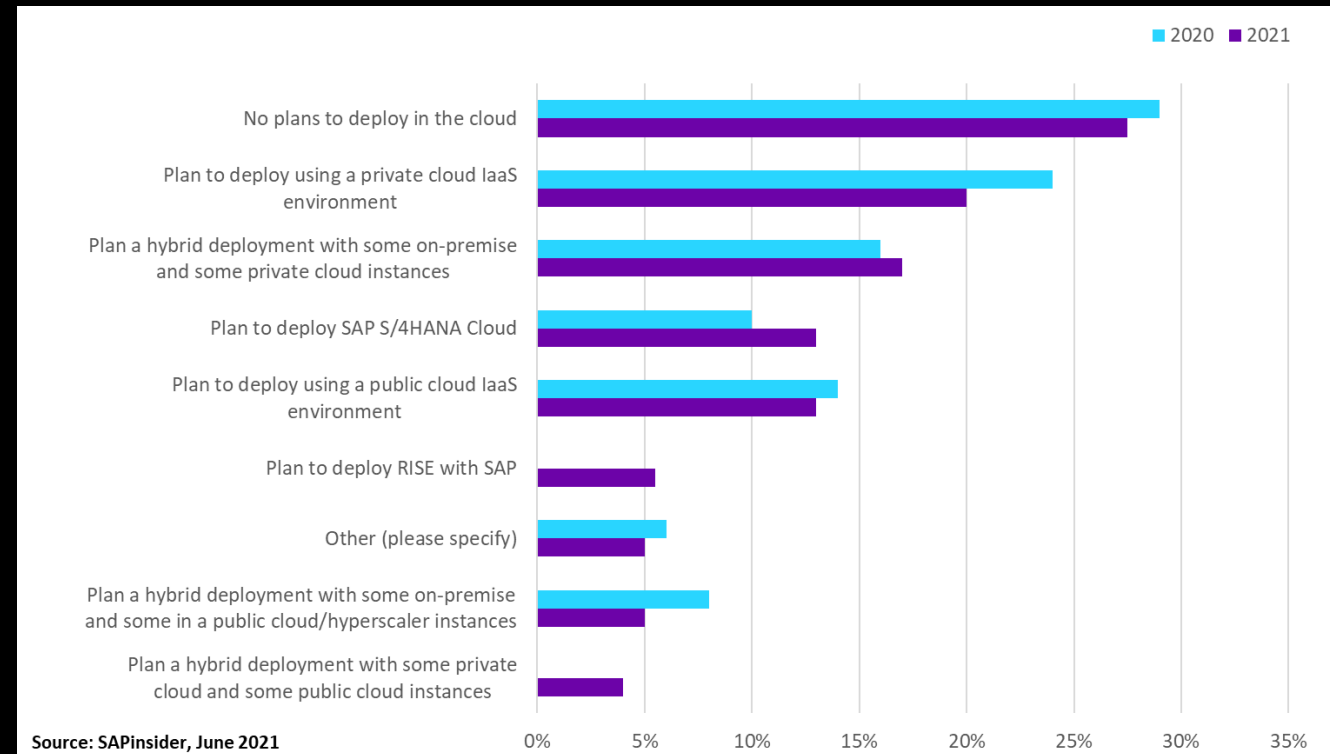
General Trends

- The global cloud ERP market is expected to grow 13.6% annually and reach $40.5 billion by 2025
- Modern architectures show a clear shift from monoliths to more agile best of breed solutions
- Artificial intelligence (AI), and specifically machine learning, help optimize more business processes, provide new insights and create personalized customer interactions.

- ERP is further integrating with other technologies, such as internet of things (IoT) devices and social media to automate even more and provide greater visibility and a better customer experience.
- A solution that can support remote work has become critical as organizations increasingly rely on distributed workforces in the wake of the coronavirus.
- ERP as a Clean Core system, Best of Breed Approach
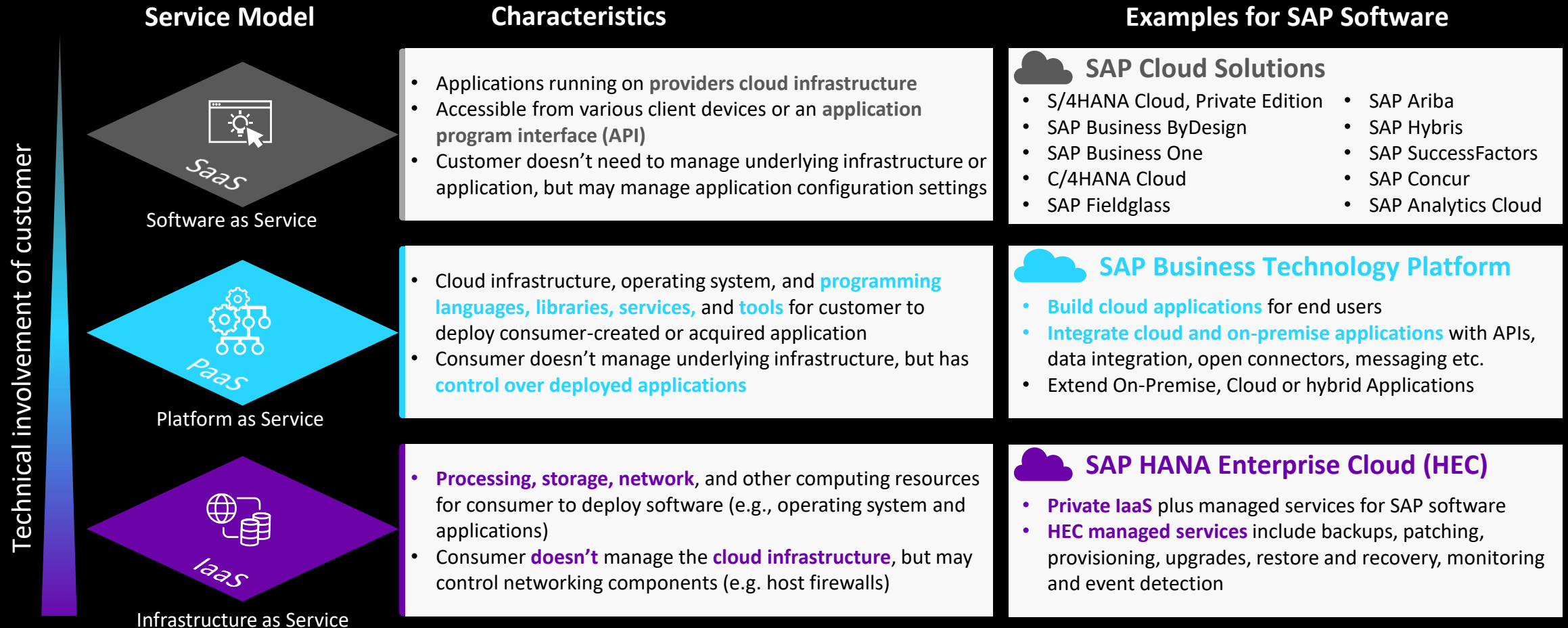
Cloud strategy for SAP S/4HANA deployment

■ 2020 ■ 2021

No plans to deploy in the cloud

Plan to deploy using a private cloud IaaS environment

Plan a hybrid deployment with some on-premise and some private cloud instances

Plan to deploy SAP S/4HANA Cloud

Plan to deploy using a public cloud IaaS environment

Plan to deploy RISE with SAP

Other (please specify)

Plan a hybrid deployment with some on-premise and some in a public cloud/hyperscaler instances

Plan a hybrid deployment with some private cloud and some public cloud instances

0%   5%   10%   15%   20%   25%   30%   35%

Source: SAPinsider, June 2021

BearingPoint®

2. Introduction to Software Deployment Options

BearingPoint.

Overview of SAP Cloud Solutions: SaaS, PaaS and IaaS

The cloud model is composed of three services models corresponding to various SAP solutions and products.

Service Model

Characteristics

Examples for SAP Software

Technical involvement of customer

SaaS

Software as Service

- Applications running on **providers cloud infrastructure**
- Accessible from various client devices or an **application program interface (API)**
- Customer doesn't need to manage underlying infrastructure or application, but may manage application configuration settings

SAP Cloud Solutions

- S/4HANA Cloud, Private Edition
- SAP Business ByDesign
- SAP Business One
- C/4HANA Cloud
- SAP Fieldglass

- SAP Ariba
- SAP Hybris
- SAP SuccessFactors
- SAP Concur
- SAP Analytics Cloud

PaaS

Platform as Service

- Cloud infrastructure, operating system, and **programming languages, libraries, services,** and **tools** for customer to deploy consumer-created or acquired application
- Consumer doesn't manage underlying infrastructure, but has **control over deployed applications**

SAP Business Technology Platform

- **Build cloud applications** for end users
- **Integrate cloud and on-premise applications** with APIs, data integration, open connectors, messaging etc.
- Extend On-Premise, Cloud or hybrid Applications

IaaS

Infrastructure as Service

- **Processing, storage, network**, and other computing resources for consumer to deploy software (e.g., operating system and applications)
- Consumer **doesn't** manage the **cloud infrastructure**, but may control networking components (e.g. host firewalls)

SAP HANA Enterprise Cloud (HEC)

- **Private IaaS** plus managed services for SAP software
- **HEC managed services** include backups, patching, provisioning, upgrades, restore and recovery, monitoring and event detection

BearingPoint®

3. Introduction to S/4HANA Deployment Options

BearingPoint

SAP S/4HANA Cloud and On-Premise Deployment Options

The different SAP S/4HANA deployment options differentiate the ownership of managing the infrastructure, platform and software.

		Cloud ERP		Private Managed Cloud	S/4HANA Any-Premise		
		S/4HANA Cloud	S/4HANA Cloud extended edition	S/4HANA Cloud private edition	SAP S/4HANA HEC	SAP S/4HANA Hosting	SAP S/4HANA On-premise
		SAAS	SAAS	SAAS	PAAS	IAAS	OP
Software	Applications Data	SAP	SAP	Customer	Customer	Customer	Customer
Platform	Runtime Middleware Database OS	SAP	SAP	SAP / aws / Google / Azure	SAP / Customer	Customer	Customer
Infrastructure	Virtualization Storage Network	SAP	SAP / aws / Google / Azure	SAP / aws / Google / Azure	SAP / aws / Google / Azure	SAP / aws / Google / Azure	Customer

Covered by „RISE with SAP"

BearingPoint®

Comparison of S/4HANA Deployment Options in Details

ONE Code-line, ONE Data Model, ONE Semantic, ONE User Experience

	Cloud ERP		Private Managed Cloud	SAP S/4HANA Any-Premise		
	S/4HANA Cloud	S/4HANA Cloud extended edition	S/4HANA Cloud private edition	SAP S/4HANA Managed by SAP (HEC)	SAP S/4HANA Hosting	SAP S/4HANA On-premise
Infrastructure	• Hosted only by SAP • Public cloud shared with other customers	• Hosted by SAP or Hyperscaler • Dedicated landscape on cloud	• Hosted by SAP or Hyperscaler • Dedicated landscape on cloud	• Hosted only by SAP • Customer specific landscape on HEC	• Hosted by customer or Hyperscaler • IaaS	• On premise • Own hardware
Implementation Approach	• Greenfield	• Greenfield • Selective data transition	• Greenfield • System Conversion • Selective data transition	• Greenfield • System Conversion • Selective data transition	• Greenfield • System Conversion • Selective data transition	• Greenfield • System Conversion • Selective data transition
Scope	• Core ERP (subset of full ERP) • Professional Services and Component Manufacturing	• Same S/4HANA functional scope as on-premise • Some third-party add-on limitations	• Same S/4HANA functional scope as on-premise • Some third-party add-on limitations	• Full S/4HANA functional, country and industry scope	• Full S/4HANA functional, country and industry scope	• Full S/4HANA functional, country and industry scope
Upgrade	• Quarterly fixed and mandatory (configuration and software)	• Two per year with flexibility (software)	• Annual and own speed of adoption (software	• Annual and own speed of adoption (software)	• Annual and own speed of adoption (software)	• Annual and own speed of adoption (software)
License	• Subscription for software as a service	• Subscription for software as a service	• subscription for software as a service (available as RISE with SAP).	• Bring Your own license • Infrastructure subscription	• Perpetual or bring your own license	• Perpetual or bring your own license
Best practices	• Selected from cloud-specific • SAP Best Practices • Implementation Portal	• SAP Best Practices and Model Companies available	• SAP Best Practices and Enterprise Management Layer available.	• All SAP Best Practices and Model Companies available • SAP Solution Manager	• All SAP Best Practices and Model Companies available • SAP Solution Manager	• All SAP Best Practices and Model Companies available • SAP Solution Manager
Customizability	• SSCUIs • Extensibility framework and extensions through SAP BTP with whitelisted APIs	• IMG customization • No modifications • Extensibility framework and extensions through SAP BTP	• IMG customization, modifications, extensibility framework, and extensions through SAP BTP	• IMG Customization, modification, and extensibility possible as with ERP	• IMG Customization, modification, and extensibility possible as with ERP	• IMG Customization, modification, and extensibility possible as with ERP

BearingPoint

4. SAP S/4HANA Cloud or On-premise?

BearingPoint®

The proper option provides the opportunities of strategic adjustment to the COVID-19

The key selection criteria of S/4HANA deployment option by solution capability, total cost of ownership and agility

	Cloud ERP		Private Managed Cloud	SAP S/4HANA Any-Premise		
	S/4HANA Cloud	**S/4HANA Cloud extended edition**	**S/4HANA Cloud private edition**	**SAP S/4HANA Managed by SAP (HEC)**	**SAP S/4HANA Hosting**	**SAP S/4HANA On-premise**
Solution Capability — Solution scope	• Finance-led ERP • Industry content for professional services & Component manufacturing • 25 languages, 42 countries	• Full S/4HANA functional scope • Some third-party add-on limitations • 64 countries, 39 languages 25 industries	• Full S/4HANA functional scope • Some third-party add-on limitations • 64 countries, 39 languages 25 industries	• Full S/4HANA functional, country and industry scope and partner add-ons • 64 countries, 39 languages and 25 industries		
Security & Compliance	• Depends on SAP security management and SAP data center • SAP conducts regular penetration tests • Cloud ES may not be adequate for strict regulatory compliance standards for specific customer requirement (validated environments)		• Vulnerability Management and Penetration Testing • 24×7 Security Monitoring	• Suitable for strict regulatory compliance standards • Security of the infrastructure depends on the security level of the hosting providers • Require Security Expert and additional software		• Good depends on the customer for high regulatory and compliance standards • Require Security Expert and additional software
Total Cost of Ownership	• Subscription licenses 1) user access, 2) digital access, 3) add-on modules and 4) infrastructure add-on • Shift from capital expenditure to operating expenditure • Lower operation and maintenance cost		• Subscription licenses (RISE) • Shift from capital expenditure to operating expenditure • Lower operation and maintenance cost	• Infrastructure subscription, no investment on hardware • Reduce cost for IT experts • Higher TCO than public cloud due to HW ongoing costs		• Investment on hardware and software licenses • Higher operation and maintenance cost
Agility	• Quarterly innovation cycles • Fast reaction to process change • Better connect SAP cloud via API • Fast reaction to infrastructure extension	• Half-yearly innovation cycles • Fast reaction to process change • Better connect SAP cloud via API • Fast reaction to infrastructure extension	• Yearly innovation cycle • Fast reaction to process change • Better connect SAP cloud via API • Fast reaction to infrastructure extension	• Individual custom solution and control of updates • Fast reaction to infrastructure extension		• Individual custom solution and control of updates • Complex to expand existing infrastructure

Low   Medium   High

BearingPoint®

SAP S/4HANA Cloud 2108 – Business Area in Line of Business

Operational ERP
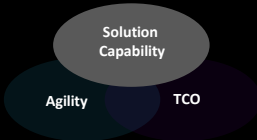
Manufacturing	R&D / Engineering	Supply Chain	Asset Management	Direct Procurement
				Sourcing and Procurement
Extended Production Planning and Scheduling	Enterprise Portfolio and Project management	Order Promising	Asset Operations and Maintenance	Supplier Management
Production Engineering	Product Compliance	Advanced Order Promising	Environment, Health and Safety	Sourcing and Contract Management
Production Operations	Product Lifecycle Management	Logistic material Identification	Maintenance Management	Central Procurement
Production Planning		Inventory		Operational Procurement
Quality Management		Warehousing		Invoice Management
		Delivery and Transportation		Procurement Analytics

Sales	Order and Contract Management

Line of Business / Industry

Business Area

Service	Service Master Data & Agreement Management	Service Operations & Processes

Solution Capability

Agility   TCO

Source: SAP SE

BearingPoint ®

The public cloud requires different security control level between cloud consumer and provider

Cloud Security and Data Center Strategy with SAP S/4HANA Cloud ES and EX

Cloud Consumer

- Ensure own data security better than a professional specialized cloud provider
- Establish a security concept for cloud applications
- Regular training of employees regarding IT security

End-User Control, Limited Admin Control

No Control

| Application |
| Application Server |
| Database |
| Operating System |
| Infrastructure, Hardware |

Restricted Access

Full Control

Cloud Provider

- Cloud server location is relevant due to regional data protection acts (e.g. DSGVO/GDPR)
- Certification of the cloud provider (e.g. complies with ISO standards)

SAP S/4HANA Cloud Operations

Data Center Locations Overview

Amsterdam
St. Leon-Rot
Sterling
Santa Clara
Osaka
Tokyo
Shanghai
Sydney

- S/4HANA Data Center
- Failover Data Center

© 2017 SAP SE or an SAP affiliate company. All rights reserved. ‎ PUBLIC

- In case of a failover situation, customer data can be brought back through the failover data centers

Certifications, Attestations & SAP Security Governance

SAP has a data protection management system based on the globally recognized British Standard (BS 10012: 2009 Data Protection)

- **Confidentiality and privacy statement:** Signed by all employees and SAP vendors and third-party providers
- **SAP Cloud Platform Identity Authentication:** cloud-based access to required business processes, applications, and data.
- **Certifications in:** Financial Reporting, Trust Service Principles & ISO 27001

Secure Network Architecture

The security architecture of the SAP Cloud Platform aims to isolate customer data and systems and the services of the SAP Cloud Platform. This is achieved through two security methods:

- **Network sandboxing:** Restrict and manage the application's access to other system landscapes
- **Application sandboxing:** Restrict and manage the functions of an application only within the container in which the application is running

BearingPoint®

Agility requires optimal balance between standardization and flexibility

S/4HANA provides the new extensibility framework and integration APIs in in heterogeneous system landscape
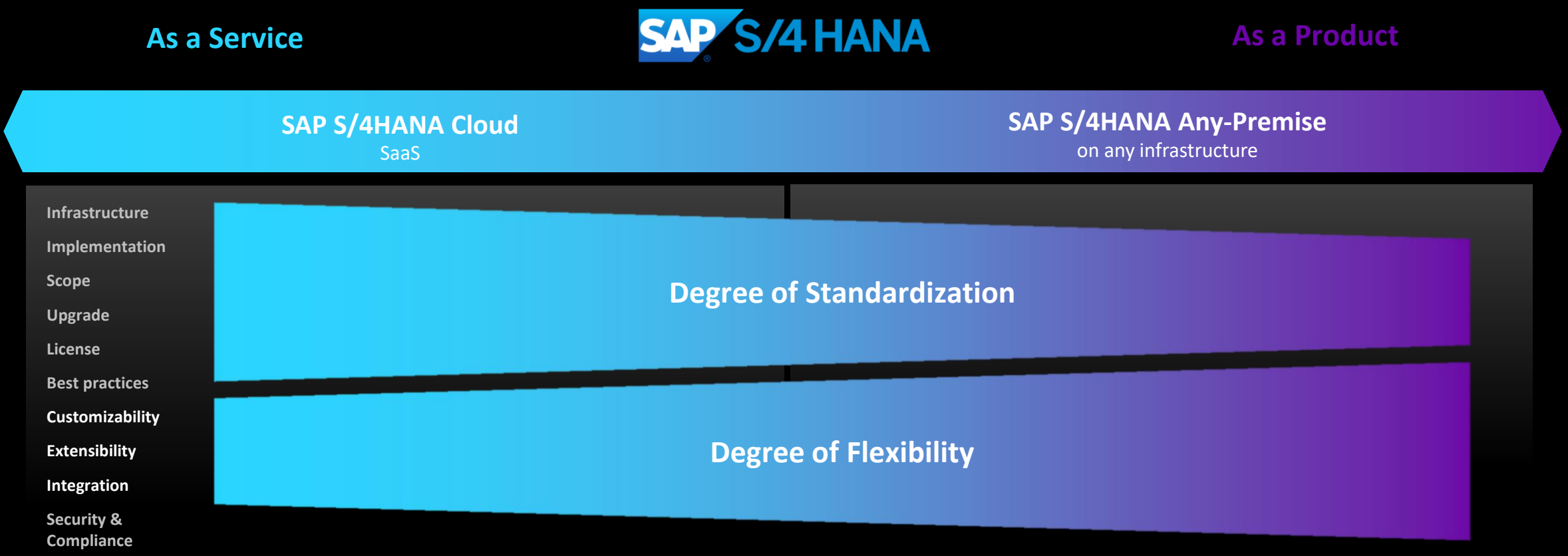
Solution
Capability

Agility   TCO

SAP S/4 HANA

As a Service   **As a Product**

SAP S/4HANA Cloud   **SAP S/4HANA Any-Premise**
SaaS   on any infrastructure

Infrastructure

Implementation

Scope   **Degree of Standardization**

Upgrade

License

Best practices

Customizability

Extensibility   **Degree of Flexibility**

Integration

Security &
Compliance

BearingPoint ®

5. „RISE with SAP" as transition into the cloud

BearingPoint®

RISE with SAP Building your intelligent Enterprise

SAP S/4HANA
Cloud
(public or private)

SAP
Business
Technology
Platform

Flexibility to
choose
infrastructure
provider

Premier Value

Guided Journey

**Simplified
Engagement**

SAP Business
Network
Starter Pack

Business
process
intelligence

Custom code analyzer,
SAP Readiness Check, SAP
Cloud Application Lifecycle
Management, SAP Learning Hub
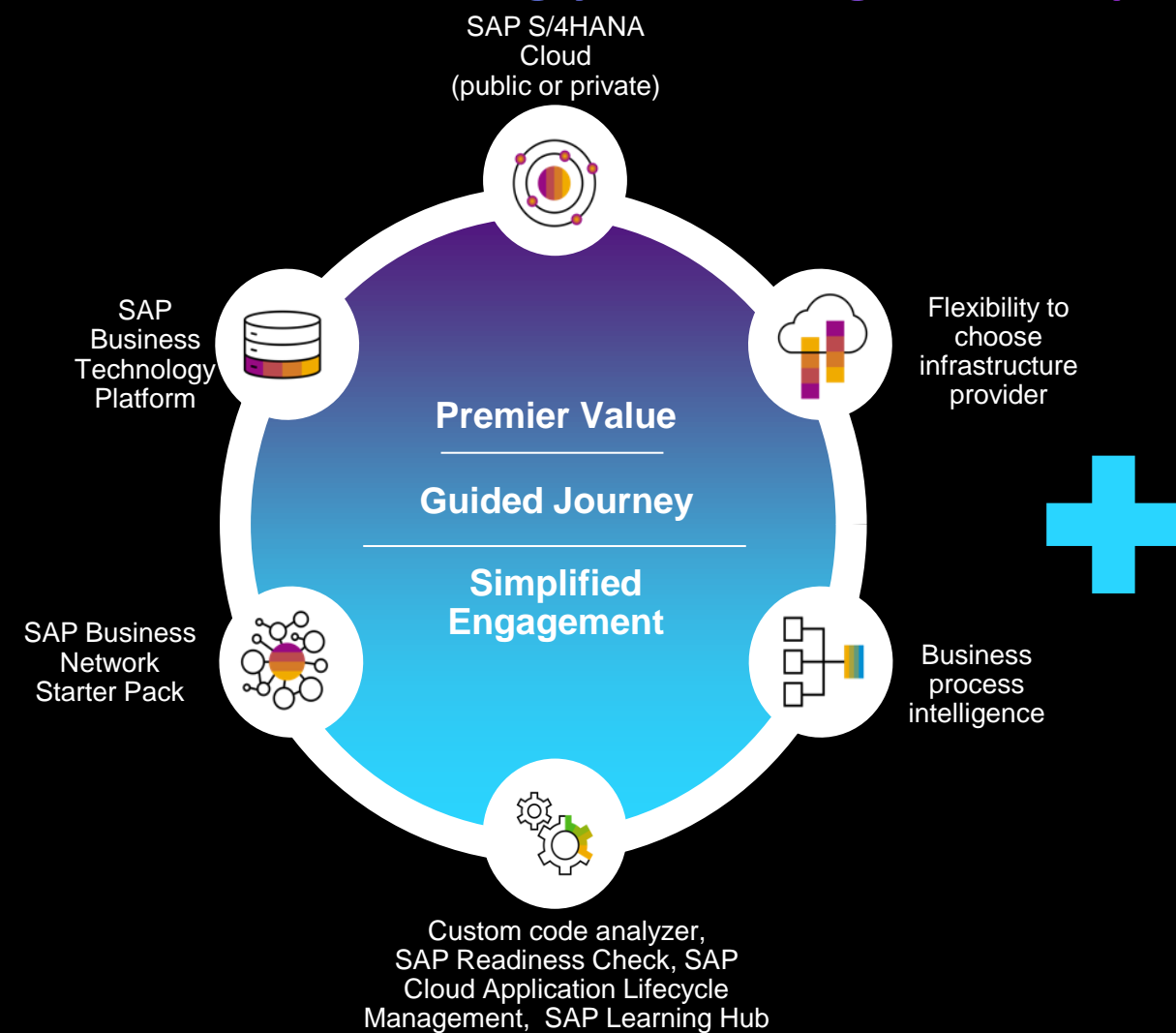
Industry Packages

Automotive

Consumer Products

Industrial Machinery and Components

Retail

Utilities

Line of Business Packages

- Modular Cloud ERP*

- Human Experience Management (HXM):

SAP SuccessFactors
Employee Central

SAP Work Zone
for HR

**Structure for
Success**

SAP SuccessFactors
Time Tracking

Reskill to Innovate

**Operationally
Transform**

SuccessFactors
Employee Central
Payroll

Qualtrics
EmployeeXM for IT

SuccessFactors Learning
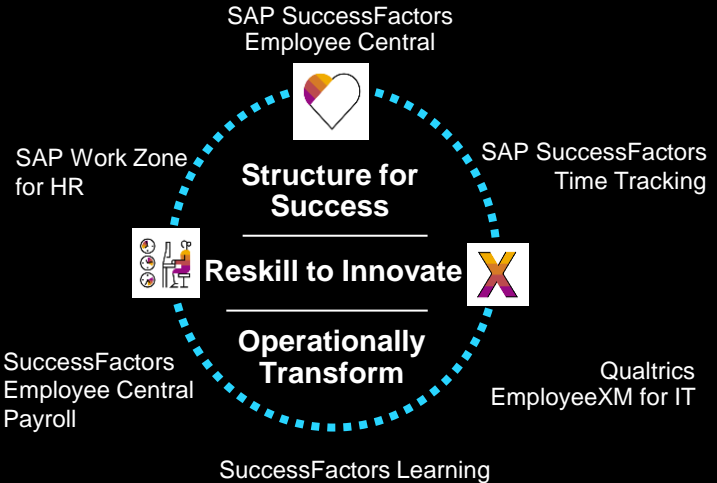
*Modular Cloud ERP brings core module across
all line of business together in one package of customer choice.

BearingPoint ®

Examples of TCO saving potentials

RISE with SAP reduces the total cost of ownership

-20% total costs compared to traditional ERP implementation

TCO on-premise

- 1%
- 43%
- 15%
- 26%
- 6%
- 9%

TCO Cloud

- 32%
- 68%

Legend (TCO on-premise):
- ■ Hacker attacks, release and batch reconciliations
- ■ Implementation, custom code development, change requests
- ■ Training, Fluctuation, Sickness & Vacation
- ■ Hardware, data centers, cooling, operations
- ■ Maintenance, Subscription
- ■ Licenses

Legend (TCO Cloud):
- ■ Implementierung und Training
- ■ Cloud Computing

The on-premise option
- High investment mostly capitalized.
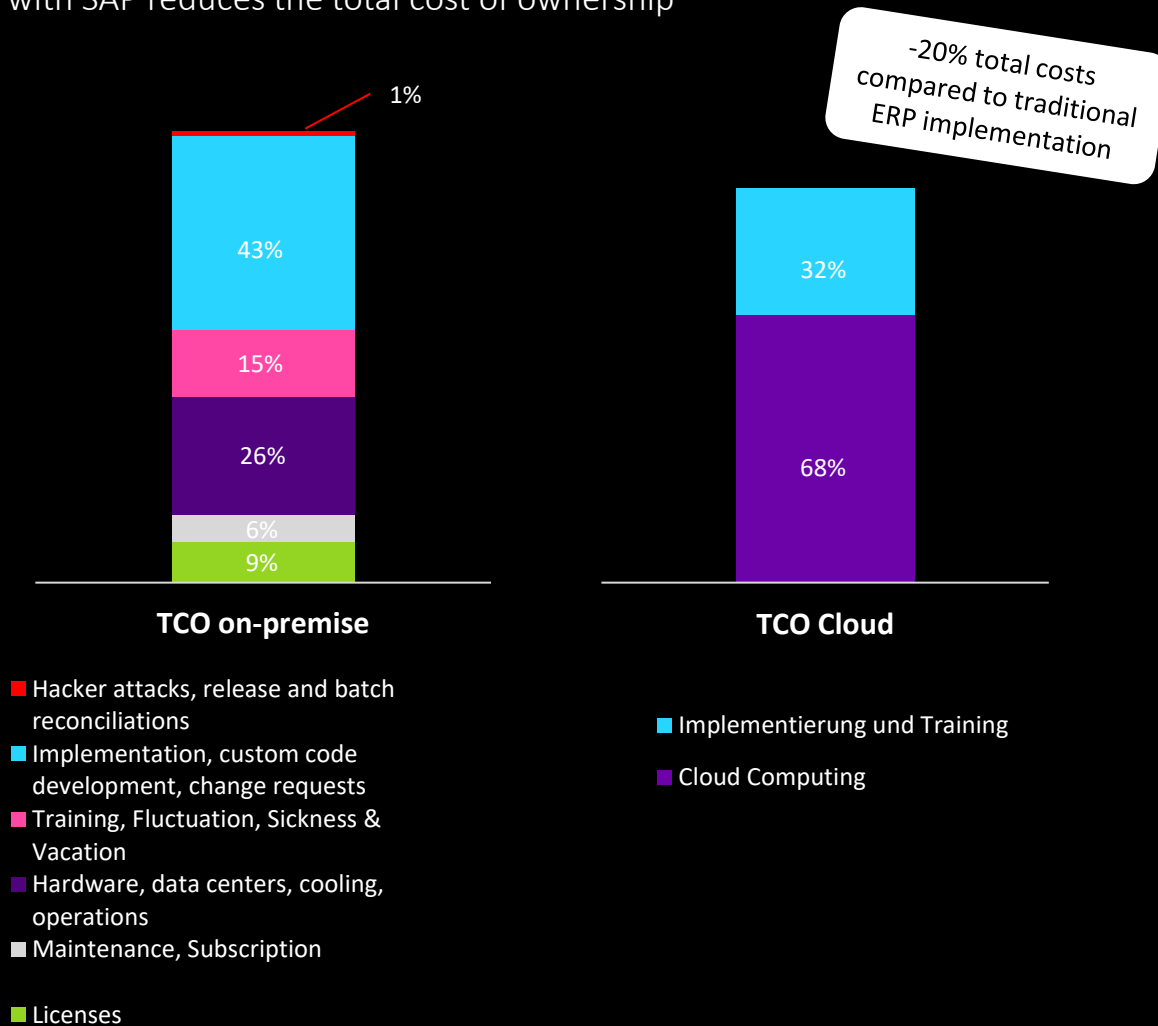- High amount of indirect costs (hardware operations, cooling) ratio in case of small installations and landscapes
- Higher agility in scalability of installation (increase, reduction)

The cloud option
- Smaller investment in soft and hardware, leading to higher OpEx. When applicable, development costs can be capitalized
- Higher agility in lifecycle management of individual architecture and software components

Questions to be answered (example):
- What happens to my existing Data Center? (contracts, infrastructure)
- What happens to my existing teams?
- What is the current maturity in DC operations, Infrastructue Management and Data Security?

Source: SAP SE

BearingPoint®

6. Conclusion

BearingPoint®

BearingPoint approach to select the right S/4HANA deployment option

We recommend to set up clear solution scope, explore SAP best practices and build a strong financial business case

Selection criteria	Weight factor	Cloud ERP		Private Managed Cloud	SAP S/4HANA Any-Premise		
		S/4HANA Cloud	S/4HANA Cloud extended edition	S/4HANA Cloud private edition	SAP S/4HANA Managed by SAP (HEC)	SAP S/4HANA Hosting	SAP S/4HANA On-premise
Solution capability	%	+	++	+++	+++	+++	+++
Total Cost of Ownership	%	+++	+++	++	++	++	+
Agility	%	+++	+++	++	++	++	++

Depending on Individual Assessment and Strategic Alignment Optimal Deployment Scenario might differ

BearingPoint®

Q&A

BearingPoint®

Contact

Sven Fahn

Partner

+49 89 54033 6135

sven.fahn@bearingpoint.com

Nicolas Löwe

Senior Manager

+49 89 54033 6242

nicolas.loewe@bearingpoint.com

Thank you.

BearingPoint

Erika-Mann-Straße 9

80636 München

Germany

BearingPoint®