

Demystifying Your ERP Modernization Journey: A Guide to Migrating to SAP S/4HANA on Azure



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You have already made some significant SAP decisions, but there are important choices still to be made. Let us help you unlock those dilemmas.

Enterprise resource planning (ERP) modernization is a costly and risky process. SAP decision-makers will need to make numerous big decisions that will shape the nature of their ERP systems, potentially for many years to come. Drawing from real-world experiences, this document will crystalize and articulate these apparent dilemmas, as well as some hidden ones. By removing these uncertainties, it will help SAP decision makers prepare for the big decisions they will face as they progress with their migration plans.

We have already decided to:

- Move to S/4HANA
- Move to the cloud with Azure
- Migrate using RISE with SAP

Did you know...

Only **3%** of interviewed SAP customers decided **to stay with** their current SAP ERP system “for the foreseeable future”.*

Know your outcome before you start your journey

“You should know what your preferred S/4HANA outcome is in the beginning, and know it from multiple angles, with financials being a very important angle.” *Senior IT VP, manufacturing organization*



But I am not sure about:

- Brownfield, bluefield, or greenfield approaches
- The business case
- Access to new features that are only available through SAP RISE (such as Premium Generative AI or Green Ledger)
- Customization and business process improvements
- SAP license optimization
- Data compliance and security

Sufficient preparation is essential

“We did due diligence before we started, but in retrospect, I wish we had done more. I’d make sure we focused a little more on the business side and not just IT. It’s essential to understand the changes the business needs to go through and fully map that to what we’re doing with our applications.” *Senior IT Director, manufacturing organization*

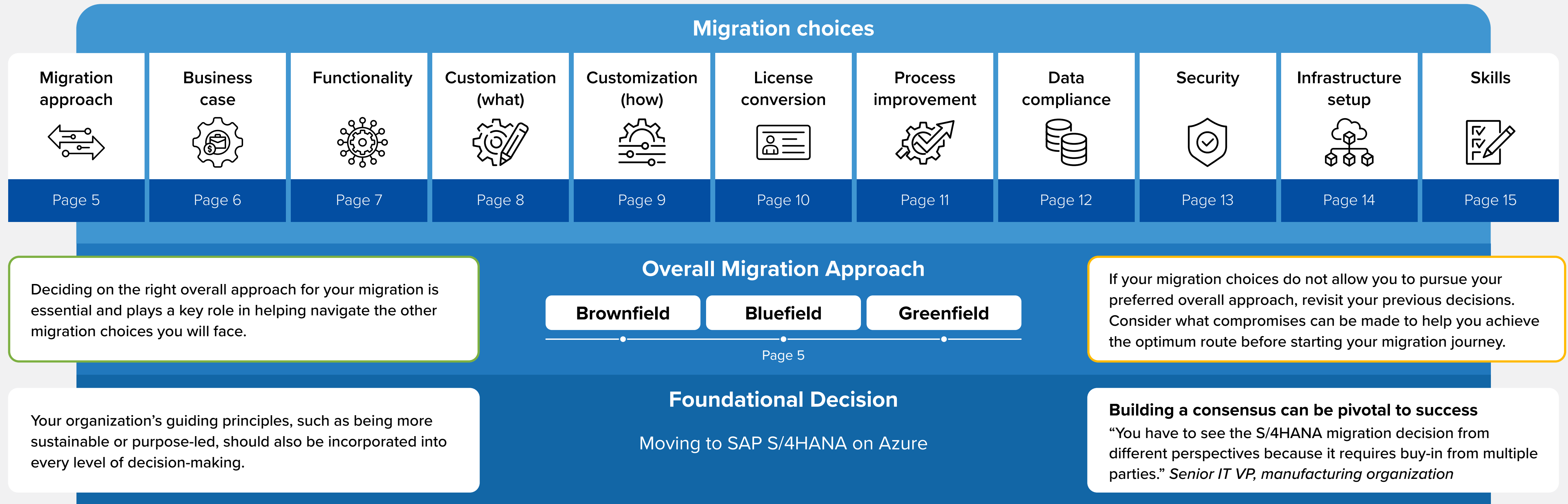
Spend time upfront to educate yourself and the team

“We spend a lot of time understanding the options in phase 0 so that we can do the design ourselves and challenge our partners.” *IT Director, global SAP chemical solutions provider*

Get a hierarchical view of the decisions you will face as you undertake your S/4HANA migration journey.

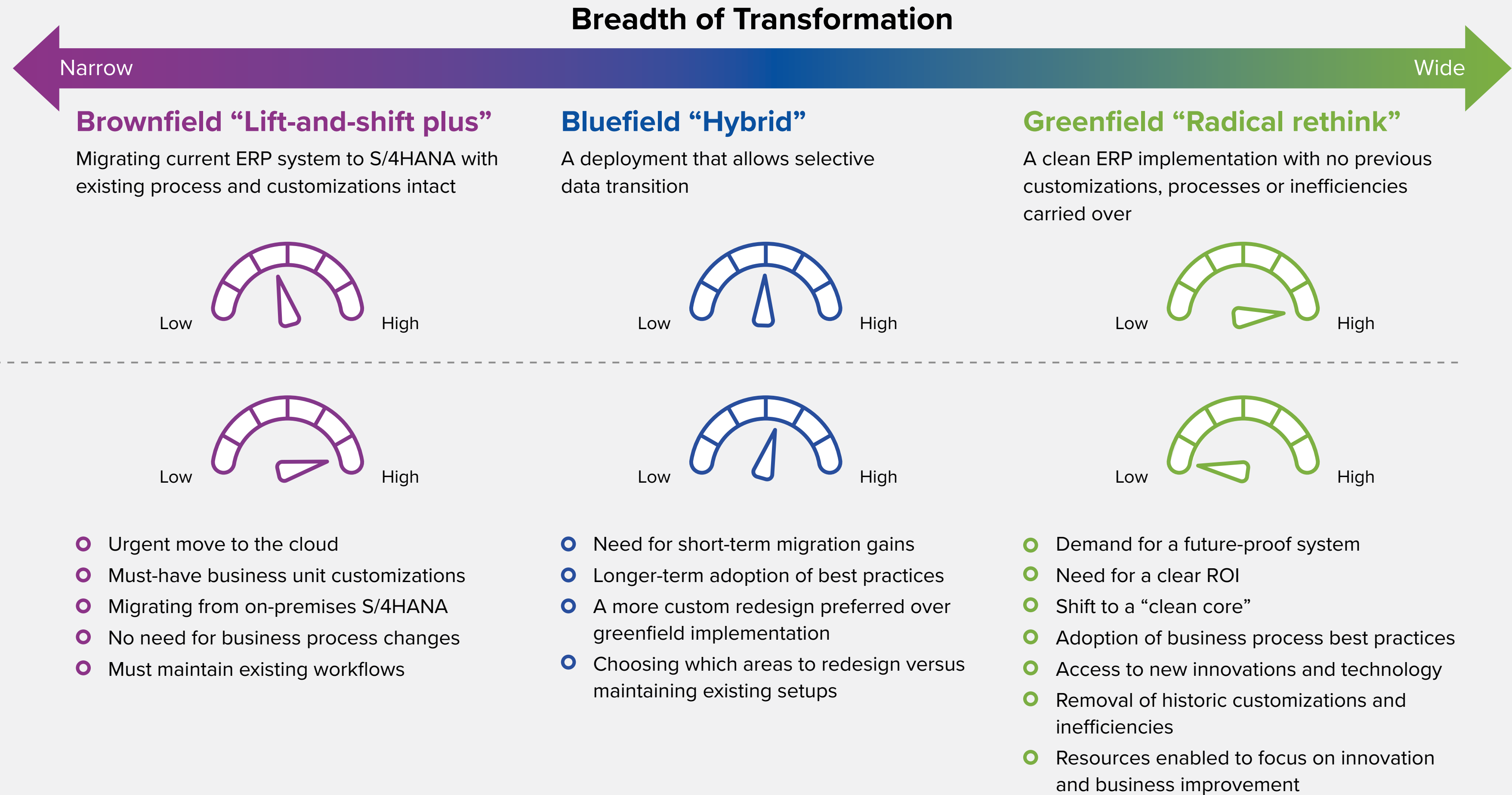
The diagram shows the decisions that were key to the interviewed SAP S/4HANA customers. It provides a clear hierarchy of the decisions that were taken and illustrates the relationships between the different decisions to be considered along the migration journey.

S/4HANA Cloud Migration Decision Hierarchy



Implementation Approach: Brownfield versus Bluefield versus Greenfield

While choosing the correct overall migration path can be challenging, key indicators can help you determine which type of transformation is right for you.



Brownfield may appear the simpler option, but it has its limitations.

“With brownfield migrations, you just do a technical upgrade, so you miss a lot of opportunities to make changes to systems.”
Head of SAP Business Applications, manufacturing organization

Migration Approach: Island versus Holistic

When assessing S/4HANA migrations to the cloud, organizations should consider small-scale, sequenced migrations of applications or a more complex, holistic approach that allows for re-evaluation of the entire applications environment, contextualization of S/4HANA migration within the broader ecosystem, as well as understanding of dependencies between applications and data integrations.

Island Approach

- Assess and prioritize applications for S/4HANA migration and conduct the migration project in small isolated partitions.
- **The risk:** You may miss the big picture, especially the dependencies between data and application elements that may not work properly in the new environment.



- Your application environment is relatively modern
- You do not have the capabilities and resources to conduct a “big bang” project
- You want to minimize risk of downtime and business disruption
- You want to conduct pilot projects before wider transformation programs

Holistic Approach

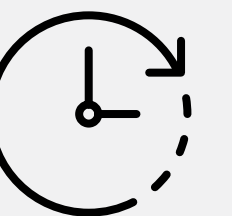
- Assess the whole application landscape and prepare a holistic migration project that includes a detailed road map for each application to future-proof your environment.
- **The risk:** The migration project can be very lengthy, and you may run the risk of devaluing investments over time with scope creep arising from changing requirements.



- You currently need to maintain a complex legacy application landscape
- You want to clean the master data and create a single, robust repository
- You want to create an environment that supports business innovation
- You want to build a clean core and agile capabilities through APIs and low-code tools

It is crucial to take the time to decide on the best approach for your organization

“It is a golden opportunity to revise the whole environment, but we have developed very complex application landscapes. We grew through multiple M&As, are operating in 38 countries, and have 200 locations, so with a big bang approach, there’s a big risk...we’re choosing something in between.” *Head of SAP Business Applications, manufacturing organization*



The Business Case: Cost Neutral versus ROI Positive

The migration to SAP S/4HANA requires a solid business case. The key dilemma facing organizations is whether to go for a relatively simple, IT-related business case that is usually cost neutral or to look for a much stronger case based on business metrics and positive ROI.

Risk Mitigation Business Case = Cost Neutral

- Usually **driven by the IT function** and focused on technical aspects
- Easier to build as it usually only involves technical stakeholders
- Assumes a **technical transformation project** that will help to mitigate current IT environment value erosion and burning platform risks:
 - The expense of ERP modernization will be covered by cost reductions in IT infrastructure management, IT services, and IT operations.
 - The new cloud infrastructure will also allow for improved system availability, flexibility, and capacity management.

Examples of metrics to be included in the business case:

- Reduced IT infrastructure and maintenance costs
- Improved system performance and scalability
- Better IT resources utilization
- Enhanced cybersecurity

Value Creation Business Case = ROI Positive

- Usually **business driven** and includes considerable changes in business processes (business process automation, standardization, and intelligence and agility enhancement)
- More difficult to build, requiring the involvement of the wider business coalition
- Assumes a **business transformation project** that will:
 - Remove technical and operational risks
 - Create additional business value through revenue generation, greater business resiliency, and/or cost improvement.

Examples of metrics to be included in the business case:

- Financial close time reduction
- Improved warehouse management efficiency
- Decreased revenue loss due to stockouts
- Better financial visibility
- Financial team productivity improvement

Building a business case based on consensus

“If you want the board to listen, you must use the right language and right arguments and show concrete productivity or new business opportunities. They will also listen to cybersecurity, legal, and data protection arguments.” *Senior IT VP, manufacturing organization*

Lesson learned

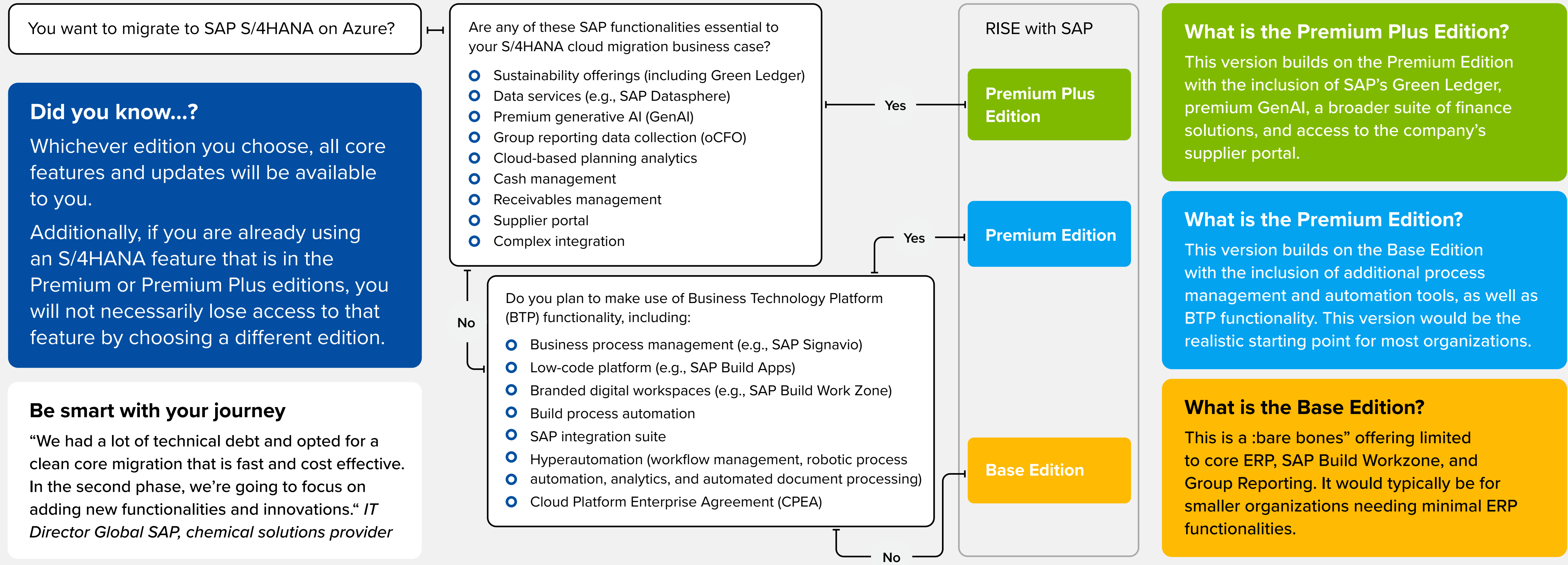
To get executives on board, build a business case based on business metrics. However, the metrics should be limited in number and relate to one or two key business functions. If you aim for too many metrics, you run the risk of adding unnecessary complexity and delays.

Business cases may combine different elements

“Our technical debt was substantial enough that it was a component of our enterprise risk management. We knew we had to have some kind of financial justification — a payback period —but we also knew it was a business and strategic imperative.” *Senior IT Director, manufacturing organization*

Rise Editions: Premium Plus versus Premium versus Base

When migrating to S/4HANA Private Edition through RISE, it is crucial to choose the correct package for your needs. There are fundamental differences between packages that will have a significant impact on what you can and cannot access through your RISE package. While there may be third-party alternatives to some of these elements, it is imperative to assess your needs before embarking on the RISE journey and identify the functions you absolutely require.



Customizations and Data: “Migrate Then Clean” versus “Migrate to Clean Core”

In the past, the dilemma was often centred around whether to tidy up master data, customizations, and processes. However, with more organizations transitioning toward the **clean core**, determining what master data, transactional data, and customizations to incorporate into S/4HANA on Azure will be the key dilemma, alongside when to shift data and customizations.

Migrate Then Clean

- Maintain existing customizations during migration
- Explore post-migration options to remove legacy customizations or migrate to BTP platform



- + Accelerates migration timeline
- + Reduces change management needs
- + Reduces immediate compliance issues
- Maintains existing inefficiencies resulting in slower realization of migration benefits

Migrate to Clean Core

- Analyze and identify existing customizations for mandatory retention:
 - Evaluate new S/4HANA functionalities (SAP Signavio can aid comparisons and the adoption of new functionalities)
 - Remodel the required business processes in the new greenfield environment (add master data customizations)
 - Consider a bluefield migration to retain selective business transactional data



- + Reduces implementation complexity
- + Allows best practice adoption
- + Facilitates easier updates
- Increases upfront change management complexities and requirements

A phased approach

“Before migrating to the cloud with RISE, we had moved to S4/HANA to an on-premises environment. That was a greenfield migration, and so we had already done a large clean up in terms of how the application should look, and that helped.” *IT Director, professional services organization*

Lessons learned

SAP customers have found that on-premises deployments on hardware that has already been bought and paid for can hide a large data footprint that can be very expensive to move to hyperscaler cloud environments. It is therefore essential to decide what master data and transactional data to leave behind and what to bring to a S/4HANA deployment on Azure.



Customizations: APIs and Cloud Extensions versus Code Modification

The migration to SAP S/4HANA provides organizations with the perfect opportunity to evaluate their customization practices. Organizations will need to decide whether to rely on the tried-and-true modifications they used in the past (the traditionalist approach) or transition to a newer setup based on BTP, including application programming interfaces (APIs), low-code/no-code tools, and SAP's ABAP Cloud development and extensibility (the modernist approach).

The Modernist

Adopts a BTP API and cloud extensibility-first approach to customizations, taking advantage of SAP's ABAP Cloud development language and S/4HANA Cloud extensibility models.



Simplifies maintenance with customizations not affecting the core ERP



Improves reliability and ease of integrations with other SAP and non-SAP solutions



Reduces S/4HANA update implementation workloads



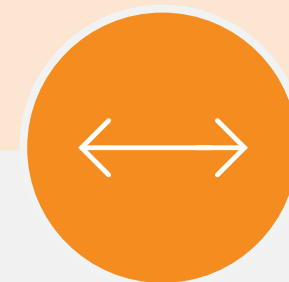
Boosts operational agility and flexibility and reduces time to market

The Traditionalist

Takes a more traditional SAP code modification-first approach, relying on classic extensibility tools, techniques, and processes used in the legacy ERP to build customizations.



Maintains pre-existing customizations and configurations



Allows for a greater breadth of customization to meet unique business function needs



Allows for deeper customization integration



Makes full use of existing IT/SAP skill sets

Did you know...

While the traditionalist approach is perfectly viable for modifying and extending your S/4HANA Private Edition, it will add complexity and cost if you decide to move from the Private Edition to the Public Edition in the future.

License Migration: Piecemeal versus Big Bang

Choosing the correct SAP license optimization options will play a pivotal role in developing and meeting your business case. In the long term, it will also be crucial for achieving the optimum post-S/4HANA migration setup and ensuring the right people have access to the right features and functions.



A piecemeal approach is ideal for someone who wants:

- A slower, more staggered S/4HANA migration
- Increased control over the migration process
- Greater flexibility in individual contract/license changes
- To downsize their SAP ERP implementation
- Flexibility in terms of broader SAP product adoption



A big bang approach is ideal for someone who wants:

- Increased negotiation leverage for a bigger SAP discount
- A quick, simultaneous S/4HANA migration
- A simplified SAP license arrangement (i.e., SAP Rise on Azure)
- To reduce costs by converting existing unused licenses through the Full Use Equivalent (FUE) system

Flexibility in licensing through RISE

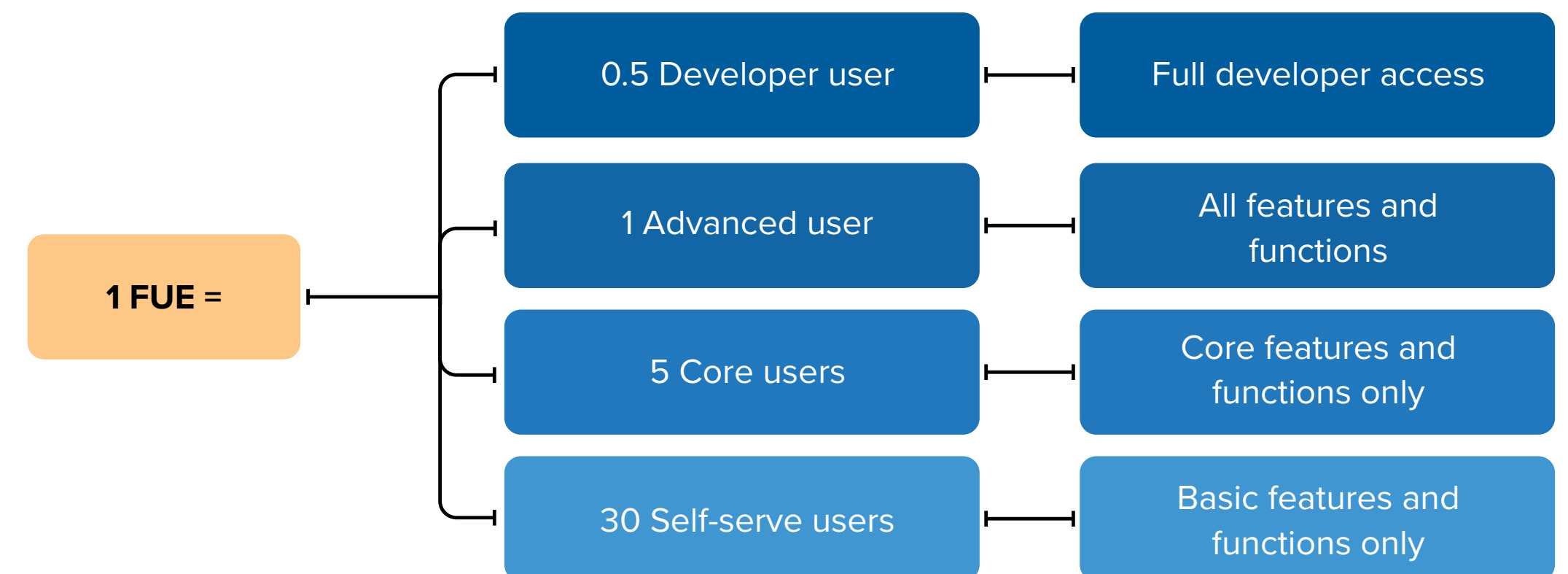
“We had many indirect licenses due to company growth, with a lot of them sitting on the shelf. Previously, with minimum packages, we’d buy 20 licenses but only had three users. Through RISE, we had the possibility to switch those licenses.” *IT Director, professional services organization*

Whatever the approach, you will need to understand how FUE will impact the licensing of your new S/4HANA implementation.

What is FUE?

FUE is SAP’s metric for S/4HANA cloud application licenses. FUE is used to calculate licenses based on the type of functions and features each user needs to access, rather than simply offering separate licenses to each user.

How are FUEs calculated?


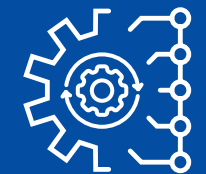


Process Improvement: Out-of-the-Box SAP RISE versus Beyond SAP RISE

The out-of-the-box entitlements that are part of the RISE agreement may be sufficient for your process analysis and improvement needs during S/4HANA cloud migrations. However, if the business processes that you want to optimize span multiple systems, including non-SAP systems, you may need additional tools and services beyond those included in RISE.

Out-of-the-Box SAP RISE

RISE with SAP includes the following process improvement tools as part of its Business Process Intelligence starter pack.

 <p>SAP Process Insights</p>	<ul style="list-style-type: none"> ○ Broad insights to quickly identify process issues 	<ul style="list-style-type: none"> ○ Suitable for standardized processes 	<ul style="list-style-type: none"> ○ Focused on issues in the ERP system
 <p>SAP Process Intelligence</p>	<ul style="list-style-type: none"> ○ In-depth insights into why disconnects are occurring 	<ul style="list-style-type: none"> ○ Suitable for heavily customized systems 	<ul style="list-style-type: none"> ○ Focused on end-to-end processes, including those outside the ERP

However, access to these tools is limited to:

- 50GB data volumes for SAP Process Insights
- A one-time data load for SAP Process Insights
- Three users for SAP Signavio Process Manager
- 10 users for SAP Signavio Process Collaboration Hub

Beyond SAP RISE

If you have a heterogenous, multi-platform, and multi-vendor set up, you will need to look beyond RISE for licensing and expertise that will enable a broader, enterprise-wide process analysis and optimization.

This could mean investing in:

- An enterprise SAP Signavio license beyond the SAP environment
- Other vendors' business process management solutions
- Azure's business process improvement tools

Lessons learned:

SAP S/4HANA users wanting to move beyond RISE need to:

- Budget for additional licenses
- Consider external advisory services to help identify the right tools and processes
- Line up internal resources to support additional process improvement efforts

Complete standardization is often the best route

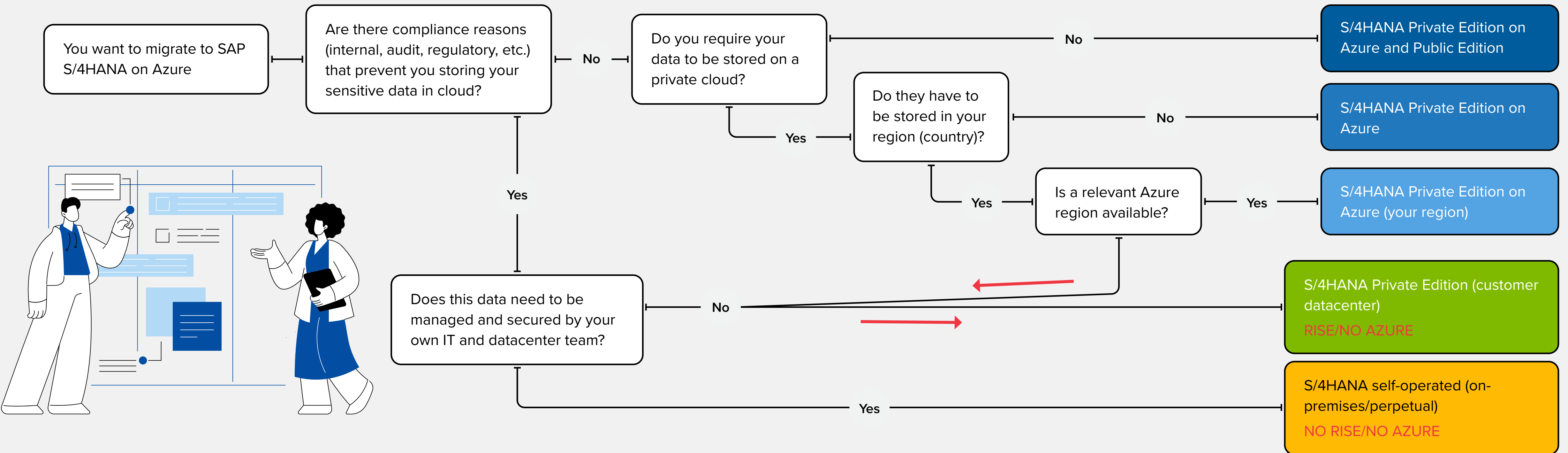
“We’re looking to implement best practices in the SAP space as we modernize. We want to be as standard and out-of-the-box as possible. But if people want something different, we will have a frank conversation to explore the value of doing something that’s out of the box to see if it’s actually worth extending our setup.” *Senior IT Director, manufacturing organization*

Build process improvement into your migration journey

“The S/4HANA migration is a golden opportunity to look into your processes and use it as a business transformation project.” *Head of SAP Business Applications, manufacturing organization*

Data Compliance: S/4HANA Cloud on Azure versus Other Restricted Deployment Options

Storing sensitive data on public or private clouds may be prohibited in certain industries or countries for various compliance reasons. SAP offers multiple options that help you overcome this challenge and move to S/4HANA. However, your specific circumstances may require you to re-evaluate your decision to choose Azure Private Cloud, and potentially even the RISE model.



Understanding your compliance needs is key to success

“When migrating, we have three major concerns. Everything must be compliant, stable, and secure.” *Senior IT VP, manufacturing organization*

Security: Out-of-the-Box SAP RISE versus Beyond SAP RISE

Security considerations should be paramount as organizations migrate to S/4HANA on Azure. SAP includes a variety of security provisions in RISE with SAP that users can, and should, take advantage of for their benefit. However, users need to explore what is (and what is not) included in SAP’s offering to understand whether it is sufficient for their needs.

Out-of-the-Box SAP RISE

SAP’s “shared security responsibility” setup means the vendor and hyperscaler take responsibility for a variety of areas.

SAP end-to-end security includes:

- Advanced IT security architecture
- Data privacy and protection
- Secure product development life cycle
- Threat and vulnerability management
- Secure operations
- Network security
- Contractual assurance

Hyperscaler security includes:

- Hyperscaler datacenter security
- Network connectivity resilience
- Network availability

Beyond SAP RISE

The customer also assumes responsibility for security of some key areas:

Customer security needs to include:

- Onsite connectivity to the hyperscaler
- Application user identity management, authentication, and access
- Integration and extensions, including customizations and partner add-ons
- Customer data and business process configurations

Additional security considerations:

You may need additional security measures above and beyond those detailed in Rise with SAP. Therefore, identify the gaps in this offering and ensure you have robust provisions in place to meet all your cybersecurity and data protection needs.



Did you know...

In addition to the “standard” hyperscaler security provisions included as part of RISE with SAP, further5 protections may be available through Azure Security Center, Azure Sentinel, and other Azure-specific features.

Consider making internal changes to meet your security needs

“When it comes to security, we had to figure a lot of things out and make a lot of changes to our environment. We altered the way we think about internal audits and compliance.” *Senior IT VP, manufacturing organization*

Cloud Infrastructure Setup: Standard versus Tailored

SAP has two infrastructure setup choices for S/4HANA Private Edition depending on a user's system configuration needs. You can maximize your S/4HANA migration investment and ensure your new implementation is the right fit for your organization, both now and into the future, by evaluating the features of the standard and tailored options.

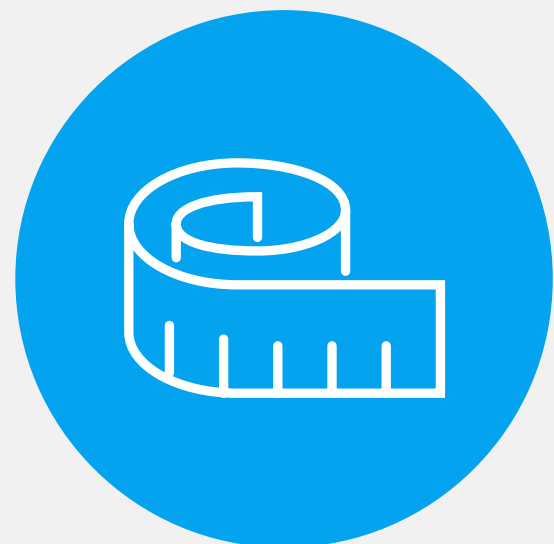


Standard Option

This is a preconfigured option with standardized configurations based around system size and user (FUE) numbers.

The best option for those who:

- Need to rapidly implement S/4HANA Private Edition
- Prefer an “off-the-shelf” approach to software procurement
- Prefer an SAP-based mapping of infrastructure needs
- Are a small-to-medium-sized business with limited ERP needs

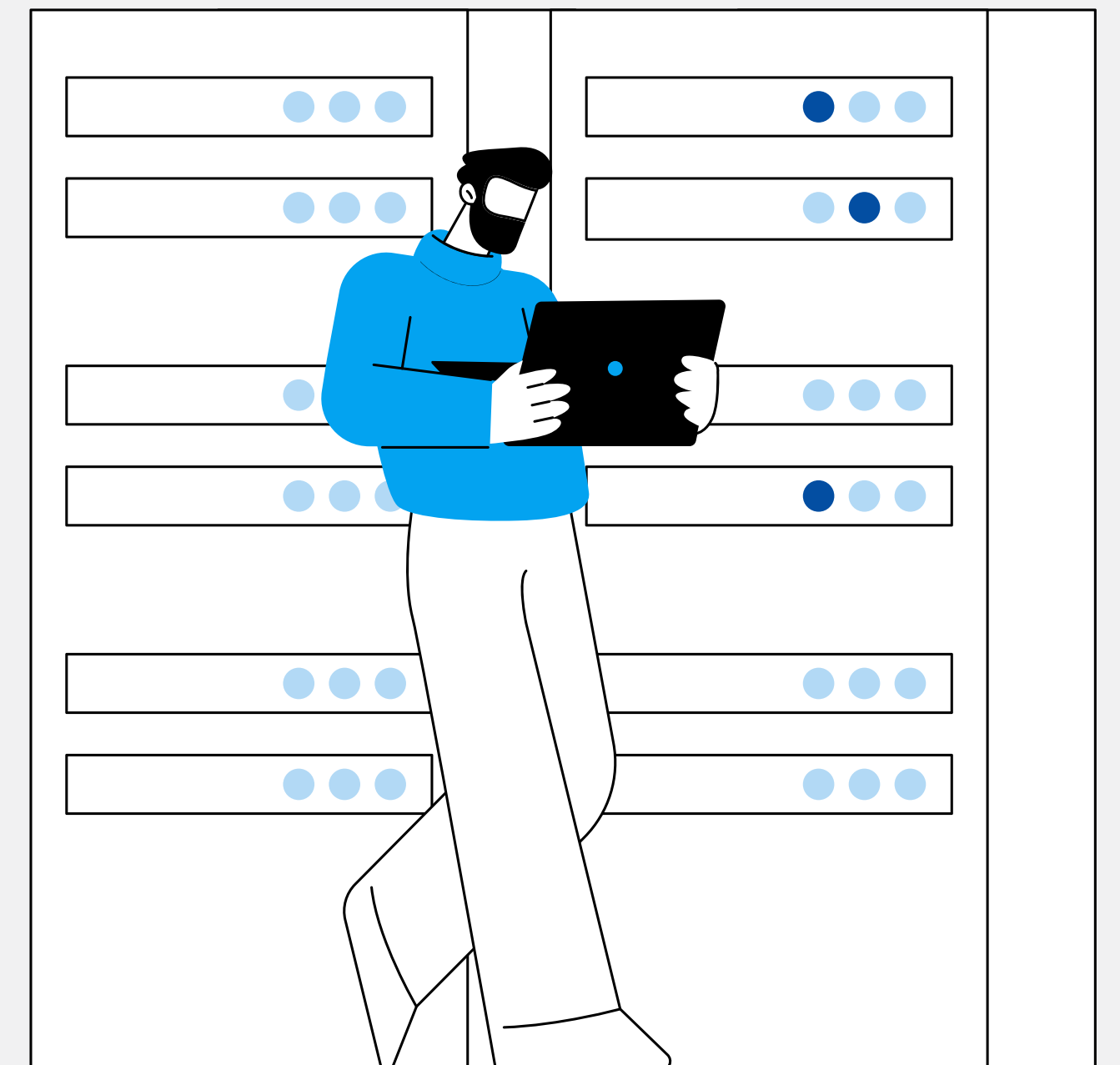
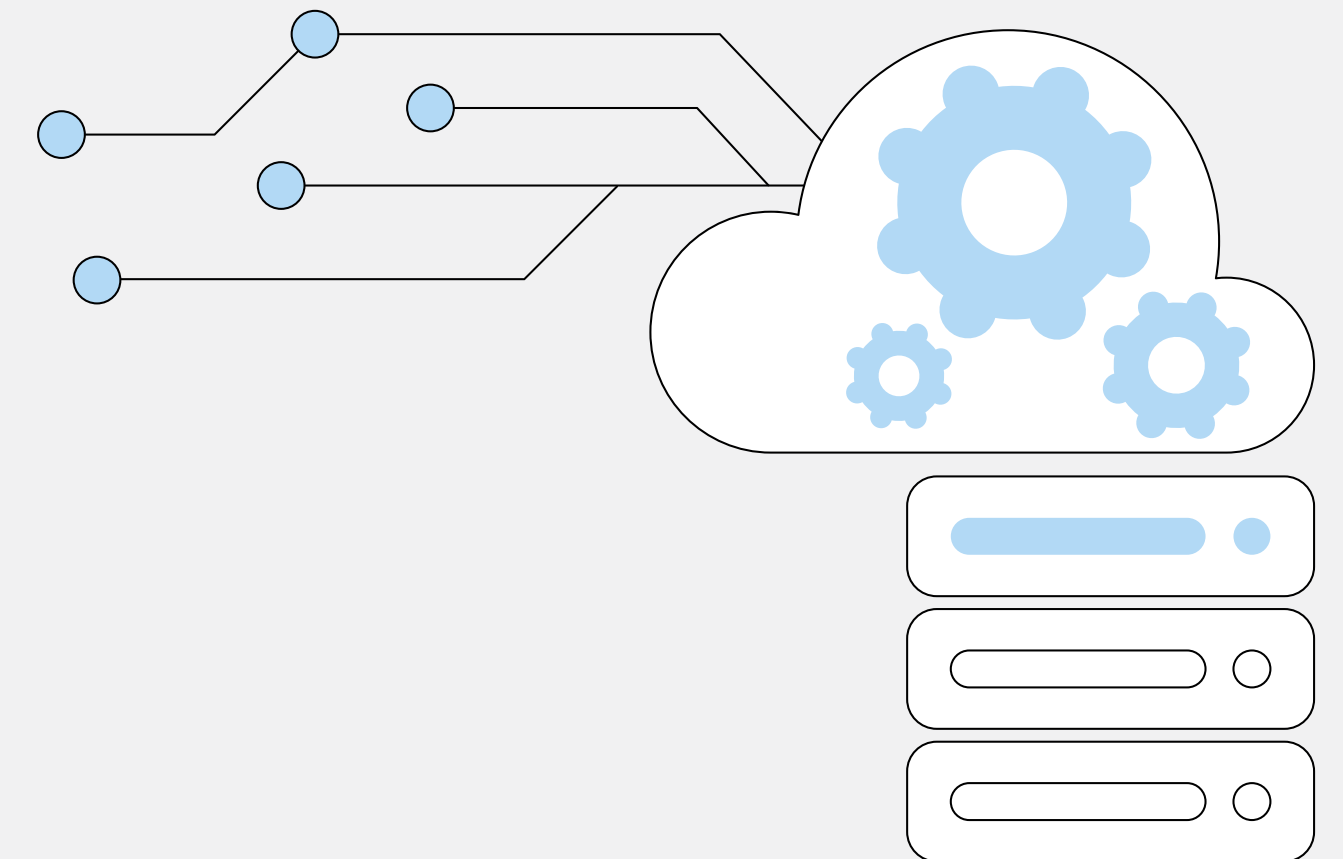


Tailored Option

This is a customized offering based on the specific needs of the organization.

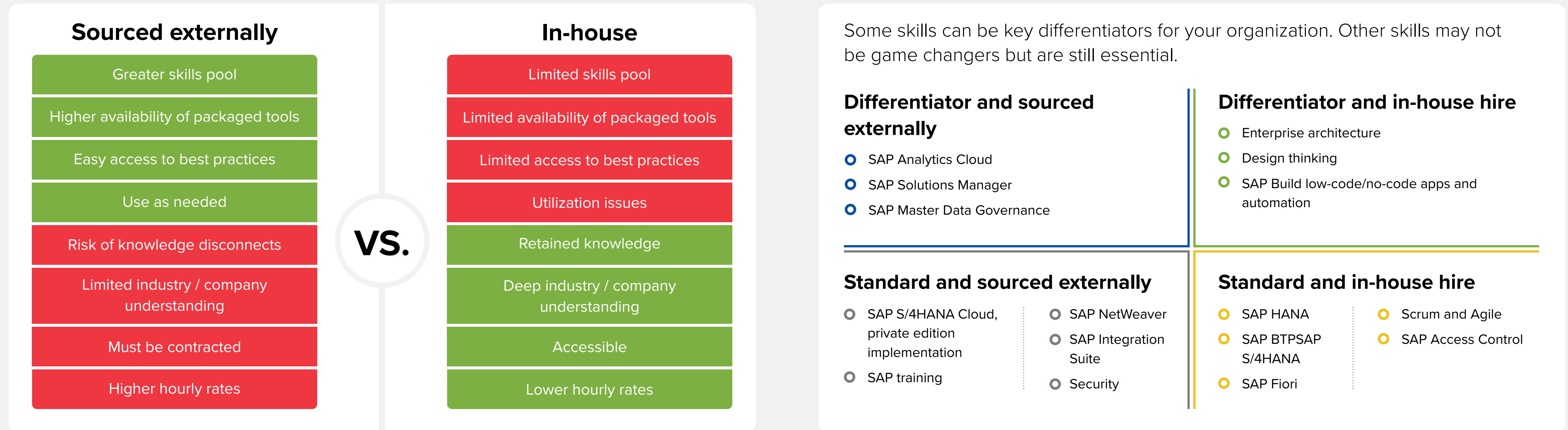
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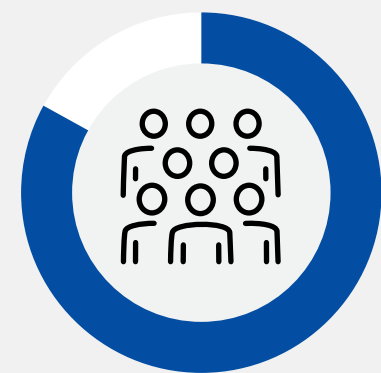


SAP Skills: Sourced Externally versus In-house

As organizations migrate to SAP S/4HANA on Azure, identifying the skills that are needed is fundamental to ensuring long-term success. In addition to identifying the needed skills, organizations need to weigh the benefits of relying on in-house talent or external resources.



Did you know...



83% of interviewed SAP customers are **not** planning to focus on new SAP-related skill types. For infrastructure, they plan to increasingly rely on externally sourced expertise.*

Review your skill needs as part of your modernization efforts

“We’ve changed our approach to skills. We now have a team of business analysts aligned to functionalities that can understand user communities’ business needs and develop specifications that we, and our external partners, can work with. Technical skills, however, will reside with our partner community.” *Senior IT Director, manufacturing organization*

Recommendations for SAP S/4HANA Migration to the Cloud



Start now. An SAP S/4HANA migration is usually a lengthy endeavor that involves many iterations related to analysis, skills buildout, and communication. Delay will inevitably increase urgency, risks, and costs over time.



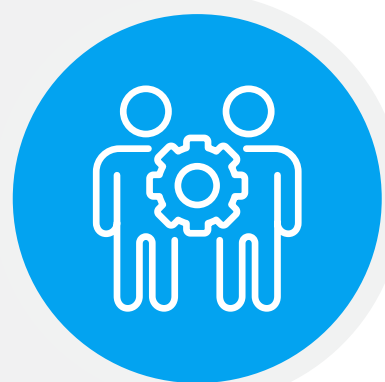
Clean-up and rethink business processes. An SAP S/4HANA migration is a unique opportunity to clean up and future-proof your ERP environment and streamline businesses processes. Building up new S/4HANA and SAP Signavio knowledge should be a prerequisite for understanding what is possible.



Evaluate what is and is not included in RISE. While SAP includes a variety of features as part of RISE, explore the limitations within RISE and identify your additional needs. Thereafter, meet, plan, and budget for these needs.



Apply a pragmatic approach to a business case. As SAP migrations are complex, costly, and risky, traditional business case logic might not apply. Consider emphasizing cost containment, risk mitigation, compliance, and strategic agility in your justification for migration.



Choose the right services partner. Realize that external expertise, which will be needed for migration, will likely play a greater strategic role than you expect. Partners play a crucial role in designing future business processes, upskilling and reskilling your SAP staff, providing SAP skills in new areas, and mitigating migration risks.



Emphasize change management. Involve users and stakeholders as early as possible. Work with concrete deliverables, involve key users via workshops, communicate frequently, and make the project team visible and accessible. Relay the benefits to be gained to business users and describe the new innovative options that will become available.

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