



Mapping your journey to SAP S/4HANA Cloud Private Edition

A practical guide for senior IT leadership

July 2024

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Foreword by ASUG

As the CEO of Americas' SAP Users' Group (ASUG), I have the pleasure of speaking at hundreds of events and to thousands of professionals who use SAP software. I love hearing their stories about their digital transformation journeys, because these stories provide a path that we can all follow to unlock the value of our SAP software and services investments. Why expend the effort forging your own path when you can follow the well-traveled paths of fellow community members?

At the heart of any digital transformation strategy is your SAP ERP application. In ASUG's latest annual Pulse of the Customer Community survey, we learned that 47% of the North American customer base has either moved to SAP S/4HANA or is in the process of moving to SAP S/4HANA. While this statistic is impressive, it tells me that we still have a lot of work to do as 2027 rapidly approaches. Over the next few years, 53% of our customer community will need to make this journey – a journey that requires careful planning, preparation, precise execution, and, most important, time. And there is no time like the present to begin this journey. This is why this practical guide is such a great map for your journey ahead.

If you are wondering why this journey is necessary, let me remind you of the seismic event that shook the foundations of our businesses and customer interactions back in November 2023 – when ChatGPT and generative AI grabbed not only our attention but the attention of our C-suites and boards.

If you believe that artificial intelligence and generative AI will revolutionize our world and businesses, you must also recognize that our ERP systems will need to adapt as well. This means that our ERP systems must be cloud based, act as software as a service (SaaS), and contain only the most essential customizations necessary for our businesses to operate. Why? Because anything short of that will make adopting innovation more difficult, slower, and more costly. This is your business case for adopting cloud ERP.

The pages that follow serve as a practical field guide for senior IT leadership to chart their journey to SAP S/4HANA. It provides a comprehensive overview of the key decisions, strategic choices, and implementation options available for you to transition to this next-generation ERP.

My goal, and the goal of ASUG, is to support and guide you through your transformation journey, providing you with the latest developments and best practices in a practical, condensed, and easy-to-understand format. I hope that this guide will serve as a valuable resource for you.

As a community, we are here to support each other in adopting this essential technology. Our businesses need it to not only survive but thrive in this rapidly evolving new world.

Best regards,
Geoff Scott, CEO, ASUG

Foreword by the German-Speaking SAP User Group (DSAG)

There is no denying that SAP S/4HANA and cloud solutions, within the context of business management and ERP processes, stand at the forefront of innovation and digital transformation, supporting efficiency, transparency, and agility. Together with SAP, we have cooperatively developed this guide to help user group members make the move from on-premise ERP installations into the cloud.

This guide emphasizes the importance of a clean core for efficient cloud operations, highlighting the differences and consequences compared to on-premise operations. It delves into implementation options and the factors influencing those decisions, ultimately aiming to lower total cost of implementation for customers by providing comprehensive support through SAP tools and services during the ongoing transformation activities.

As we navigate the complexities of a rapidly evolving business landscape, rather than always questioning the way forward, let us rally behind technological advancements to drive unprecedented efficiency, agility, and success in the digital age. This is a must-read for any revolutionary thinker.

Christine Grimm
Board Member for Transformation and Sustainability, DSAG

Foreword by SAP Customer Evolution

Entire industries, business processes, and underlying IT structures continue to change at an increasing pace. Competitive advantages are often realized by providing full flexibility, scalability, and fast consumption of the latest innovations across all layers of an operational model. The need for IT solutions as a stable foundation to address challenges is inevitable. And at the same time, companies must be able to manage the cost and duration of any transformation phases that may be required.

Guidance and knowledge about optimized tools, assets, and services – combined with clear mid- and long-term perspectives – make the difference in respective programs. This guide has been created to provide exactly that. The expertise of departments across SAP and partners, and the experience gained from numerous projects, went into the paper, offering a comprehensive and detailed overview of success factors and mandatory activities for your journey toward the latest SAP product portfolio.

We hope you appreciate the content and that our input serves as an ideal starting point for your transition. We plan to continuously update this guide with the latest developments, and your feedback is always welcome.

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Introduction

Charting your way to SAP S/4HANA

When SAP introduced SAP S/4HANA into the market, it was the beginning of a huge transformation for ERP capabilities, with significant impact on the product road map, business processes, IT landscapes, implementation best practices, and consumption models. Hundreds of projects are kicked off every month and need to address respective transformation tasks with customer-specific aspects in mind.

SAP wants to support and guide, which drove the decision to update this paper and convey the latest developments in a practical, condensed, down-to-earth guide for executives, project managers, decision-makers, and senior IT leadership. Aligned with SAP's strategy, this guide focuses on the transformation toward SAP S/4HANA Cloud Private Edition, indicating the relevance of tools, assets, and services for other deployment options as well.

This guide has been composed by members of SAP product teams, subject-matter experts, and consultants – in collaboration with ASUG and DSAG – to share with you the combined experience gained from the projects we have completed. It has three parts. Part one is dedicated to the key decisions to be made when planning your transition approach to SAP S/4HANA. Part two covers the pivotal elements of a successful project setup. And Part three provides you with the most essential technology knowledge. This guide is not about our product. It's about you, our customers, and the challenges you face, the decisions you have to make, your aspirations, and your success.

The first version of this guide has been consumed by hundreds of thousands of customers and partners; but technology always changes, and updates are necessary to provide the latest transformation framework. The technicalities of the adoption of SAP S/4HANA are largely understood. However, a new best practice has evolved in striving toward a clean core for your SAP S/4HANA system. A clean core actually combines the short-term perspective of IT projects with the long-term perspective of building a next-generation ERP foundation for longevity that entertains the consumption of new releases and thus innovations through regular upgrades. We see that upgrades for customers upgrading frequently take a third of the time compared to average customers often driven by a clean core. This reduces complexity through the training effect from repetition.

Regular and fast consumption of updates and the latest releases addressing innovation, changed market requirements, new industry tendencies, and so on will drive the real value creation of your ERP. Based on our experience and conversations with stakeholders in recent years, it has become obvious that one of the key decisive factors for projects involving SAP S/4HANA is the change management culture of companies. Some companies drive change in increments, while others are all in to get it over with. And so, the scenarios of conversion, new implementation, or a mix of both (selective data transitions) mirror this opportunity.

Fundamentally, these are equally important approaches and will deliver your next-generation ERP foundation. Regardless of your chosen implementation approach, the result must prepare your company with a stable, sustainable, and cost-efficient IT solution for years to come.

Like any other infrastructure, ERP ages and accumulates technical debt with the ever-increasing intensity of integration, data volumes, change requests, and work-arounds. At the same time, business processes designed around technology limitations of the past stand in the way of new best practices that can be implemented much more efficiently with new technologies. All of this, when combined, leads to a point where you must take the next evolutionary step.

Technology and IT aspects are some of several success factors in transformation programs. Many customers have given feedback that their programs to transition to SAP S/4HANA start with a debate on

how to approach the project and what options to consider. Most of them swiftly come to the conclusion that the company's vision, readiness for change, and ability to manage these changes play vital roles and are equally important to technology aspects. We couldn't agree more.

Irrespective of your chosen transition option, the way you set up and manage your project will determine your ability to turn innovations from SAP into your company's advantage. It will also decide whether, in a few years, your new system will become subject to yet another "back-to-standard" program – or if it will provide the business agility and speed to outplay the competition through the automation of business processes; user experience based on voice, vision, and messaging; analytics on new data types; and new levels of insights. This guide comprises essential elements around project setup, governance, and more.

They say experience is the enemy of innovation. It takes rigor and stamina to focus on and leverage new opportunities. We sincerely hope that the following sections will help you stay on track throughout your journey to a new digital core.

Part one

Strategic choices

Key takeaways

Planning is key to success when it comes to your transformation journey to SAP S/4HANA. Part one of this paper comprises the important aspects of initial transition steps and guides you through the key decisions to make while planning and structuring tasks for your transition program for SAP S/4HANA. Key takeaways include the following:

- Best practices and experience from thousands of projects have been amassed across the transformation journey through GROW with SAP and RISE with SAP, which are offerings for cloud ERP solutions centered on SAP Business Technology Platform (SAP BTP).
- Moving to a cloud solution such as SAP S/4HANA Cloud Private Edition requires changes that go beyond software solutions and involve adjustments to infrastructure, system architecture, operating models, and more.

The clean core principle supports the efficient maintenance of your new solution and helps reduce total cost of ownership significantly. Keeping the core system free from reports, interfaces, conversions, extensions, forms, and workflows (RICEFW) objects while leveraging new technology (for example, the portfolio of products on SAP BTP) to realize custom code for perceived competitive advantage sets up the system for

future updates in real time. Consider the following:

- Thinking ahead and taking the time to get to know all of your add-ons, available simplification items, and existing custom-code objects will be essential for finalizing implementation approaches and solution paths. Accuracy pays off and noticeably reduces project timelines.
- It is valuable to create awareness for compatibility packs and the usage rights behind them. SAP offers alternatives to the limited usage rights for selected scope components.
- Integration is much more than keeping a system landscape communicating. It is highly recommended to apply a thorough perspective for your business processes and the impact on future system landscapes plus standardized options for integration across aspects, such as user experience, security and identity management, workflows, domain models and APIs, analytics application lifecycle management, and end-to-end process coverage.
- Considerations for integration with business warehouse solutions and human experience management solutions from SAP – and respectively, with their succeeding solutions – are provided in subsequent sections.

The points above will substantially influence your ability to adopt next-generation business processes and use the new capabilities of SAP products. In combination with the chosen deployment path to SAP S/4HANA, they will help determine the implementation method as well.

Customers with the SAP ERP application have the choice among system conversion, new implementation, and selective data transition. There are eight main considerations that drive the final conclusion. You can calculate for preparation projects and base your assumptions on the results of system-driven analysis:

- System conversion is the perceived fast way of moving to SAP S/4HANA, and most customers prefer the one-step approach (infrastructure plus application), rather than moving to the new infrastructure first and then converting to the latest application. It is highly recommended that you add a subsequent innovation phase to the conversion; otherwise, process optimizations, custom-code management, and other business and IT improvement options can't be fully leveraged.
- New implementations enable companies to rethink and reinvent the way they run their business. Harmonization, template structures, and clean core are all aspects that are supported from the start of the project, accompanied by orchestrated change management for people and skills development. SAP standard content as a baseline for system design in new implementations can support the fit-to-standard and clean-core-by-design mindset of project members.
- Selective data transitions (SDTs) encompass a variety of scenarios that go beyond the standard options and apply components of both. SDTs can get complex, and the involvement of experts is highly recommended due to the impact on data, compliance, process excellence, and even legal requirements. Specialized services are offered by SAP and by our partners.



Cloud options

For most organizations, cloud solutions have become an essential part of their core IT infrastructure. This also holds true for ERP systems, which is why one of your key decisions when planning your digital transformation toward SAP S/4HANA is which SAP S/4HANA Cloud product you would like to implement – SAP S/4HANA Cloud Public Edition or SAP S/4HANA Cloud Private Edition.

SAP has these two distinctive offerings in the market because we know how different our customers' requirements are.

The GROW with SAP S/4HANA Cloud Public Edition solution is primarily targeted at organizations that haven't had SAP ERP in the past and are looking for a highly standardized offering that enables them to benefit from continuous innovation delivery and support for industry best practices.

In contrast, the RISE with SAP S/4HANA Cloud Private Edition solution is the offering of choice for most of our long-term SAP ERP customers.

The solution allows organizations to transition to a cloud operating model at their own pace and enables them to leverage previous investments and maintain control of their ERP system.

When choosing between private and public cloud systems, you should analyze your business processes, speed of innovation, and desired cloud service.

Business processes

We recommend that you examine the unique elements of your business operations. A public cloud solution offers a suite of preconfigured solutions designed around industry best practices. For businesses whose processes align closely with these practices, this could be an ideal turnkey solution. However, for businesses with unique nonstandard processes, a private cloud solution may be more appropriate, as it can offer greater customization and flexibility to modify the system, based on your business-specific requirements.

Speed of innovation

A public cloud solution provides semiannual innovations available to all customers simultaneously. You must adapt to these changes whether you're ready for them or not. A private cloud solution, on the other hand, gives you more autonomy to determine the pace of upgrades and changes. You can decide when to conduct an upgrade and update projects based on your company's readiness, helping ensure minimal disruption to operations.

Desired cloud service

If you prefer to outsource most of your IT operations and operate your business as a true SaaS model, then a public cloud solution may be the best option. On the other hand, if you want to retain more control and responsibility within your organization, then a private cloud solution may be more suited to your needs. A private cloud solution offers more freedom in managing, controlling, and securing the IT environment, which might be crucial if your organization has sensitive data or strict compliance requirements.

Finally, you also need to consider that choosing a public cloud environment will require you to go for a greenfield implementation, whereas a private cloud environment lets you choose your transformation path. The specific advantages of each of these strategies are outlined in the "[Implementation options](#)" section in Part one.

In conclusion, making a choice between public and private cloud solutions should be an informed decision based on the specific needs and circumstances of your organization, its risk tolerance, and its readiness for change. You must consider the extent to which your current processes are effective and differentiating, along with the current and potential future resources at your disposal, and strike a balance between outsourcing IT operations for cost-effectiveness and maintaining control for customization and security.

A case for GROW with SAP and RISE with SAP

To reduce complexity and support customers comprehensively, SAP has developed new offerings that combine commercial and transitional aspects across the solution portfolio. GROW with SAP and RISE with SAP are solutions from SAP for cloud ERP centered on SAP BTP. They aim for smoothly integrated business process excellence from end to end. Both offerings represent a modern, customer-feedback-driven cloud ERP and technology foundation, combined with dedicated methodologies, tools, services, and AI components needed to consume, adopt, and leverage these solutions as quickly as possible, regardless of the starting point.

GROW with SAP and RISE with SAP are built to serve different customer requirements for specialization, innovation speed, agility, and adoption flexibility. The combination of cloud ERP and SAP BTP enables you to run a clean core system that can be kept up to date more easily while enabling standardized, agile extension and integration with other SAP, third-party, or customer-built solutions.

GROW with SAP boasts SAP S/4HANA Cloud Public Edition – a full-featured SaaS cloud ERP with a modern user experience, unified business insights, adaptability, extensibility, built-in security and compliance, and continuous flow of innovation. SAP S/4HANA Cloud Public Edition encompasses industry best practices for business processes across business function areas.

Rise with SAP is orchestrated around SAP S/4HANA Cloud Private Edition – a tailored-to-fit cloud ERP for various industries that you can adapt to your organizational needs to help drive

your digital transformation. It enables the migration of your instance of SAP ERP to cloud ERP, with a fresh start (new implementation), an SDT, or a conversion of your current ERP system. Your on-premise SAP S/4HANA can migrate with shift and lift with an optional upgrade to the latest version of SAP S/4HANA Cloud Private Edition. SAP supports your transition with the RISE with SAP Migration and Modernization program, which includes clear guidance on transitioning and innovating with **RISE with SAP Methodology**.

RISE with SAP Methodology includes:

- Detailed guidance on implementing a clean core strategy
- Provision of cloud-based tools that support project communication
- Comprehensive agility approach for fast responses to changing market environments, connecting business processes and respective IT solutions
- Most recent solutions for security and compliance demands in systems and processes
- Robust backup and disaster recovery capabilities delivered with operational efficiency

Starting your journey from SAP ERP to RISE with SAP with **RISE with SAP Methodology** will help you ensure a good fit for your business and clean core strategy. The methodology applies a clean core and fit-to-standard approach to assist you from discovery to go-live and provides transparency on project progress and status, with key milestone checks. It is delivered through SAP Preferred Success services and partners and is orchestrated by enterprise architects. **Part two** of this guide addresses RISE with SAP Methodology in more detail.

Changes in cloud operations

With the adoption of SAP S/4HANA Cloud Private Edition, some parameters besides the software solution might change, including:

- Infrastructure – On premise becomes hyperscaler in most cases.
- System architecture – Tailor-made system layouts become standardized templates.
- Deployment, governance, and operations model
 - On-premise becomes private managed cloud.

Each of these changes requires careful impact analysis and consideration. Not all aspects apply to all customers in the same way, and some might not be applicable at all. The following aspects are also by no means complete and comprehensive. They should serve, more so, as a motivation for a comprehensive analysis of the situation as is, a detailed definition of the target situation, and, based on that, a plan for a transformation in all aspects, including operations.

Technical aspects include the following:

- SAP S/4HANA Cloud Private Edition is equally available on all three major hyperscaler platforms (Amazon Web Services, Microsoft Azure, and Google Cloud Platform), in a customer data center deployment, and as a deployment in SAP data centers at certain locations.

- General capabilities and services are identical in all deployment models. Nevertheless, nuances are different depending on the respective hyperscaler (for example, server types).
- Choosing the platform that is already in use helps facilitate a smooth integration, overarching landscape governance, and architecture and is the leading factor for most customers.
- Establishing system-to-system integration through peering of the respective hyperscaler deployments is an elegant and commonly used approach.
- It is important to plan carefully how your users, partners, and other technical systems will connect to your instance of SAP S/4HANA Cloud Private Edition, since pure access through HTTPS is not possible in a private cloud deployment.
- As a private cloud deployment regularly involves a fully transparent network connection between a customer's corporate network and the private cloud network, the distribution to local users is done through your corporate network, not directly through multiple point-to-point connections.

Solutions in SAP S/4HANA Cloud Private Edition are deployed based on predefined reference architectures. These architectures are the basis for a high degree of automation in provisioning and most system lifecycle operations, such as system copies or updating. They also facilitate an efficient support process and faster incident resolution. While reference architectures allow a certain number of variants and are carefully chosen to match the requirements of a high number of customers and use cases, they might not represent the optimal solution in all situations. That, however, is the trade-off required to leverage the advantages and synergies they provide. Based on this, moving to RISE with SAP includes a review of where required adjustments of the system architecture and operational aspects are dependent on the architecture:

- System integration, including topics around interface architecture, is a critical area. System integration and interfaces are critical aspects of many business scenarios in a distributed IT landscape.
- While some integration types and protocols continue to work fine within a private managed cloud, others don't and regularly lead to challenges during transformation projects.
- Third-party software that requires installation at the operating system level and OS access for its maintenance is problematic and requires a careful assessment up front to prevent issues during migration and go-live.

- Add-ons running within the SAP software stack won't create challenges in a deployment of SAP S/4HANA Cloud Private Edition.
- A pure lift-and-shift approach into RISE with SAP is not usually desirable and is sometimes not even possible. We recommend that you review your architecture and implementation and carefully decide on the changes that are required.

Processes include the following:

- While a private managed cloud allows for some possibilities to accommodate customer-specific requirements, there is also a high need to standardize processes to achieve the scale at which RISE with SAP is operated.
- Customizing processes is not in the interest of customer needs, as there is a high risk of failure and service-quality issues. Predefined workflows, interfaces, and roles and responsibilities will help ensure a high degree of efficiency and process performance for the main processes in the Information Technology Infrastructure Library (such as change, problem, or capacity management).
- Even though RISE with SAP is audited against many industry-leading standards and is following commonly accepted best practices, not every nuance of the governance model may match established practices in your on-premise operations. This requires a careful evaluation and review and potentially some adjustments.
- These multiaudit standards give a high level of assurance that governance and security in RISE with SAP consistently match the highest standards. However, this practice also implies that most things are happening behind the scenes and might not appear to be transparent.

Example of regular restore tests

Formerly, it was common for an IT organization to regularly test the restores of its databases. While that might be practical in an environment with 10 to 20 productive systems, it becomes outright impossible when running tens of thousands of databases. However, in such an environment, restores are performed randomly on a regular basis anyway, so that a constant verification of backup tools, procedures, and staff qualification is assured. While customers benefit from that scale, they might have to rework their internal controls and remove the requirement for dedicated restore tests for individual systems.

This is a very detailed example, but we've chosen it intentionally to illustrate how important it is to carefully analyze such details to align existing frameworks, processes, and controls with the new conditions in a private cloud environment.

This alignment should primarily happen in the input and output of the processes for RISE with SAP and the required interaction with them. The process details on the cloud side should be ignored.

People and roles

RISE with SAP is an offering that comes with a defined standard service scope and the possibility to extend that scope through additional service packages. The service scope of RISE with SAP should be carefully evaluated against the current operations model, and those operational roles that are becoming obsolete, changing, and will continue to be required should be identified. Using a private cloud offering and engaging with the respective supplier leaves customers with certain obligations. The skills required to fulfill them must not be underestimated.

Example of release management

While it is part of the RISE with SAP offering to execute all sorts of software lifecycle events, the planning and coordination of them still lies with you, the customer. Understanding the dependencies within a landscape, the various approaches of updating and upgrading, and having the required project management skills to coordinate work packages around an upgrade remain essential, even when running in a private cloud environment.

It is a common misunderstanding in this context to describe RISE with SAP as a service that covers the entire “SAP basis.” While it is true that RISE with SAP covers many operational tasks that are typically done by the so-called “SAP basis” team, there is still a need for SAP technology expertise in your organization after the transition to RISE with SAP. However, the focus of the work changes from hands-on, operational tasks to coordination and governance, and a stronger focus is placed on business value, transformation, and innovation, for example, through the use of SAP BTP or AI.

Following the clean core principle

Your organization must adapt to a changing business environment and adopt new capabilities to thrive in a digital era. And it relies on IT to provide the capabilities that ultimately drive strategy. Flexibility and swiftness to support strategic changes and enable innovation are key. However, legacy systems carrying significant technical debt can limit organizational agility. Modern ERP software can now act as a dynamic, living foundation and provide extended functionalities – built-in insights, automation, workflows, standard integrations, simplified extensibility – providing

differentiating capability without the technical debt. However, legacy complexity must be addressed to be able to consume these new technologies and thereby enable business evolution.

We consider six dimensions when discussing the core of an organization. These technical and procedural considerations interact to provide the capability to your business so you can deliver outcomes.

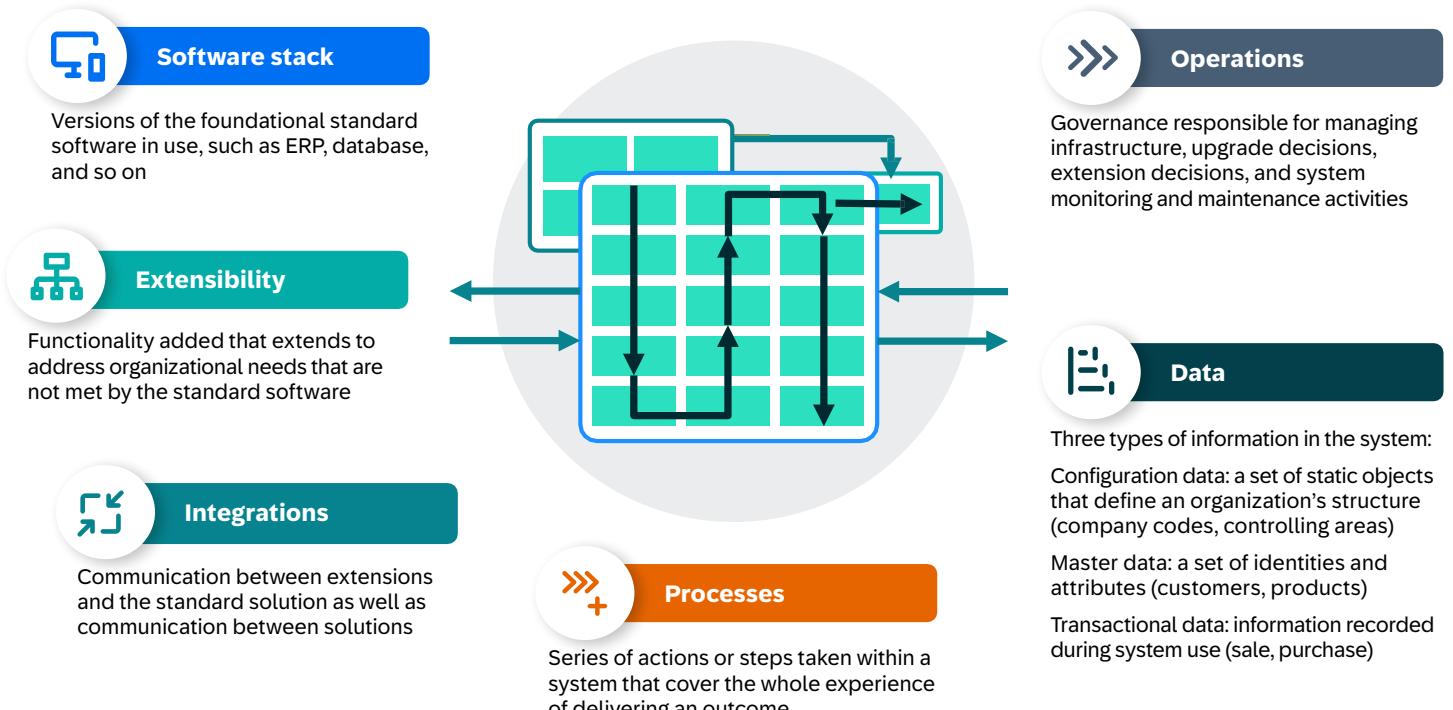


Figure 1: Dimensions of the core

Throughout the course of running your business and adapting to new requirements, variations are often introduced for each of these. However, to maximize cloud readiness, you must strive to keep each of these dimensions as clean as possible.

Achieving modern, flexible, and cloud-compliant ERP

A clean core is achieved by integrating and extending a system in a way that is cloud compliant, with master data and business process governance.

Often a clean core is thought to be a system devoid of core customization. However, being truly “clean” actually includes adhering to standardized guidelines for all elements of the core. Knowing that, when it comes time to upgrade a system, changes can be put into place without significant manual effort to test and adapt existing structures.

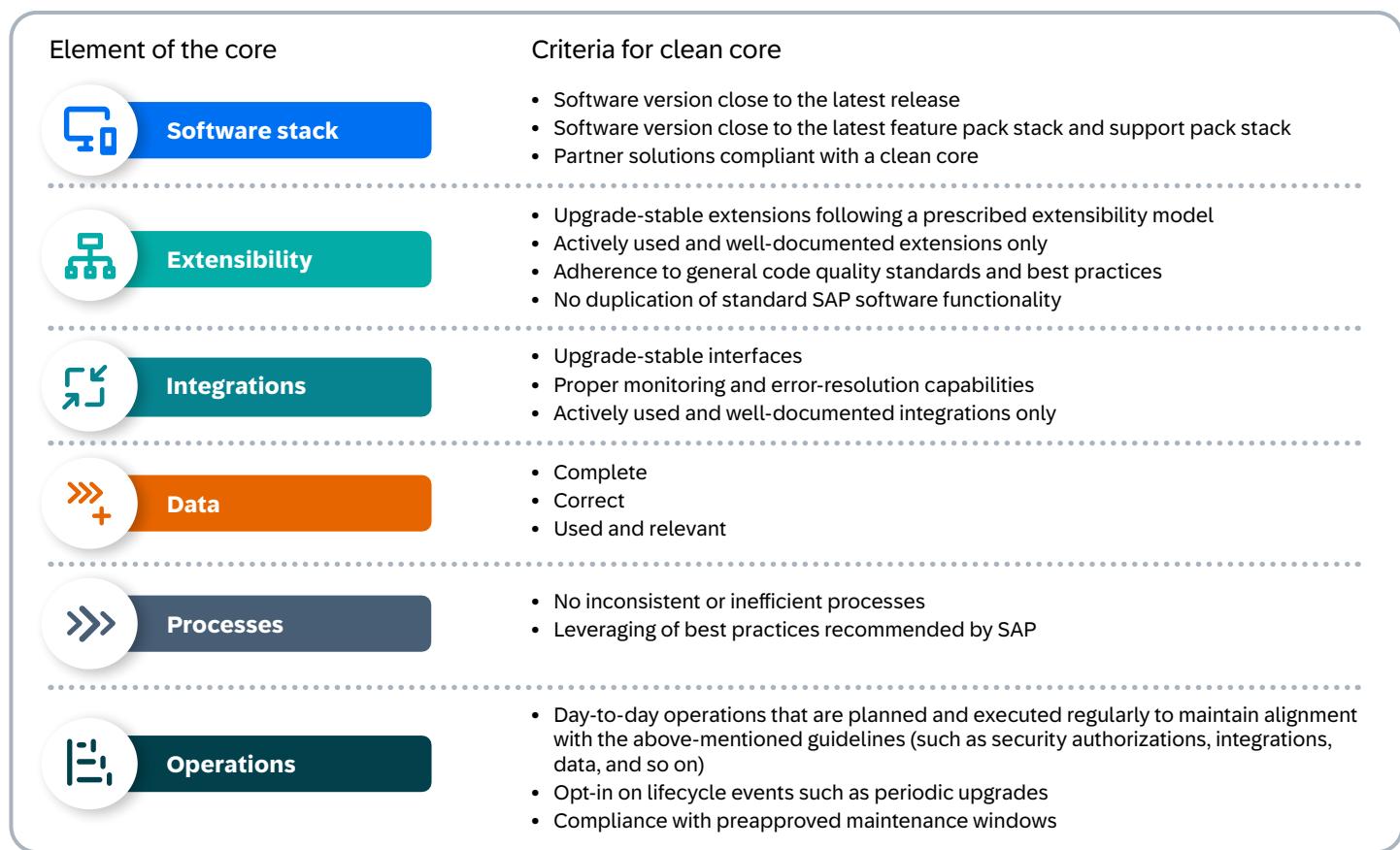


Figure 2: Criteria for a clean core

Moving toward and keeping a clean core requires commitment from both the business and IT. Some organizations will get clean through migration transformation, others by new implementation. In all cases, organizations will need to establish strong governance to stay clean.

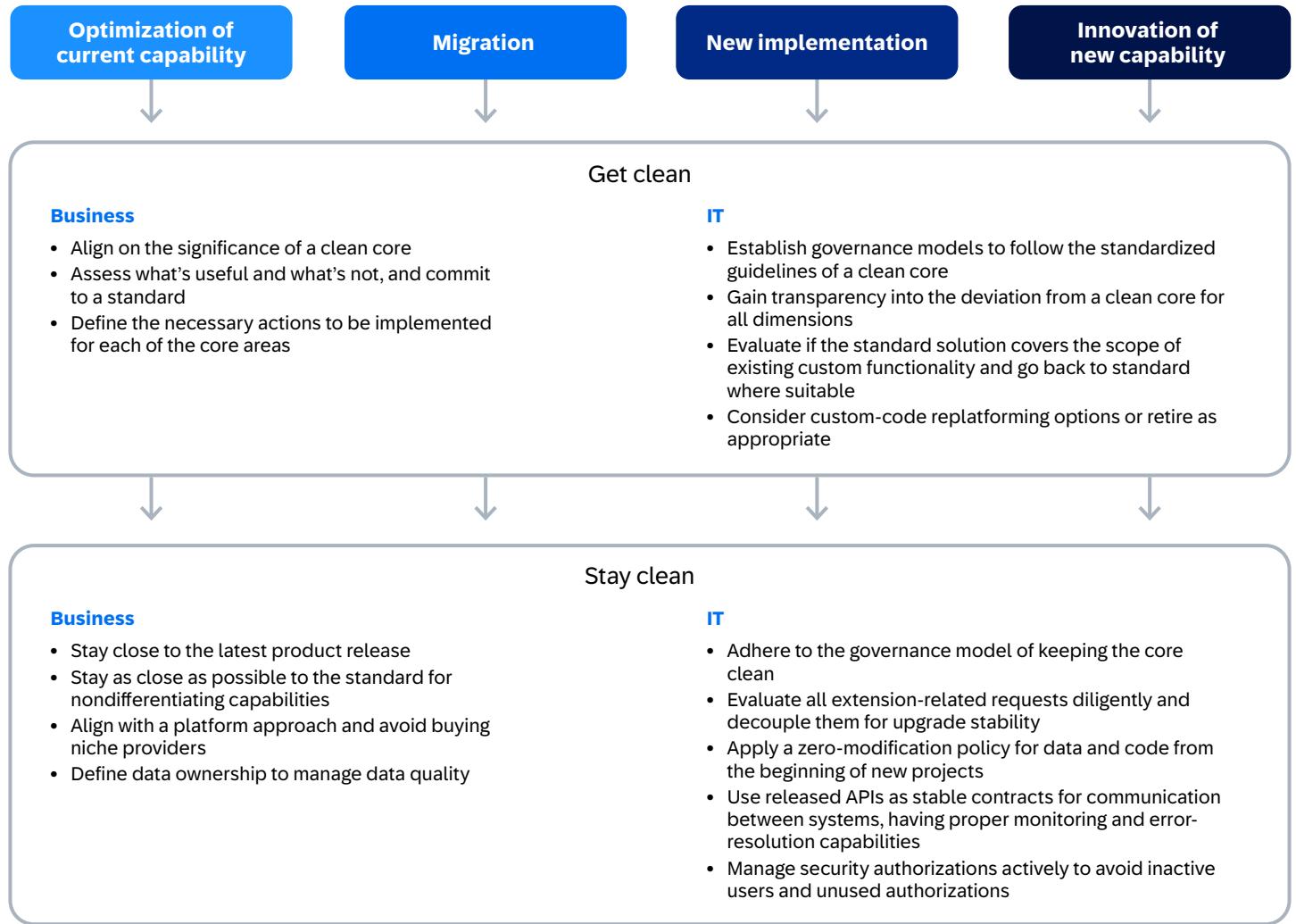


Figure 3: Dimensions to get and stay clean

Introducing new capabilities to your organization typically has benefits for its top and bottom lines. Organizations running standard environments can adopt new capabilities faster and at a lower cost than those that are further away from standard. Any benefits estimated based on the scope of new capabilities will be realized faster and to a greater extent when the core is clean. Establishing a clean core either in preparation for moving to the cloud or already in the cloud makes it possible to maximize the benefits of cloud delivery.

Understanding this high-level strategic direction will inform the specific actions required to maximize agility in the short term and prepare for future initiatives such as a move to the cloud. As each organization is at a different level of standardization, our recommendation is that you work with SAP to determine the best transformation approach for your organization.

Compatibility packs

With the introduction of SAP S/4HANA, SAP aimed to achieve two goals: deliver a modern, disruptively new ERP suite that takes our customers through the next decades while allowing current customers using SAP ERP to adopt the new suite in a nondisruptive manner. Compatibility packs are the commercial expression of this strategy.

Compatibility pack usage rights are limited in time. They are a mandatory part of all customer contracts for on-premise SAP S/4HANA and defined in chapter 2.2 of the Software Use Rights document. The condition for an on-premise compatibility pack is a valid license of the related classic solution. Compatibility packs also apply to selected private cloud deployments. For that scenario, no licensing prerequisite exists. You can refer to the respective Service Description Guide of your private cloud contract for details. We'd like to highlight that the SAP Readiness Check tool offers functionality for customers to identify compatibility scope and can support respective planning.

These usage rights are granted to the installed base as well as net-new customers up until December 31, 2025. For three compatibility scope components – customer service (CS), transportation (LE-TRA), and production planning for process industries (PP-PI) – the usage rights for these components' compatibility scope items are granted up until December 31, 2030. As of the 2023 release of SAP S/4HANA, alternative functionalities for nearly all compatibility pack items are available, so that

customers have sufficient time to replace the corresponding functionality. There are only a few compatibility pack items for which SAP decided not to offer an alternative solution, as a result of very low usage. For details, refer to SAP Note [2269324](#) in the SAP Notes tool.

SAP is conscious of customer efforts to adopt the alternatives, and we offer options to migrate from compatibility pack functionality to the alternatives where possible. With the compatibility packs, the effort to adopt SAP S/4HANA has generally not increased, but it is split into two phases:

1. For ongoing transition projects to SAP S/4HANA, even before December 31, 2025 (2030 for CS, LE-TRA, and PP-PI), SAP generally recommends that you adopt the alternatives right away during the transition to SAP S/4HANA. For transition projects finishing after compatibility pack usage rights expire, this is mandatory.
2. As a customer already using SAP S/4HANA, you should plan the move to compatibility scope alternative functionality as part of your next release upgrade or as a separate project. These projects need to be completed before December 31, 2025 (2030 for CS, LE-TRA, and PP-PI).

Learn more about compatibility packs in SAP Note [2269324](#) and in this [blog post](#).

Integration with other SAP solution areas

Integration is a key enabler for digital business transformation and a future-proof enterprise solution estate. SAP has invested in built-in integration among SAP solutions. Key integrated, specialized, line-of-business SAP solutions include:

- SAP Customer Relationship Management (SAP CRM) application to integrate customer data, sales orders, customer data exchange, and service requests, enabling a holistic view of customer interactions and streamlined sales and service processes
- SAP Supply Chain Management application enabling real-time visibility into supply chain processes including supply, inventory, manufacturing management, and logistics; improving demand planning and real-time monitoring of assets and connected devices (IoT); enabling predictive maintenance; limiting disruption; and optimizing operations
- Intelligent Spend Management concept and SAP Business Network, for smooth processing and enhanced collaboration with suppliers and partners through inventory synchronization and data exchange
- SAP ERP Human Capital Management solution facilitating the exchange of employee data, including organizational structure, employee master data, and time and attendance information, helping to ensure that records are accurate and consistent for efficient payroll and workforce management

SAP also provides integration for a large ecosystem of specialized partner solutions. Products and integration capability can be viewed online ([SAP S/4HANA Cloud Private Edition](#), [SAP S/4HANA Cloud Public Edition](#)). The section “[Leverage the power of the SAP ecosystem and partners](#)” provides further information.



Areas and depth of integration are articulated by SAP as the seven suite qualities facilitating a consistent user and collaboration experience across applications with unified security, workflow, data semantics, user interface, lifecycle management, and process architectures. Suite qualities are supported by SAP BTP, which enables further extensibility by enhancing the applications while maintaining a clean core of the standard cloud application. By using advanced technologies and services provided by SAP BTP, SAP helps ensure the integration of industry-specific business processes across SAP, partner, and third-party applications.

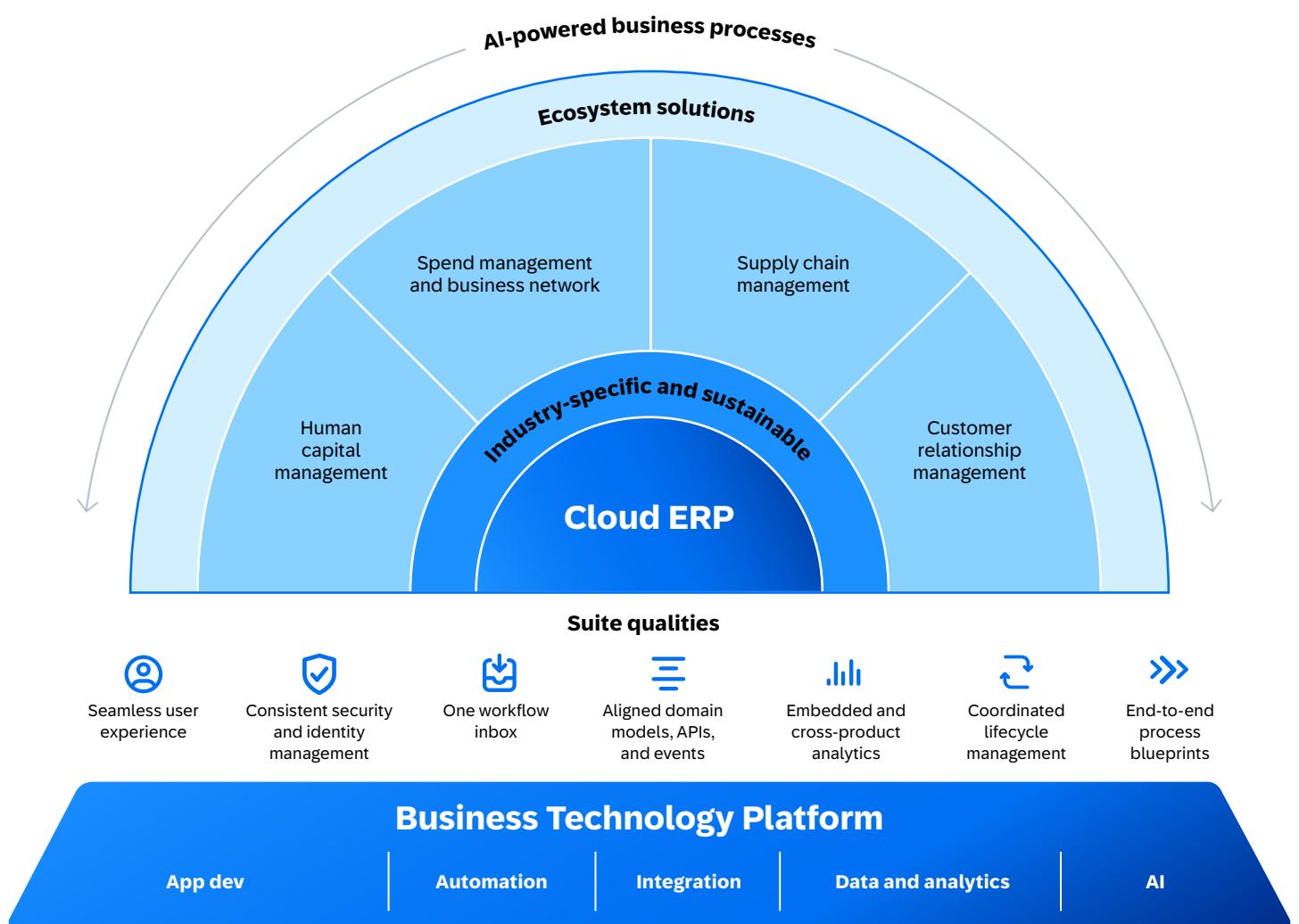


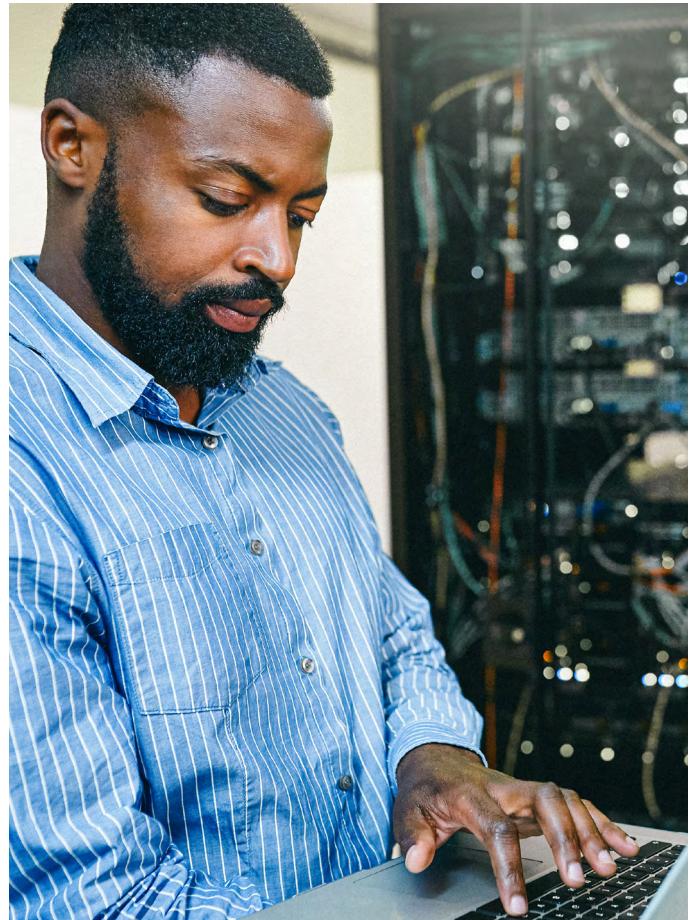
Figure 4: Integration of cloud ERP with SAP solution areas, suite qualities, and capabilities in SAP BTP

Let's take a quick look at the seven suite qualities. A comprehensive presentation, including details on underlying applications and demos, can be found in a dedicated [blog series on suite qualities](#) on SAP Community:

1. Seamless user experience helps ensure SAP systems follow the SAP Fiori user experience (SAP Fiori UX). You should feel right at home with a familiar interface, regardless of the SAP system you're using. Training end users becomes easier, and customer satisfaction and productivity increase with the consistency the harmonized user interface provides. SAP Fiori is available with all SAP solutions. In addition, SAP offers you the option to establish a centralized access point for users to navigate between different applications without even realizing they are accessing multiple systems. The SAP Start site is the predefined entry point for cloud solutions from SAP, including RISE with SAP and GROW with SAP. Customers looking to start their transition to cloud ERP with a hybrid environment, accessing both cloud and on-premise solutions, may use SAP Build Work Zone.

2. Consistent security and identity management is a cornerstone for a future-proof, intelligent, sustainable enterprise, helping ensure data protection and user identity management with strong security policies. This includes a smooth logon for various applications, with a single login page; user-specific authorization providing access only to what is relevant for a user; simplified user provisioning and deprovisioning; password management and resetting policies; and integration with third-party systems. SAP Cloud Identity Services provide this standardized access to SAP applications.

3. One workflow inbox offers a single solution encompassing all workflows a user might need to process into a single solution through the SAP Task Center service. This provides a centralized place to access and process approval requests, regardless from which SAP application it is originating. It does require SAP Build Work Zone as a prerequisite. Recognizing that many users will want to process requests on the go, SAP Task Center integrates with the SAP Mobile Start app, enabling the processing of approvals on your mobile device. It also includes the benefit of mobile features such as notifications of pending requests. Furthermore, integration of SAP Task Center with the SAP Build Process Automation solution enables users in a no-code development environment to automate and innovate their workflows.



4. Aligned domain models and integration

content help ensure that SAP systems speak the same language – that is, maintain the same semantics – for efficient data exchange between applications. SAP develops applications, harmonizing business objects across business processes based on SAP One Domain Model – a model used consistently by SAP applications involved in delivering comprehensive business processes. Moving forward, SAP One Domain Model will further standardize how SAP software expresses business semantics and relationships between business objects in APIs. Data models and APIs are linked to business objects in SAP One Domain Model, and instances are connected via unique object identifiers in SAP One Data Model. This helps incorporate more standardization into API, event, and data-product development, optimizing customer integration and developer experience – further evolving the SAP Master Data Integration service. At the heart of this suite quality lies SAP Integration Suite. The suite allows companies to integrate SAP or third-party software, cloud or on-premise, to more quickly and securely integrate applications, data sources, and groups of users added into your evolving enterprise application landscape.

5. Embedded and cross-product analytics

provide the right level of information at the point of decision-making for each user within each application the user is using to execute their role, along each end-to-end business process. SAP applications come with built-in analytical content, helping you turn data into insight and leverage appropriate tools such as comparisons in tables, graphics, and timelines. These analytics are an integral part of the user interface, providing you with naturally embedded business intelligence where it is needed. They can be used immediately without further configuration. In addition, the SAP Analytics Cloud solution gives you comprehensive insights spanning the business by flexibly integrating multiple data sources, from SAP and third-party systems, across the enterprise. Building on these advanced analytics, you can expand into planning capabilities, turning enterprise-level insights into forward-looking, strategic decision-making. Enterprise analytics are only as good as the underlying data, which calls for a solid strategy for data storage, governance, and security. This is where the SAP Datasphere solution comes into play. This solution will help you transform your business warehouse into a data powerhouse, tightly integrated with SAP Analytics Cloud and alongside your transformation with RISE with SAP.

6. Coordinated lifecycle management is crucial for enterprises to monitor and optimize the use of their systems to achieve the value promised and drive business results. SAP is helping to enable this with two key tools: SAP for Me and SAP Cloud ALM. [SAP for Me](#) is your central access point for dashboards providing insights into your SAP software landscape, including system provisioning, billing, maintenance, users, learning, and more. It is also available as a mobile digital companion, providing alerts, metrics, and insights about your SAP product portfolio. SAP Cloud ALM supports the lifecycle of your solution, from streamlining implementation and standardizing operational processes to safeguarding your cloud transformation. SAP Cloud ALM also includes practical tools such as guided methodology for solution management, project management, and fit-to-standard workshops. It helps enable operational excellence and business continuity with integration and exception monitoring as well as your journey to adopting a clean core strategy. Customer-specific integration with other on-premise and cloud solutions is further simplified with the help of the Cloud Integration Automation service, providing a role-based, guided workflow with partial automation of technical configuration tasks.

7. End-to-end process blueprints are built into and across SAP applications, helping ensure that they work together smoothly. The [SAP Business Accelerator Hub](#) shares the underlying reference architecture that makes it easier to understand these business processes and their subprocess breakdown. It enables implementation on a modular basis while keeping the full process strategy in mind. You can flexibly implement adaptations or extensions specific to your business and still stay consistent with the business process model. The SAP Business Accelerator Hub shows your process variant from the business perspective (solution process) and the technical perspective (solution component), with data-flow and process-flow diagrams. Additional documentation includes integration flows and APIs required to implement the process, also helping you to speed up your transformation.

Throughout these short descriptions of the seven suite qualities, you likely already get a sense of the key role that SAP BTP plays – enabling, facilitating, and protecting the built-in suite qualities. The capabilities in SAP BTP are grouped into five portfolios (details can be found online):

- **Application development and automation:** You can create applications that add to and extend standard applications with a focus on low-code and no-code application development environments such as **SAP Build solutions**, **SAP Build Code** with code development based on generative AI, and **SAP BTP, ABAP environment** for use with cloud apps and extensions.
- **Artificial intelligence:** When you infuse AI responsibly with transparency and compliance into applications, you can transform and optimize them with business-specific, pretrained business AI models. You can leverage **SAP AI Services and support** tasks and enable advanced process automation with AI models at scale using **SAP AI Core infrastructure**. And you can build chatbots and manage the AI lifecycle in one central place with **SAP AI Launchpad**.
- **Data and analytics:** You are able to collect, exchange, consolidate, and manage data to enable insights wherever they are needed, within applications and across the enterprise, through advanced analytics solutions. You can make

SAP HANA Cloud your multi-model database management system. **SAP Analytics Cloud** helps you analyze data and plan with a native connection to SAP application and third-party data. You can deploy **SAP Datasphere** as a unified service integrating, cataloging, semantic modeling, data warehousing, and virtualizing data workloads across SAP and third-party application data. With the **SAP Master Data Governance** application as your central hub for master data management and governance, you can improve the quality of your business-critical information.

- **Extended planning and analysis:** Integrating SAP and third-party data for use in AI-infused planning, analysis, and reporting capabilities from across the SAP application portfolio helps you enable strategic decision-making based on the combination of **financial**, **supply chain**, **workforce**, and **sales planning** capabilities across your organization.
- **Integration:** Using **SAP Integration Suite**, you can connect and automate business processes across your enterprise, integrating cloud and on-premise applications, services, events, and data. The suite is an integration platform as a service that provides built-in integrations, standard APIs, connectors, and best practices. It helps you accelerate innovation with more automation for faster time to value.

Many SAP customers have invested in the SAP Process Integration offering and SAP Process Orchestration software for their integration scenarios. With a move to cloud ERP, we highly recommend that you transition to [SAP Integration Suite](#). This SAP technology helps simplify and accelerate SAP software and third-party integration scenarios. SAP Integration Suite comes with a migration assistant that helps you assess and migrate existing integration scenarios from your SAP Process Orchestration software. You will find more information about this in **Part three**.

In support of integration capabilities from SAP, SAP S/4HANA Cloud Private Edition enables comprehensive [Integration Monitoring Setup](#) for integration scenarios both for on-premise systems in hybrid environments as well as for public cloud services with SAP Cloud ALM. Additional information on tools and services

for integration purposes is provided in **Part three**. Furthermore, dedicated transformation guides for other core SAP products are planned and will be continuously published.

Customers that choose RISE with SAP and GROW with SAP receive standard built-in integration content packages helping them to enhance functionality and support end-to-end business processes and focusing on reducing total costs of implementation and ownership.

The two main product combinations for SAP ERP Central Component (SAP ECC) in the market are the SAP Business Warehouse (SAP BW) application and the SAP ERP Human Capital Management (SAP ERP HCM) solution. The following sections will specifically highlight integration aspects for these two core offerings when moving to SAP S/4HANA.



Evolving your SAP BW application

SAP Datasphere is the strategic successor of SAP BW and the SAP BW/4HANA solution. It is the technology foundation that enables a business data fabric, which delivers an integrated, semantically rich data layer over underlying data landscapes to provide smooth and scalable access to data without duplication. It provides a unified experience for data integration, data cataloging, semantic modeling, and data virtualization – as well as data warehousing. However, we are not leaving customers behind, and many customers continue to trust SAP BW and SAP BW/4HANA to consolidate data across their enterprise to get a consistent, agreed-upon view of their data. While SAP NetWeaver BW release 7.5 is nearing the end of maintenance in 2027 (or 2030 with extended maintenance and in the private cloud), with SAP BW/4HANA, investments are safe beyond 2030.

Customers using SAP ERP that are moving to SAP S/4HANA Cloud need to consider a way forward for deployments of their on-premise SAP BW. Some operational reporting and analytics workflows can be covered by the embedded analytics in SAP S/4HANA Cloud. This helps to optimize business processes directly in the ERP system with insight-to-action capabilities, simulations, and predictions or role-based “overview

pages” and cockpits. However, the need for comprehensive data and analytics functionality (including data warehousing) will remain.

To ease the transition of our installed-base customers, we continue to offer SAP BW and SAP BW/4HANA in the private cloud, in full support of the strategy for RISE with SAP. With that, customers can move to SAP Datasphere directly or simply add SAP Datasphere to extend their deployment of SAP BW with the innovation, openness, and self-service abilities in a hybrid scenario. Over time, they can increasingly shift workloads to SAP Datasphere. They can even leverage SAP BW bridge for SAP Datasphere to reuse and integrate objects in SAP BW with a tool-supported move, or they can leverage data ingestion and staging based on SAP BW, including business content in SAP BW/4HANA as an accelerator.

Customers can transition to a modern business data fabric with SAP Datasphere along several innovation journey paths, aided by the SAP ecosystem and partners as well as migration tools – all in support of the strategy for RISE with SAP.

Additional information includes:

- [Modernize SAP BW with SAP Datasphere](#)
- [SAP Business Warehouse, SAP BW/4HANA, SAP Datasphere – Statement of Direction](#)

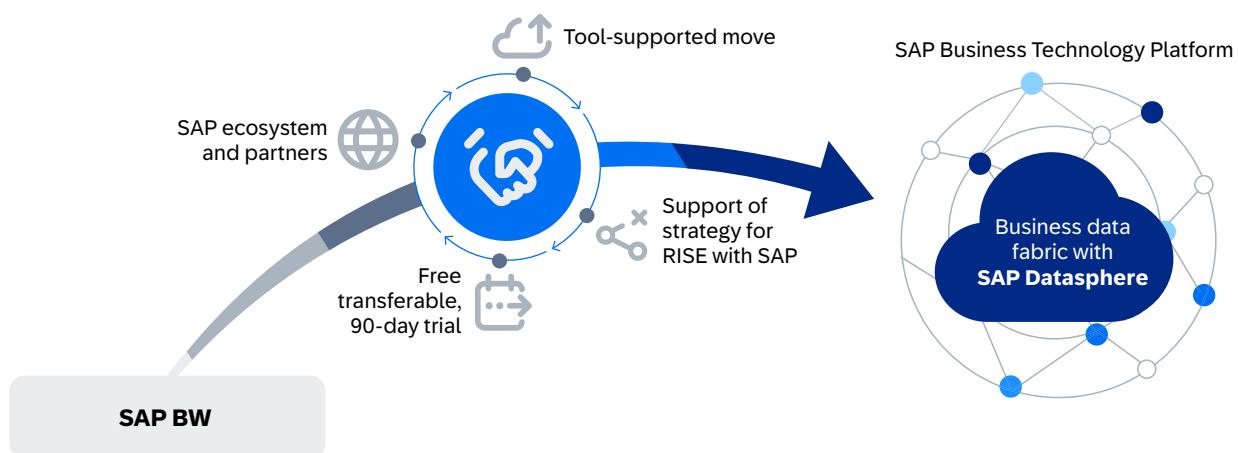


Figure 5: Innovation journey for SAP Datasphere

Transition options for HCM solutions

SAP recognizes that every customer's transformation is unique and must be undertaken at each customer's own pace. Therefore, SAP offers several options for customers and their individual digital HR journey.

For customers who plan to continue using SAP ERP HCM for the foreseeable future, SAP offers the new SAP Human Capital Management solution for SAP S/4HANA, available since October 2022. The solution can be deployed alongside or embedded with SAP S/4HANA and on premise or as a private cloud edition (RISE with SAP).

The migration service for SAP ERP HCM to SAP S/4HANA Cloud Private Edition offers a controlled cloud migration path for customers at their own pace, with a smooth transition into a cloud model. It supports system conversions and brownfield migrations into the cloud as well as greenfield implementations. The migration service subscription has a predefined range of HCM functionality – core HR, time tracking, and payroll. Talent solutions, including the SAP E-Recruiting application and SAP Learning solutions, are not part of this offering. The predefined range of core HCM solution components correspond to the functional scope of SAP HCM for SAP S/4HANA. Therefore, simplifications are also relevant.

For on premise, the solution scope matches the compatibility pack of SAP S/4HANA and the key functionality of SAP ERP HCM (SAP enhancement package 8).

From a technical perspective, the transition to SAP HCM for SAP S/4HANA will be nondisruptive. First, a technical transition to SAP S/4HANA takes place where simplifications can already apply. Next, the business function for SAP HCM for SAP S/4HANA (H4S4_1) must be activated. After switching on the business function, the new product is active and the new features can be used. As simplified functionalities are technically deactivated and switching on the business function is nonreversible, check available SAP Notes, documentation, and simplifications before the upgrade to SAP S/4HANA, using available tools such as SAP Readiness Check.

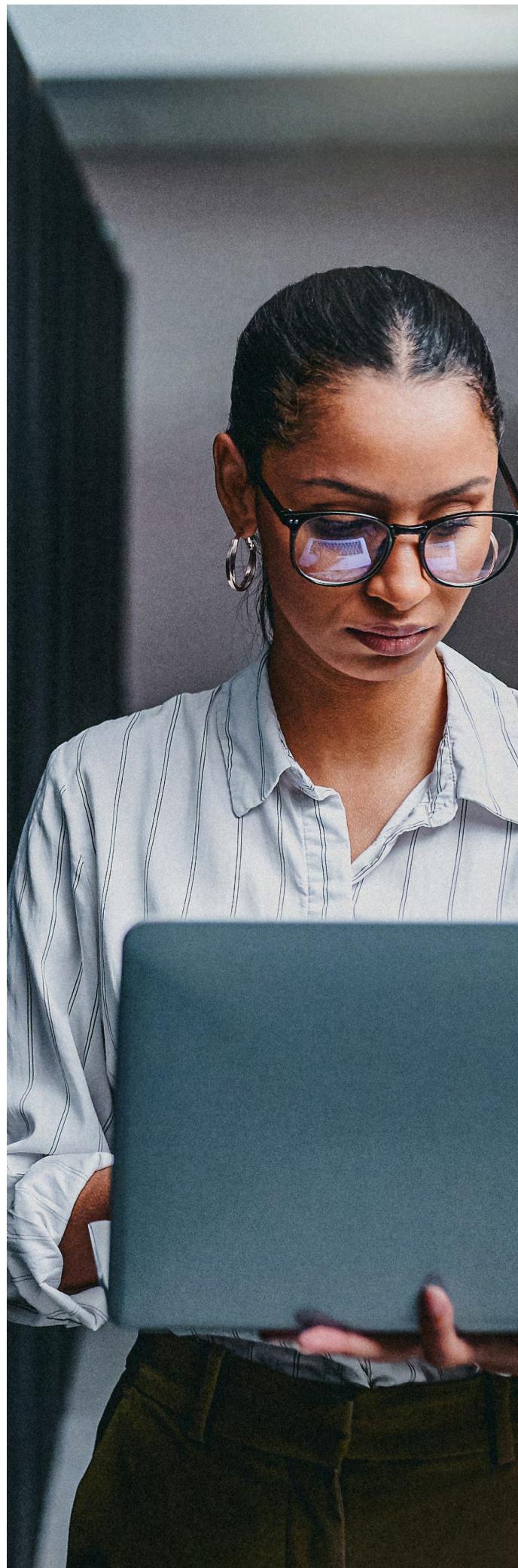
Learn more about the product, the different deployment options, as well as the simplifications for SAP HCM for SAP S/4HANA in this [blog post](#) and SAP Note [3091160](#).

Both offerings do not change SAP's overall investment strategy in this area, as SAP SuccessFactors solutions remain the primary focus of HCM innovations. Investments for SAP HCM for SAP S/4HANA will focus on selective enhancements and localization across core HR and payroll processes. Find out more about the planned innovations via the [SAP Road Map Explorer](#) tool.

To accelerate the digital HR journey but also protect existing investments, hybrid deployment options with SAP SuccessFactors solutions and SAP HCM for SAP S/4HANA are also available. With the side-by-side deployment option, the SAP SuccessFactors Employee Central solution is used as a system of record for a subset of employees, and SAP HCM for SAP S/4HANA is the core HR system for another subset of employees. As another alternative, the core hybrid deployment option can be chosen, with SAP SuccessFactors Employee Central as a system of record for employees, and payroll and time management processes run on SAP HCM for SAP S/4HANA.

SAP Readiness Check for SAP SuccessFactors solutions is available for support during the initial transformation activity. More information on this scenario can be found in this [blog post](#).

Keeping all available architectural options in mind, you can now continue planning the conversion of your SAP ERP to SAP S/4HANA as well as your own digital HR journey.



Most recent innovations in SAP S/4HANA Cloud

SAP S/4HANA Cloud Private Edition delivers a scalable foundation, with options for highly automated transactions, embedded analytics, simulations, and predictions that support effective business management at multiple levels. The frequently mentioned clean core concept enables customers to consume and adapt end-to-end capabilities and innovations faster. The open architecture enables connectivity and extensibility with your own build applications or with SAP's or a partner's.

SAP has invested continuously to help ensure that [SAP S/4HANA Cloud Private Edition](#) is one of the most intelligent and comprehensive cloud ERP solutions available today. The following graphic shows [key innovations of the 2023 release](#), all of them supporting your transformation business decisions.

Taking the numerous perspectives of business cases into account, detailed information on the latest innovations in functional and general usability areas can be found in our community [blog post](#).





Finance

- Organizational flexibility in financial accounting: profit center reorganization
- SAP Advanced Financial Closing solution
- SAP Fiori app for incoming payments – success rate
- Intraday bank statement handling
- Electronic document consistency check
- Use of promise-to-pay documents as payment advice



Supply chain

- Advanced available to promise:** Supply protection with the setting “restriction outside planned protection”
- Extended service parts planning:** Gradient boosting of decision trees forecast with multiple external time series to enhance planning quality
- Extended service parts planning:** flexible demand history adjustment



Inventory management

- Enablement of bar-code scanning in SAP Fiori apps for goods receipt
- Job scheduling for printing physical inventory documents using the app “Schedule Physical Inventory Jobs”
- Deletion of feature update to SAP Fiori app “Manage Physical Inventory Documents”
- Business event for the material document item



Product lifecycle management and enterprise portfolio and project management (EPPM)

- Support for multiple occurrences of a change item in change records
- Advanced variant configuration – use of simulation to explode configurable structures for integrated product and process engineering
- EPPM:** New SAP Fiori app to schedule project forecasting jobs
- EPPM:** Reading project cash management data from universal journal
- EPPM:** Use of responsibility management teams to assign employees to network activities



Sourcing and procurement

- Collection and management of carbon footprint data from suppliers during the direct materials sourcing process
- Support for the factory calendar in supplier evaluations
- View of analytical insights for sourcing projects and supplier quotations
- Initiation of negotiation and awarding scenario creation directly from the quotation comparison application
- Mass management of sourcing-project line items using Microsoft Excel



Sales and subscription billing

- Configuration of role-based access to price and cost details in sales documents and billing process documents
- Flexible billing document posting – suppressing automatic posting
- Management of sales orders app, version 2 – support of an available-to-promise result screen
- Suspension of product valuation initiated by a refund in the returns process
- Integration of payment-by-link functionality in dunning correspondence



Product compliance and environment, health, and safety

- Ability to keep company-owned phrases synchronized
- Listed substance provisioning through a regulatory content service
- Multiple-address handling, international address version support, and multiname print support for safety data sheets
- Provision of greenhouse gas emissions data to support integration with the SAP Sustainability Control Tower solution
- Single overview page with workplace safety insights



Embedded production planning and detailed scheduling

- Tank planning: Advanced scheduling board, tank split
- Order notes management
- User experience: SAP Fiori Launchpad, “islands” in SAP Fiori, advanced scheduling board
- Flexible constraints to consider target supply quantities (integrated business planning)



Product engineering and operations

- Use of a production integration portal, migration of legacy external routings to shop-floor routing
- Batch processing of multiple serial numbers from multiple production orders
- Cross-domain collaboration between production engineers and shop-floor workers and supervisors
- Ability to identify the maturity level of a bill of materials (BOM) using a BOM status



Asset management

- SAP Fiori app to manage serial numbers
- Standard user role for master data specialists
- Assignment of people to operations in the maintenance scheduling board
- New option to generate recurring schedules automatically
- Enhancements to manage the maintenance schedule for assets: multiselection, context menu, and quick assignment to events



Service

- Item-based accounting for service transactions
- Additional features for integrated service with an advanced execution scenario
- Procurement of external services for service and repair orders
- Intercompany execution of service orders
- Ability to consume serialized parts through service and repair confirmations



Industry to core

- Aerospace and defense:** pegging history analysis by time intervals and SAP Fiori app for cost distribution
- Aerospace and defense:** costed stock gain by movement type and breakpoint upload through Excel
- Utilities:** analysis and management of utilities clarification cases in business process exception management
- Public sector:** new SAP Fiori app for maintenance of earmarked funds



Extended warehouse management

- Customer influence topics for extended warehouse management – automatic packing, picking, and put-away of multiple handling units at once and more
- Link between inspection lots and material documents for stock postings with usage decisions
- Warehouse API updates for products, orders, and tasks; handling units, delivery orders, and stock



Production planning

- New SAP Fiori app for capacity evaluation
- MRP live: enablement of a simple distribution key
- New modernized SAP Fiori app “Manage Material Coverage”
- Flexible definition of display horizons based on decoupled lead time in demand-driven replenishment apps
- Refinement of average daily use and classification calculations



Transportation management

- Enablement of normalized quantity in charge calculation and subcontracting
- Integration of transportation management and extended warehouse management based on transportation units – enabling departure reversals
- New SAP Fiori app for making change requests to update freight order charges
- New shipping and receiving for a side-by-side scenario



Cross-topics

- Master data management:** increased automation by leveraging external reference data to create and enrich business partner records
- Master data management:** federation with the SAP Master Data Governance application as the core data owner for a business partner
- Business data validation:** option to include custom reports for validation
- System provisioning:** support for the data migration service for SAP S/4HANA Cloud on Microsoft Azure

Figure 6: Key innovations of the 2023 release of SAP S/4HANA

Implementation options

In practice, we have seen that the choice between conversion, new implementation, or selective data transition is largely determined by the following considerations. Not all of them may be equally important in every case. However, they help you understand the essential trade-offs.

Key decision drivers and future readiness

If your long-term strategy implies the need for business process redesign in the business areas considered key for strategic growth or in the ones expected to deliver substantial cost savings, this is a strong indication that a new implementation is a good idea. If your SAP ERP application today takes no advantage of best practices or relies on dated functionality (for instance, business areas instead of profit center accounting), a new implementation is a better choice. Likewise, if you run an oversized, overcomplicated, historically grown system, a new implementation is a more attractive option.

A system conversion preserves your assets, including data, processes, and custom code. However, you should assess the perceived value of these assets very diligently. If you see your custom enhancements and modifications as a major asset supporting your company's unique way of operating and intend to preserve them, a conversion is a more attractive option.

New technologies, new business practices, and a changed business environment may have rendered some of these obsolete. Possibilities to change key system settings and organizational structure elements are quite limited during a system conversion. In the case of such requirements, new implementation or SDT scenarios should be considered.

At the same time, it's virtually impossible to start a business transformation out of an IT project. IT-sponsored projects are typically system conversions that lay the foundation for later innovation projects driven by the business. Although this aspect is entirely nontechnical, it may, in the end, overturn all of the above considerations. If incremental innovation is part of your company's philosophy, a system conversion followed by innovative projects will lead to your desired outcome. However, other companies may not deem themselves capable of persistently executing a multiyear plan, because they expect a shift in focus or a major change in strategy. In such cases, a new implementation is the only chance to harvest the full value of SAP S/4HANA.

Current and future system landscape

For companies with a track record of mergers and acquisitions, it's often easier for different divisions to agree on a new neutral set of best practices than to debate which of the current ERPs should become the consolidation target. In this case, opt for a new implementation or SDT scenario and consolidate the system configurations and data required to start business operations into this new SAP S/4HANA system.

A system split (carve-out of an organizational unit or a piece of functionality) can be combined with a transition to SAP S/4HANA through an SDT scenario.

In new implementations, interfaces must be (re)developed and tested, especially interfaces to third-party solutions. With a system conversion, adjusting existing interfaces typically takes less effort. Thus, a high number of interfaces in the current system makes a stronger case for conversion.

Data quality and compliance

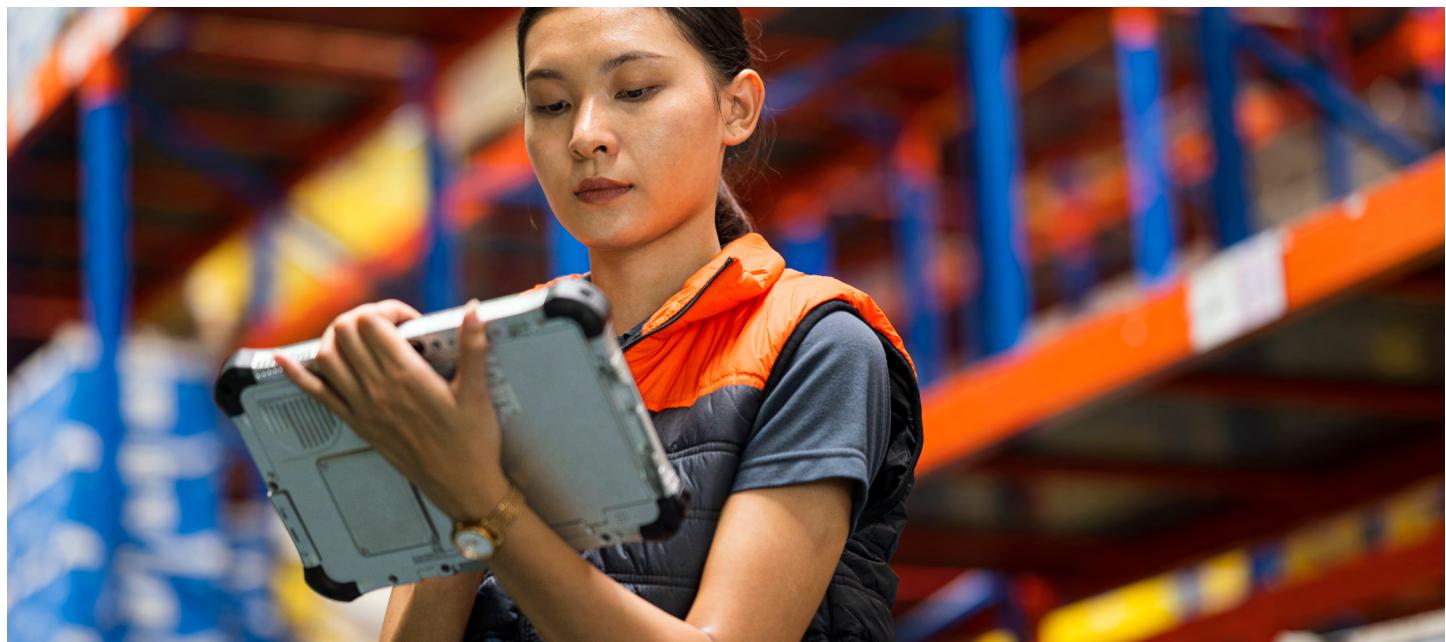
Data quality and compliance requirements for the source SAP ECC are different depending on the transition strategy and are discussed in corresponding sections of this guide: “[System conversion](#),” “[New implementations](#),” and “[Selective data transition](#).” However, major topics could be summarized in the points below:

- Master data is a backbone of your solution. Start master data analysis and cleansing before your transition to SAP S/4HANA. Cleansed and consistent data in the areas of customers, vendors, employees, and business partners will especially simplify your transition. More details on the tools available for this can be found in [Part three](#).
- The number of open items makes any migration or validation longer and more complex. Analyze and cleanse them as much as possible in advance.
- Quality and consistency of financial transaction data are important prerequisites for a system conversion where this historical data is fully migrated and transformed to the new data model. In an SDT scenario, it might be important for you to decide to move your historical financial data to the new system.

- An archiving preproject of unused data is beneficial for all of the transition scenarios – but in particular for system conversion and SDT scenarios where the historical data is migrated, since it can reduce the number of inconsistencies that you need to fix and also the amount of downtime.

Data scope

When choosing between system conversion and new implementation, the requirement to retain all data in the system is a strong indication for a system conversion. The first response is often, “Yes, we do need all of our data in the new system.” However, you should challenge this standpoint and design a data strategy that considers the available technological alternatives. (See the section on “[Selective data transition](#)” for details.)



Historical data: understanding what's fuel and what's ballast

In selective data transition scenarios, the crucial debate is on how much historical data to retain. There is a wide range of arguments and different requirements. Like a race-car driver, you need to understand when this data is fuel and when it's ballast. Here are three guiding questions:

- **What data do you really need to start your business operations?** You need to have absolute clarity about what business objects you need and why. You may find that you don't actually need everything you think you do.
- **How well do you understand the mechanics of data migration?** The SAP S/4HANA migration cockpit uses standard application logic postings to provision data. Likewise, the Software Update Manager tool applies software vendor logic to convert the data in place during a system conversion. The tool to migrate the data from an SAP ERP application into SAP S/4HANA has to apply either the logic of the first or the second. Note that this is always a project solution, as there is no standard tool to migrate historical data. In complex scenarios, the data is migrated at the database-table level, which requires exceptionally deep knowledge of both the data structures of and complex dependencies between the business objects of SAP ERP. Failing to understand these dependencies poses a high risk of data inconsistencies.
- **What implications would it have on the project's budget?** In an implementation of SAP S/4HANA, the actual innovation topics most likely need to be funded from the same budget as the preparation projects or complex data

migrations. Finding out the most cost-effective way may be challenging. When migrating historical data, the extra cost comes not only from the specialized services you need to purchase but also from extensive testing required for complex SDT scenarios, such as three end-to-end integration tests on migrated productive data.

During the data migration scope discussion, you need to keep in mind that the historical data is already stored within your landscape, and you should ask yourself if it makes sense to migrate it to the new solution.

Alternatives to accessing historical data should be discussed with your business to see if you can cover the requirements without migrating the data to SAP S/4HANA:

- Can the requested data (reports) be retrieved from other systems (business warehouse, central finance, and so on)?
- Can the requested data (reports) be retrieved from an available legacy SAP ECC system?
 - Online in read-only mode – for example, during the first year after the project
 - Offline (as a backup or image), with the possibility to start it on demand – for example, after a year
- Can SAP ECC be decommissioned using the SAP Information Lifecycle Management component – transforming the system into a legally compliant retention warehouse on low-cost infrastructure with on-demand access to the data reports?

Add-ons, simplification items, and custom code

According to our records, three out of five instances of SAP ERP have third-party add-ons. SAP Readiness Check for SAP S/4HANA and the maintenance planner tool available through SAP for Me can be used at least six months prior to the project's start to draw up the list of currently installed add-ons. You can ask the architecture team to prepare a simple catalog listing these add-ons, together with the answers to the following questions:

- Who is the add-on's vendor – is it SAP or an independent third-party software vendor?
- Is the add-on's compatibility with SAP S/4HANA confirmed by the vendor and if so, for which releases of SAP S/4HANA?
- Is the add-on functionality still required?
- Is corresponding functionality available in SAP S/4HANA?
- Is there an upgrade or uninstallation package available for this add-on?
- Is the add-on fulfilling operational requirements for cloud solutions from SAP? Generally, the following is not allowed for customer and third-party software in these cloud solutions:
 - Access to systems with root privilege (itself, SETUID, SUDO) or to run as system administrator
 - Custom scripts running on the operating system
 - Communication using unsecure protocols
 - Passwords saved in configuration files
 - External libraries not part of a SUSE repository
 - Monitoring of the Error Correction System environment and infrastructure
 - Snooping network traffic

For the add-ons provided by SAP or sold through SAP's price list, you can request the current status and the compatible versions directly from SAP. For add-ons provided by other software vendors, you should establish contact with these providers, inform them about your plans to convert to SAP S/4HANA, and ask for a compatible version. The sooner you do so, the more time the vendors have to respond accordingly.

Depending on the answers you receive to the questions above, you can formulate a plan about how to deal with each of the installed third-party add-ons:

- Keep it in the system
- Uninstall
- Start the project with the highest release of SAP S/4HANA for which this add-on is available
- Contact SAP's customer care program to get help finding a resolution

If the vendor's company ceased to exist or the vendor cannot technically offer a deinstallation, you can attempt deinstallation of an add-on on your own by creating a specific deinstallation configuration with the standard add-on installation tool from SAP.

For more information, see the documentation on the add-on installation tool and this [blog post](#).

Knowing your simplification items

Through its approach to building SAP S/4HANA, SAP is rearchitecting its solution for modern business processes. Rearchitecting a solution that has been growing over the past 25 years and has, at points, evolved into different data structures and architectures means that we also must decide on one data structure and architecture as we move forward. This is the only way we can prepare the solution for increased simplicity and faster innovation cycles. That said, SAP is taking on the responsibility to manage the impact of these decisions.

To enable our customers to better plan and estimate their path to SAP S/4HANA, we have created a simplification list for SAP S/4HANA. In this list, we describe in detail, on a functional level, what happens to individual transactions and solution capabilities in SAP S/4HANA. The simplification list is a collection of individual simplification items that focus on what needs to be considered throughout an implementation or system conversion project from SAP ERP version 6.x to SAP S/4HANA. You can access the complete catalog [online](#).

On average, the simplification check report identifies between 60 and 90 simplification items as relevant for a given system – out of the more than 800 currently in SAP's simplification list. Here is some practical advice for organizing the work:

- Execute SAP Readiness Check for SAP S/4HANA at least six months in advance of the planned project to give your team time to assess the changes and associated impact.
- Scrutinize the relevant simplification items and pay close attention to the topics that involve business decisions and, possibly, entail a business process redesign or require preparations and changes in the existing ERP system. An example is the succession of the foreign trade functionality available as part of standard materials management in SAP ERP from the SAP Global Trade Services application.
- Incorporate respective action items into corresponding work packages per project phase (before, during, or after conversion), and start the execution. Don't wait until the first sandbox conversion cycle.
- Some simplification items have corresponding consistency checks. Attach a high priority to the issues reported by those as “yellow” and “red.” You must resolve the red ones before triggering the conversion with Software Update Manager.
- Repeat the check with /SDF/RC_START_CHECK prior to the first conversion cycle. For practical guidance on how to work with simplification items, read this [blog post](#).

Custom code: rethink and clean up

This guide contains an [entire section](#) dedicated to the clean core principle for your target system landscape. The following explanation complements the respective explanations.

Not just rework

Over the past years, many long-term SAP customers have heavily extended and modified their SAP solutions. There are instances of SAP ERP with a few million lines of custom code.¹

Take the transition as an opportunity to clean up your system. Put “clean core” and “zero modifications” on the list of your project’s goals, and ensure that all impacted custom-code objects are either adapted or deleted during system conversion.

The custom-code workstream should have these three major work packages:

- Removal of unused code
- Automated and manual code adaptation
- Review of modifications, clones, and implicit enhancements

The performance optimization of custom code is usually part of the overall performance test; therefore, you may or may not consider it an extra work package.

Removing unused code

In an average SAP ERP application, 30% to 60% of custom code is never executed in the production system. Statistics from APA Call Monitor and the SAP Fiori app “Custom Code Migration” can be used to remove unused code upon conversion. This step is now technically integrated into the conversion process and makes execution much easier. You can continue to collect the data with usage procedural logging if you already have it active. Alternatively, you can activate ABAP Call Monitor and enable aggregation of statistics in the production system as soon as possible to have a reliable data set by the time of system conversion.

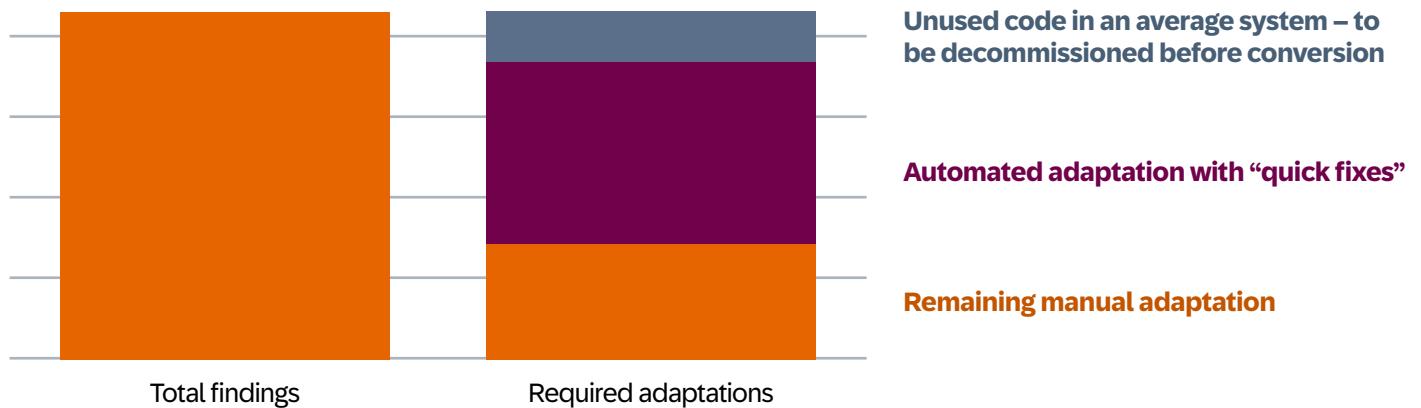


Figure 7: How to handle findings in custom code

1. One of the biggest instances of SAP ERP that we know of has more than 20 million lines of custom code. This is comparable to the size of a Linux operating system.

Automated and manual code adaptation

Correcting the statements in custom code in ABAP to reestablish compatibility with the new data model or the APIs of SAP S/4HANA is known as custom-code adaptation. ABAP test cockpit and ABAP development tools for Eclipse are the only tools you need to identify the required corrections and adapt the code. You can expect quick fixes for ABAP to automatically resolve the majority of findings. When correcting the rest manually, focus on ABAP test cockpit findings with priority one (errors) and two (warnings).

Contrary to popular belief, you need to correct findings in the unused code just as in the used code objects. Failing to do so poses a risk not only of system dumps but also of data inconsistencies that may go unnoticed. Thus, retaining unused code upon conversion will increase the effort for adaptation.

Your ABAP development team has to complete the code adaptation after the development system has been converted and before it is handed over to the functional team.

You can usually defer the execution of ABAP test cockpit checks until the first conversion cycle. Customers with large custom-code footprints, such as 20,000 objects or more, may choose to execute ABAP test cockpit earlier to get an accurate impact assessment and make a more reliable effort estimation.

Review of modifications, clones, and implicit enhancements

Many SAP ERP instances contain a high number of obsolete modifications, that is, with the code actually identical to the standard. There is no reason to take these over to SAP S/4HANA, as they can be reverted without any impact. During several reviews performed in customers' systems, over 50% of all modifications in a given system were classified as obsolete. Another large group of modifications will become dispensable upon system conversion and thus can be reverted too. You can analyze all modifications and classify them into the categories listed in the following table. Don't be deterred by numbers; the actual modifications are far fewer. You can include the clones (that is, the custom programs created as copies of SAP code) and implicit enhancements into your review and treat both as modifications.

Classifying modifications

Modification category	Action
Obsolete – object identical to the SAP version	Revert
Unused – according to code-usage statistics	Revert
Disposable – become irrelevant on SAP S/4HANA (for example, indexes) or standard objects that belong to deprecated application components	Revert
Replaceable – when you can fulfill a business requirement with standard SAP functionality, in-app extensibility (such as UI adaptation), or a partner solution	Revert and redesign upon conversion
Required – modification that supports a critical business process	Document business requirements and contact SAP to get advice on those modifications

Project duration

Both the project's effort and its duration depend on a number of factors. The most obvious hard factors are the system's functional scope, the degree of process harmonization, and customizations. In system conversions, another hard factor is the number of simplification items relevant for the given system. The most prominent soft factors are the company's culture, structure, and speed of decision-making; however, these soft factors are difficult to quantify.

A practical way to estimate project duration is to take a past project (such as the initial implementation of the now-retired SAP R/3 software or the upgrade to SAP ERP) as a baseline and adjust it according to the influencing factors listed in the tables below.

In the absence of reference values from past projects, assume nine months for a new implementation of the on-premise SAP S/4HANA, six months for a new implementation of SAP S/4HANA Cloud, and nine months for a single system conversion.

See the tables below for project reference durations and influencing factors.

Reference durations for preparation projects

Preparation projects	Reference durations
Customer vendor integration	3 to 6 months
Migration to new general ledger functionality	6 to 9 months
Archiving	1 month per object type archived

Influencing factors for conversion projects

Influencing factor	Adjustments
Target system size	+1 month for systems larger than 5 TB and/or using downtime-optimized conversion
Functional scope	-2 months if fewer than 3 modules* are used +1 month per module if more than 8 modules are used
Satellite systems	+1 month if more than 5 satellite systems
Custom code	+1 month per 1,000 manual adaptations if there are more than 3,000 manual adaptations in total
Functional impact	+ 1 month for every 20 simplification items if you have more than 70 relevant simplification items +1 month for asset accounting +1 month for material ledger
Data center move from on premise to infrastructure as a service	+1 month

Influencing factors for new implementations

Influencing factor	Adjustments
Functional scope	-2 months if fewer than 3 modules* are used +1 month per module if more than 8 modules are used
Satellite systems (SAP and third party)	+1 month for more than 5 systems
Use of SAP standard content	-25% if using SAP standard content (conservative estimate)

*In the new business capability model from SAP, the highest entity is called “line of business.” We use the term “module” here because it is still widely used in the context of SAP ERP.

Rollout strategy

Another factor to consider is your rollout strategy. If you plan to roll out the system on a company-code-by-company-code basis, then a new implementation approach is a better option. However, if this rollout strategy is a precaution rather than a hard constraint, you should take into account the implied cost of integrating the old and new system landscapes, such as for intercompany scenarios, master data synchronization, dual maintenance, and consolidation. Often, putting more attention on testing is a far more effective risk mitigation strategy.

On the contrary, taking a “multistep approach” does not mitigate the transition risk while increasing the total cost of implementation.

Irrespective of the option you choose, the only recommended unit for rollouts is the company code. Rolling out SAP S/4HANA process by process (or module by module) may not be impossible from a technical point of view, but it is extremely challenging and, therefore, not recommended by SAP. In practice, it leads to complex interim integration scenarios that are difficult to sustain for even the most skilled IT operations teams.

If conversion as a “big-bang event” is deemed too risky, consider a new implementation with a phased rollout strategy on a company-code-by-company-code basis.

As stated above, the only recommended unit for rollouts is the company code, which is the smallest business unit used to represent a company for external accounting. Most implementation strategies start with one pilot unit and continue rolling out the solution in waves, which bundle multiple closely related units. For instance, a company may choose to start with its German headquarters, to continue with North and Latin America in the second wave, onboard its locations in Central and Eastern Europe in the third wave, and so one. Another popular approach is to onboard one complete business division after another. Such a strategy can be realized only within a new implementation, because a conversion applies to the whole system and thus to all units contained in it.

Even though your rollout strategy may not be fully defined, you should seek to deploy the standard content for all planned countries or business units up front when initially building your new system. Adding standard content after the system’s initial go-live requires significant manual effort.

System downtime

For some customers, downtime (the period when the production system is not available for business) might be an important decision factor when selecting a transition scenario. A system conversion is usually the most demanding scenario in terms of downtime; however, because of this, there are advanced downtime optimization approaches and tools for this scenario.

While SAP Readiness Check for SAP S/4HANA offers an initial forecast of business downtime, it is important to start measurements of the downtime from the first conversion or migration cycles and evaluate different options to optimize it.

More details on downtime and optimization options are available in the section "[System conversion and downtime tools](#)".

One-step versus two-step approach

If the system can't be converted technically in a single step, a new implementation or selective data transition is a better choice, because the combined cost of an upgrade to SAP ERP 6.0 or a Unicode upgrade followed by a conversion to SAP S/4HANA would be prohibitively high. Moreover, combining two upgrades in a single maintenance window will likely exceed the maximum system outage your business can afford.

Doesn't mitigate risk: migrating first to SAP ERP powered by SAP HANA

Companies that adopted SAP ERP powered by SAP HANA application soon after its release in 2013 reaped benefits early and will experience a significantly easier conversion to SAP S/4HANA. For companies still running SAP ERP 6.x on any database today, migrating to SAP ERP powered by SAP HANA followed by a system conversion to SAP S/4HANA would imply nearly double the effort, leading to higher costs.

From a purely technical point of view, the transition from SAP ERP 6.x on any database to SAP ERP powered by SAP HANA includes an enhancement package upgrade, an SAP NetWeaver technology platform upgrade, and a database migration. The hardware investment and the effort of potential functional redesign, testing, and change management are comparable to those of an SAP S/4HANA software project.

Given the combined impact on timelines and budget, you need to understand very well which risks you would mitigate with a migration to SAP ERP powered by SAP HANA followed by a system conversion to SAP S/4HANA.

Doesn't mitigate risk: upgrading first to SAP enhancement package 8

As we pointed out earlier, converting systems with older software release levels may take somewhat more effort compared to converting recently updated systems. However, this has no profound impact on your project's risks.

Thus, upgrading a system to SAP enhancement package 8 for SAP ERP 6.0 can hardly be considered a "step toward SAP S/4HANA." On the contrary, the associated cost may be difficult to justify if you plan to implement SAP S/4HANA soon.

SAP has extended the mainstream maintenance of the core SAP Business Suite 7 applications until the end of 2027, followed by optional extended maintenance until the end of 2030. For a comprehensive overview and description of the restrictions and impacts of this maintenance extension, see SAP Note [1648480](#).

Central finance

The SAP S/4HANA solution for central finance has been explicitly designed for the needs of enterprises that have multiple ERP systems in their landscape as well as a central finance and controlling department serving business divisions. The capabilities of the solution make it a great fit for a divisional setup with operational finance on

the divisional level and central financial reporting and consolidation on the corporate level.

Architecturally, SAP S/4HANA for central finance comes into the landscape as an additional new SAP S/4HANA system that receives financial transactions replicated from other SAP and third-party systems. In a typical setup, multiple source systems are connected to SAP Landscape Transformation Replication Server, which, in turn, is connected to SAP S/4HANA for central finance. For readers interested in SAP S/4HANA for central finance, we recommend starting with this [central finance FAQ](#).

For those companies in which a central finance department is a key component of the current or future business architecture, SAP recommends starting with SAP S/4HANA for central finance and planning for the system conversions of each of the source SAP ERP instances later on. However, the perception of SAP S/4HANA for central finance as a first stepping stone in a transition to SAP S/4HANA in any landscape is misleading. In particular, companies with a single instance of SAP ERP should retain their landscape design and focus on the standard options.

System conversions

With a system conversion, you turn your existing SAP ERP application into SAP S/4HANA. Since SAP S/4HANA is a newer product, a conversion is significantly more than an upgrade; however, it is also performing the technical transformation “in place,” which means that SAP S/4HANA is installed, preserving most of the user settings, data, and configurations in SAP ERP.

Technically, a system conversion is a one-step procedure with a single downtime comprising the following:

- For SAP ERP on multiple databases, a database migration to SAP HANA 2.0 (a new database system)
- A software upgrade, that is, replacing SAP ERP application code with SAP S/4HANA software code.
- A conversion of the data from the data model of SAP ERP to the data model of SAP S/4HANA
- A transition to a hyperscaler

For SAP ERP powered by SAP HANA, an upgrade from SAP HANA 1.0 to SAP HANA 2.0 was required as an extra step in the past. Currently, however, the step can be omitted by using the homogeneous option for database migration described in this [blog post](#).

Only a “big bang” rollout strategy is possible for system conversions. If you need a phased rollout approach (company code by company code), you must consider other transition scenarios.

A system conversion is a well-guided process supported by several tools and utilities provided by SAP for both analysis and execution. As mentioned above, nearly half of customers using SAP ERP opt for a system conversion. That’s why SAP continuously optimizes its tools to assist customers in the conversion process and to eliminate manual effort through automation (see Part three for more details).

Systems that have been kept up to date – not only in terms of versions but also in terms of new functionality use – will experience less impact, because most simplifications continue the road map of the corresponding strategic developments in SAP ERP. Still, close examination of the simplifications and the associated technical and functional impact are an important part of every conversion project.

Ultimately, system conversion not only increases your readiness to innovate but also sets the stage for subsequent business transformation. Having taken this first step, you must continue on this path to fully leverage new functionality and thus bring innovation to your company. For example, SAP Fiori UX enables access to many innovations from SAP S/4HANA. You can introduce the new UX for a set of business roles, or even for just one, to demonstrate and prove its value and attract other groups of business users (see Part two for more information).

Preparation

Conversion to SAP S/4HANA usually requires significant preparation: technical and functional preprojects, data cleansing and housekeeping, a strategy for business add-ons, and custom code are usually aspects that need to be properly planned and implemented before a project begins.

Prerequisites

Technically, a single-step conversion is possible for SAP ERP 6.0 (for any enhancement package) on a single stack with a Unicode system, but database and OS-level restrictions may apply. Systems that don't meet these criteria have likely experienced little maintenance in past years. In general, systems with older software release levels may require somewhat more effort than ones recently updated.

Target release

We usually recommend that you consider the latest available release and feature package stack as a target release of SAP S/4HANA. However, when planning the conversion project, it's important that you pay attention to the following points:

- The availability of compatible versions of the add-ons installed in SAP ECC that you would like to keep in SAP S/4HANA can be checked in the SAP product availability matrix.
- The source version of SAP ECC should not be higher than a compatible target version of SAP S/4HANA, as explained in SAP Note [3351047](#) for release 2023 feature package stack 00 (or similar SAP Notes for other releases).

Readiness check

[SAP Readiness Check for SAP S/4HANA](#)

performs functional and technical assessments for SAP ERP instances prior to planned conversions to SAP S/4HANA (see Part three for details). Use of this tool is recommended as one of the first steps of planning a conversion to SAP S/4HANA or an SDT scenario.

The SAP Readiness Check tool for SAP ERP usage and data profiling was developed to help customers make an informed decision based on what they use today in their SAP ERP application. For more information, have a look at this [blog post](#) and check out the section "[SAP Readiness Check for SAP S/4HANA](#)" in Part three.

Add-on strategy

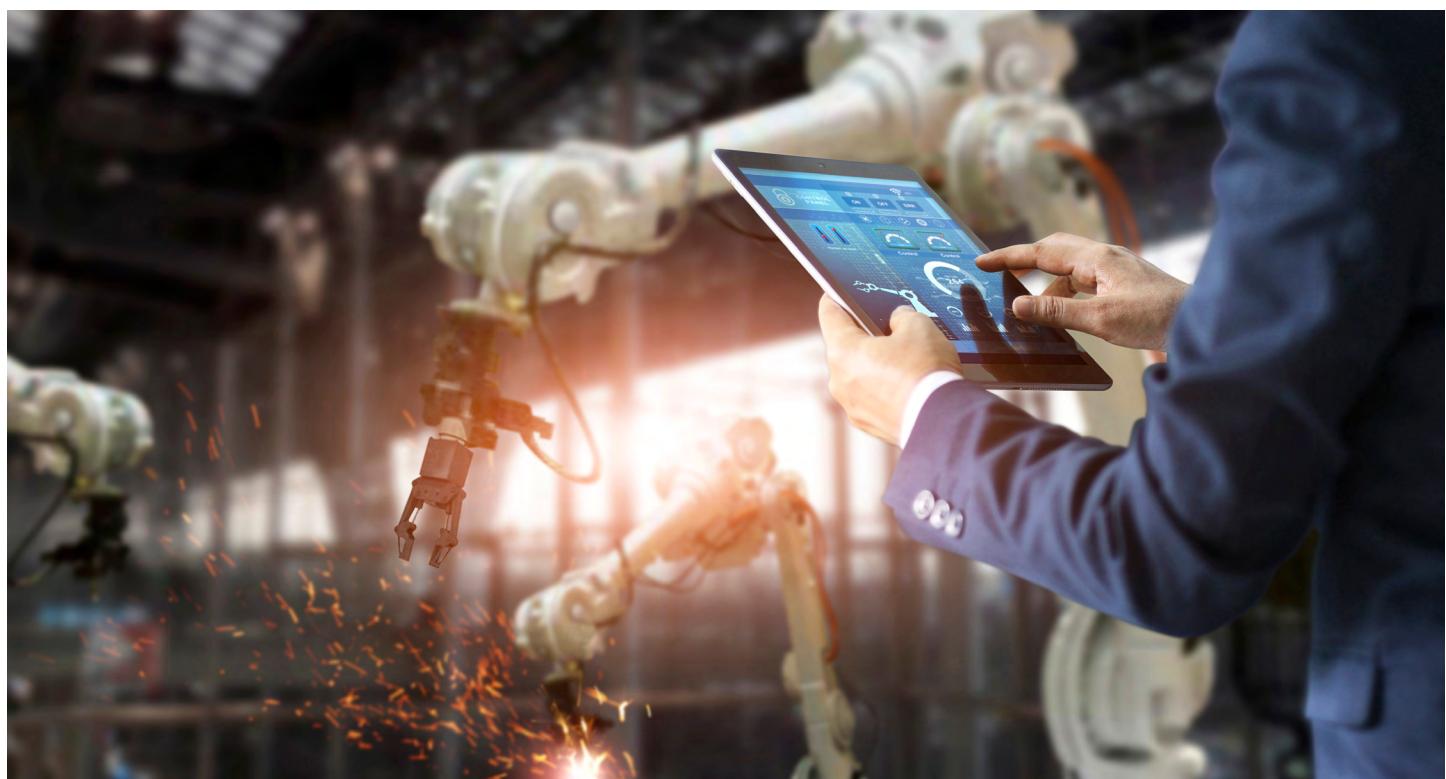
As explained in the section "[Key decision drivers and future readiness](#)," your strategy for add-ons should be defined at least six months before the project's start. You need to define a list of action items for each of the add-ons, based on their availability and the versions compatible with SAP S/4HANA.

Application-specific preprojects

When composing a road map, it's helpful to distinguish between mandatory and optional preparation projects. With SAP S/4HANA, certain outdated functionality in SAP ERP is no longer available. Mandatory preparation projects are those that replace such functionality with a successor capability or solution. The most frequent one is the mandatory implementation of the business partner data model (for more information, check out **Part two**). Other mandatory changes, such as replacing the revenue recognition functionality in the sales and distribution module of SAP ERP with the SAP Revenue Accounting and Reporting application or the real estate classic functionality with the real estate flexible functionality in SAP ERP, are far less frequent.

Optional preparation projects are the customer's decision, such as migrating to the new general ledger functionality, implementing settlement management (condition contracts management) instead of rebates, implementing credit management in financial supply chain management instead of sales and distribution credit management, using new asset accounting, or using the budgetary control system for funds management instead of the former budgeting system.

Besides simplification items, you should also pay special attention to "compatibility scope" solutions identified by SAP Readiness Check as relevant to your system (for example, CS, LE-WM, LE-TRA, and HR). Even if these solutions are technically still available in SAP S/4HANA, usage rights for them might expire in the near future. Because of this, it makes sense to implement successor functionality in your transition project. See details on this topic in the "[Compatibility packs](#)" section of this guide.



Data cleansing

There are two things that many realize late during conversion projects. First, financial line items increase runtime during a conversion. With more than a billion financial line items in the BSEG table (which stores accounting document information in SAP ERP), the project needs to employ either the downtime-optimized conversion option or the minimized downtime service from SAP to complete a conversion within an acceptable system outage window.

Second, among the hundreds of millions of records in the old finance data model that your system would have accumulated over decades, there may be some that are technically inconsistent. A frequent example is missing open items for an open-item managed account. You need to work out a plan together with your accountants for how to resolve these.

For systems with a significant financial data footprint, SAP recommends running an analysis before the conversion project begins. SAP Notes [2887318](#) and [2896400](#) give you the information to help you do this. See the SAP Knowledge Base Article document [2714344](#) for recommendations on how to deal with the most-common error messages.

SAP Readiness Check for SAP S/4HANA offers a comprehensive analysis of your finance data based on the same data analysis reports. Consequently, archiving financial data will have two positive effects. On the one hand, it will shorten your downtime and possibly make the desired system outage window achievable with the standard conversion option. On the other hand, your team will likely have fewer technical inconsistencies to fix in the past fiscal years' data.

A system conversion requires you to implement the business partner data model in SAP ERP. However, the well-known customer and vendor master data objects are still available in SAP S/4HANA and continue to be used in sales, logistics, and financial transactions.

There are high-quality standards on master data in SAP S/4HANA, and they are met through an extended set of check rules. You need to correct technical inconsistencies found by these checks prior to the transition to SAP S/4HANA, regardless of the transition scenario. It's important that you curate your master data before the project, not during. Refer to the section "[Curate your customer and vendor master data](#)" in Part two for more details.

Sizing

Expert sizing of the target SAP S/4HANA software is not only needed for estimations of required hardware, but it also may be an influencing factor for selecting a transition strategy, especially for customers with big SAP ECC systems. With a conversion scenario, the data from SAP ECC is kept in SAP S/4HANA. Therefore, a conversion is usually the most demanding transition strategy in terms of initial hardware requirements when going live. If you intend to reduce your system size during the transition to SAP S/4HANA, consider a selective data transition or new implementation strategy.

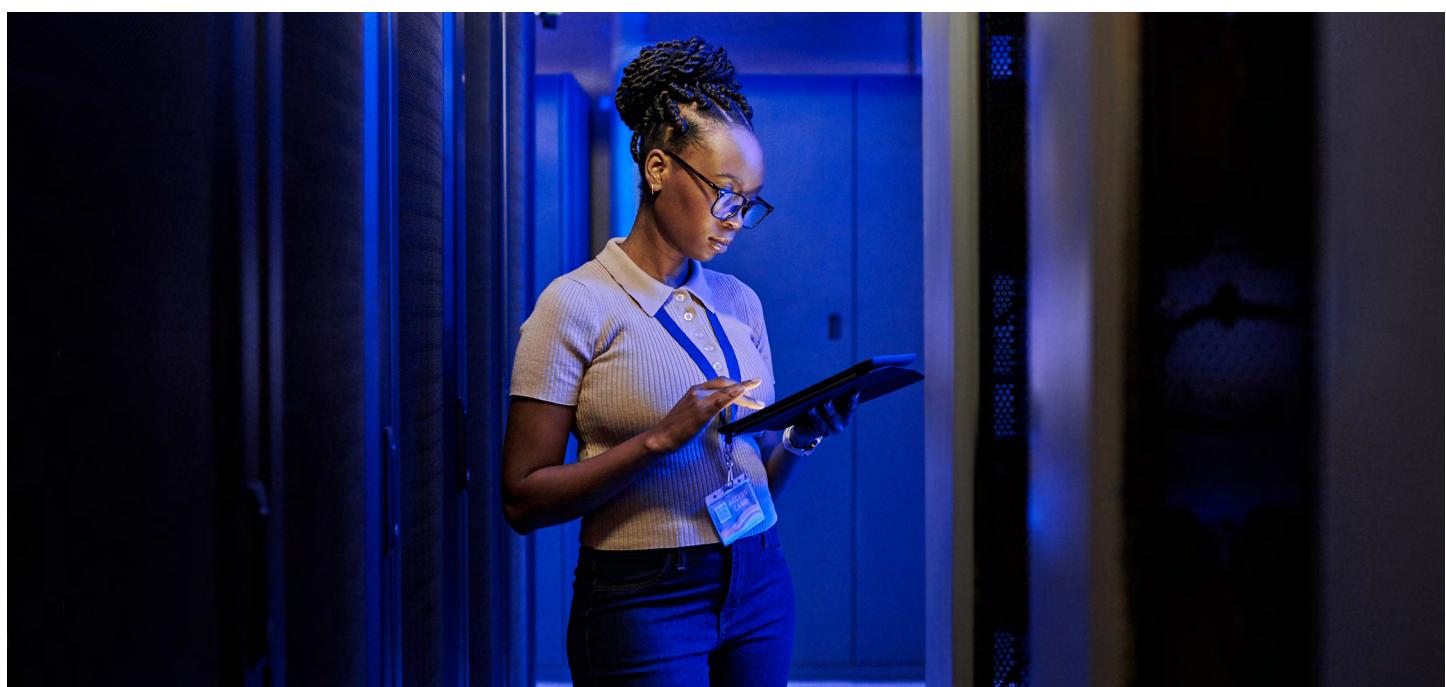
For the conversion scenario, the initial sizing of SAP S/4HANA can be calculated using a special sizing report in SAP ECC. It is also embedded in SAP Readiness Check for SAP S/4HANA. However, on top of the initial estimations, it's important to consider the hardware requirements for new functionality (the QuickSizer tool can be used for that part) and expected business growth after the transition to SAP S/4HANA. Consider a “scale-up” scenario (increasing the size of one node) while

your estimations fit into the biggest possible node in SAP HANA. Otherwise, carefully plan the table distribution between multiple nodes in SAP HANA in a “scale-out” scenario. A proper estimation of the number of application servers, together with CPU and memory requirements for them, is also important. For more details, see the section [“Pertinent hardware planning.”](#)

Custom-code analysis and adjustments

In a conversion project, custom code must be adjusted to the specifics of SAP S/4HANA. We recommend that you enable custom-code usage analysis as early as possible in the preparation phase. This way, you can focus adjustment efforts only on the code that is used and potentially decommission the unused. We also recommend that you analyze custom code in reference to compatibility with SAP S/4HANA in advance, using special tools to estimate the effort required for adjustments.

See the [“Custom code: rethink and clean up”](#) section for details.



Project execution

Configuration stack file

To start a conversion to SAP S/4HANA, you need to generate a configuration stack XML file that contains information about the components and versions necessary for converting to SAP S/4HANA. For this purpose, the maintenance planner tool should be used. For details, read the section “[Maintenance planner](#)” in Part three.

Conversion using Software Update Manager with the database migration option

Software Update Manager with a variation of the database migration option tool can be used to

perform the conversion of SAP ERP to SAP S/4HANA Cloud Private Edition. The database migration option is a multipurpose tool used for SAP software maintenance (for example, for installing support packages, migrating an SAP system to another database, installing add-ons, and other tasks). It is also the tool that technically converts SAP ERP into SAP S/4HANA. It combines the transition to a hyperscaler, migration of the system to the SAP HANA database (if required), conversion of data, and software upgrade into a single step. The tool also has downtime-optimization capabilities.

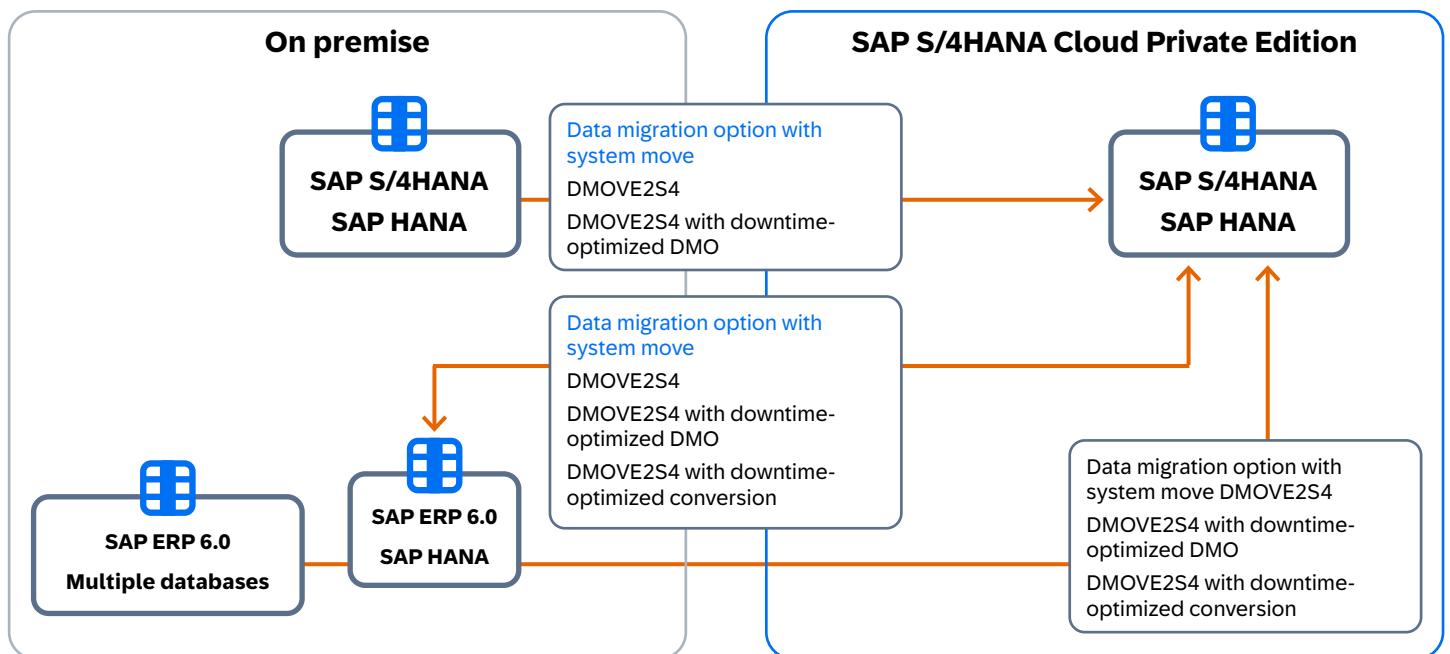


Figure 8: System move capabilities of the data migration option

Most of the data conversion (that is, the transfer into the new data model) is carried out by Software Update Manager with the help of special programs, namely, XPRAs and XCLAs. The conversion is executed partially directly in SAP HANA and partially in the application server(s) for ABAP. During the phase involving Software Update Manager, conversion of logistics data (mainly in the areas of inventory, material requirements planning, and sales) happens automatically. Data quality (correctness and consistency) is particularly important at this stage.

Customers familiar with SAP software upgrades are aware of SPDD and SPAU transactions that need to be executed to adjust the modifications to dictionary objects and standard code in ABAP to the new versions of these objects. SPDD must be executed during the processing of Software Update Manager, whereas SPAU can be done after the phase involving Software Update Manager, together with custom-code adjustments.

You can find more details on the options to run Software Update Manager in [Part three](#).

Conversion of accounting to SAP S/4HANA

Both the conversion of financial data and the conversion of material ledger data are special steps that are performed after the actual conversion procedure of Software Update Manager. Corresponding functional consultants are needed to execute the guided process through a specific branch in customizing settings (conversion of accounting to SAP S/4HANA). This process is very demanding to the financial data quality discussed in the section above.



Conversion cycles and tests

Conversion test cycles are the backbone of a conversion project. Several (usually one to three) first test cycles need to be done on a sandbox copy of SAP ECC to understand individual phases, steps, and associated runtimes. This will allow you to check whether all preparation activities (simplification items and data quality issues) are ready or if there are some activities left to be performed in the production system:

- Test your first conversion with a copy of the production ERP with the standard conversion procedure in Software Update Manager and understand the individual phases, steps, and associated runtimes. Be prepared to see a long runtime of the first-pass conversion on a larger system.
- Using a copy of the current production system as a source system in the first conversion cycle is nonnegotiable. Using production-like hardware for the target SAP S/4HANA system in this cycle is highly recommended, especially to obtain the realistic execution times and make a reliable estimate of expected business downtime. Conducting the first conversion cycle on a development system certainly helps your team comprehend the technical procedure, but it won't take them any further. Thus, let your team find potential problems early and track the resolution.

- Carefully execute all functional preparation steps already in the first sandbox cycle. To get a full picture of the required tasks, do not skip or short-cut activities impacting subsequent steps in the conversion procedure.
- Have a detailed project plan for each conversion cycle. Improve and refine it with each iteration.
- Create a conversion runbook. Use it to log all required functional and technical activities in a conversion cycle and the associated completion times.
- After the first conversion cycle, use the Technical Downtime Optimization application to explore the runtimes and how to optimize them. Negotiate with business users to determine what system outage window is acceptable and decide on the technology option: standard conversion or downtime-optimized conversion.
- Having chosen the option, plan for at least two additional conversion test cycles with production data and production hardware. One of these cycles should also include tests on the connected satellite systems to validate the integration.
- Once the new development system has been built, keep the change requests for the current solution to a minimum ("system freeze"). You need to reimplement the changes manually in the new system. There is no automated retrofit.
- Create the first version of the cutover plan (that is, an end-to-end sequencing of activities for the cutover weekend) for the conversion cycle of the quality assurance system and refine it. It must become perfect by the time of production conversion.

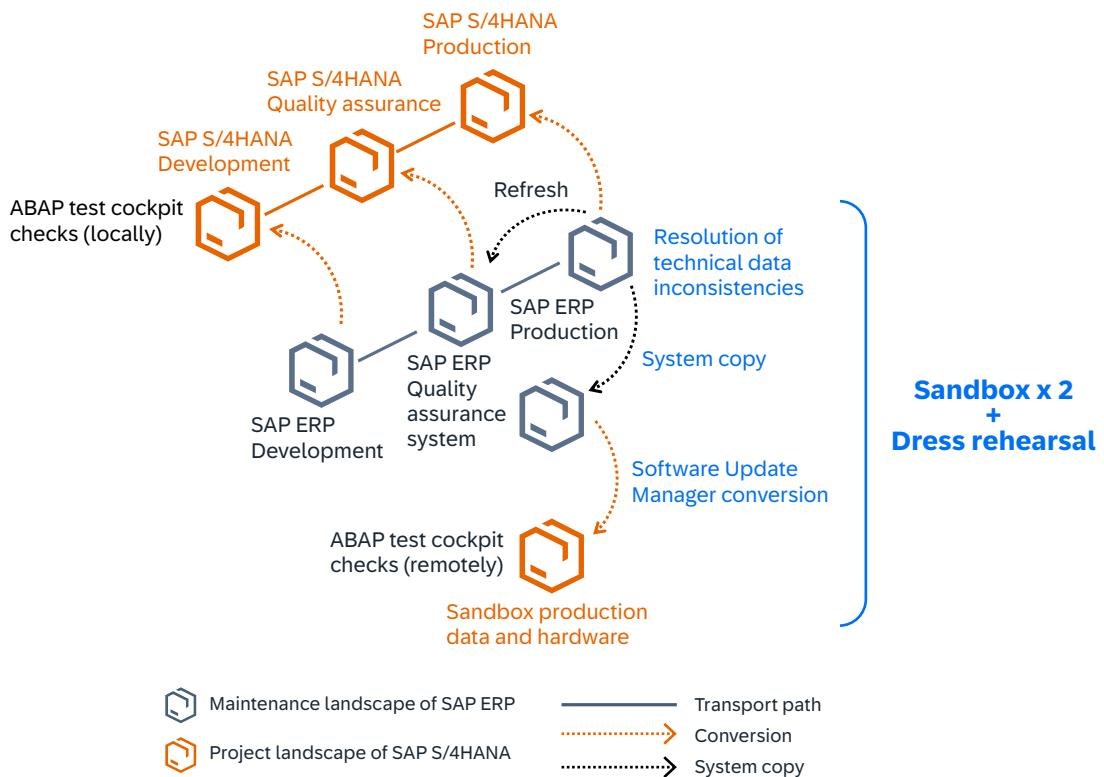


Figure 9: Conversion cycles in a three-system landscape

Application-specific adjustments and implementation of new functions

Some functionalities can be implemented in SAP ECC within mandatory or optional preprojects before the conversion to SAP S/4HANA. There are also functionalities that can be implemented only after the conversion to SAP S/4HANA. These include, for example, new cash management, international trade instead of foreign trade, margin analysis instead of costing-based controlling profitability analysis, as well as completely new functionalities within the scope of SAP S/4HANA, such as advanced compliance reporting, group reporting, and enterprise contract management. Implementation activities for these functionalities might include activation of standard content, design, customizing activities, activation of SAP Fiori apps, adjustments of existing custom code, new custom-code developments (if required), initial data load or migration, and tests.

Custom-code adjustments

The majority of custom-code adjustments for the conversion to SAP S/4HANA can be done only in the converted development system. Unused custom code (based on collected usage statistics) can be decommissioned before, during, or after the conversion. The remaining code needs to be adjusted based on ABAP test cockpit checks.

We recommend that you use automatic adjustments (quick fixes) as a first step. There will, however, be a scope of manual work for ABAP developers supported by functional consultants.

See the “[Custom code: rethink and clean up](#)” section for details.

New implementations

We see mainly two business contexts in which customers prefer new implementations. The first is business model changes that imply rethinking the way a company makes money. Such changes raise new demands on the capabilities and agility of ERP, so a new implementation becomes a natural choice. The second context is intense business process reengineering, such as consolidating from numerous order-to-cash process variants to just a few. In either case, a new implementation provides you with the ability to:

- Build the new system with SAP standard content as a foundation
- Build the new system with a clean core
- Roll out the solution on a company-code-by-company-code basis to worldwide locations rather than a “big bang” approach

The first two stand for what SAP refers to as a “cloud mindset.”

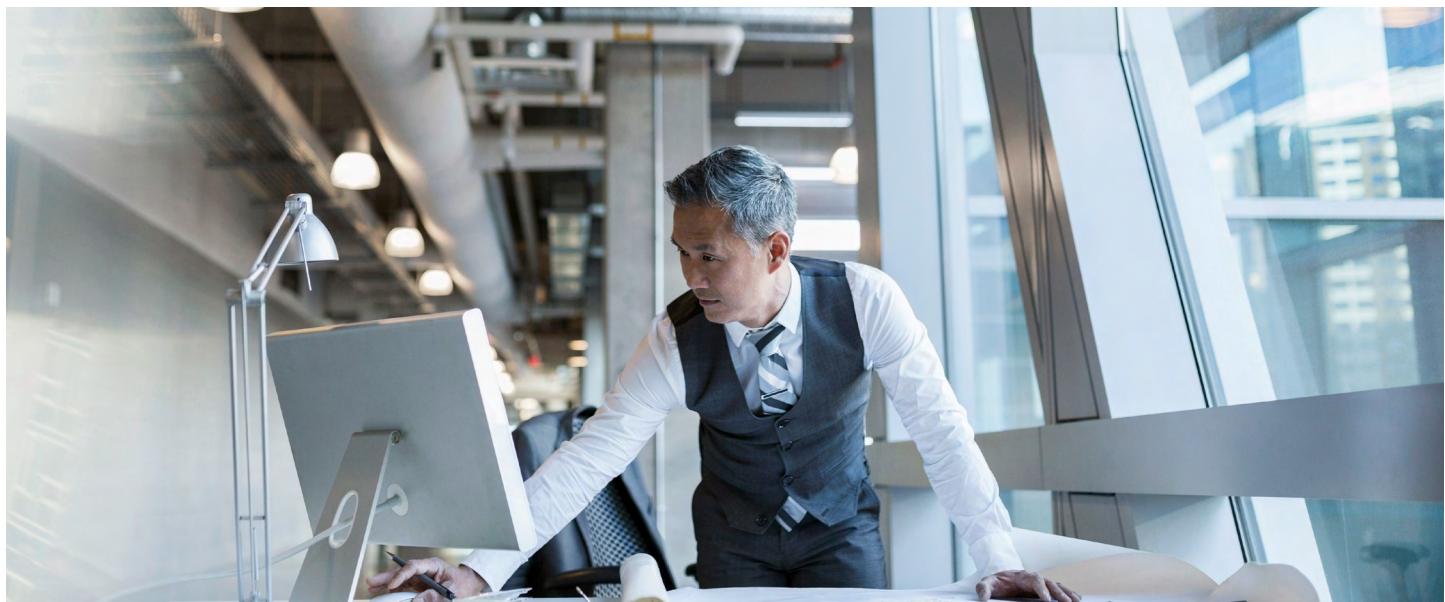
With a **new implementation**, you build a new SAP S/4HANA system and either cut over to the new system (the “big bang” scenario) or migrate individual business units sequentially from your legacy SAP ERP application to the new system (a “phased rollout”).

The only recommended unit for rollouts is the company code. Rolling out SAP S/4HANA process by process (or module by module) may not be impossible from a technical point of view, but it is extremely challenging and therefore not recommended by SAP. In practice, it leads to complex interim integration scenarios that are difficult to sustain for even the most skilled IT operations teams.

However, if this rollout strategy is a precaution rather than a hard constraint, you should consider the implied cost of integrating the old and new system landscapes, such as for intercompany scenarios, master data synchronization, and consolidation. Often, putting more attention on testing is a more effective risk mitigation strategy.

Preparation

A new implementation usually requires far fewer preprojects than a system conversion. However, there are still some activities that can potentially simplify the transition to SAP S/4HANA through this scenario.



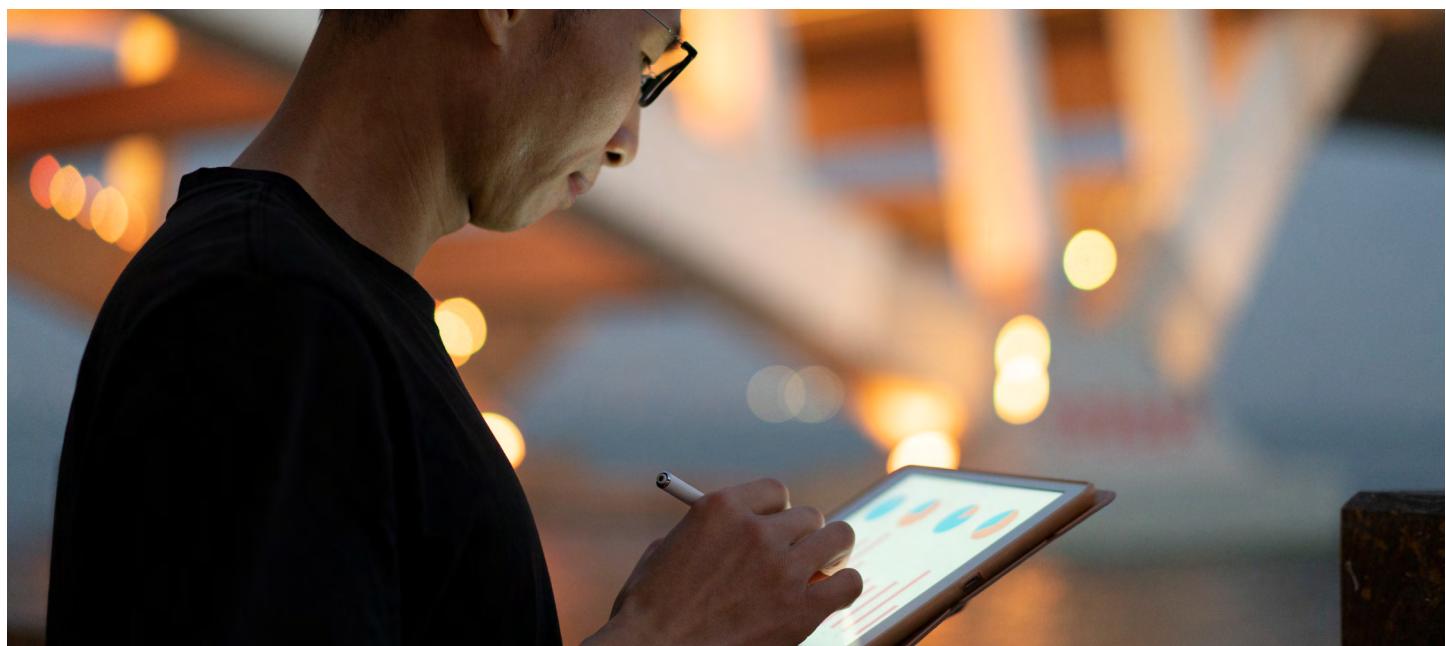
Data cleansing

Even if there are no such strict requirements for the quality of transactional data as there are in a conversion project, there is still housekeeping recommended for the data that is going to be migrated from the SAP ECC source to the new SAP S/4HANA target:

- Master data (including for customers and vendors) needs to be of a good quality for migration to the new system. If the quality of customer and vendor data is good in SAP ECC, business partners can be created for them in advance through customer vendor integration (CVI). In that case, they will be migrated to the new system together with customers and vendors. At the same time, it will also be possible to create the business partners during the migration of customers and vendors in the new implementation scenario.
- The number of open items and open documents needs to be analyzed and reduced as much as possible before the productive migration. [SAP Signavio Process Insights, discovery edition](#) can help to analyze the number of open documents and compare them with industry benchmarks. See **Part three** for more information.

Demo and sandbox system

Before starting a new implementation project for SAP S/4HANA, it might be useful to evaluate the capabilities of the solution. SAP provides a set of system images as a learning environment for conversions to SAP S/4HANA, which can be provisioned through the [SAP Cloud Appliance Library](#) tool. There is an image for a fully activated appliance for SAP S/4HANA that can be hosted either in the cloud (taking approximately one to two hours) or on your own on-premise hardware (taking approximately two to three days). It will be your own personal system with full administrative rights used for nonproduction use cases such as sandboxing, proof of concept, scoping, or fit-gap analysis. The appliance contains both curated, ready-to-use demo scenarios (some based on SAP Best Practices packages, some freely defined) as well as a separate client with the greenfield activation of SAP Best Practices for all available localizations. You can find more details in this [blog post](#).



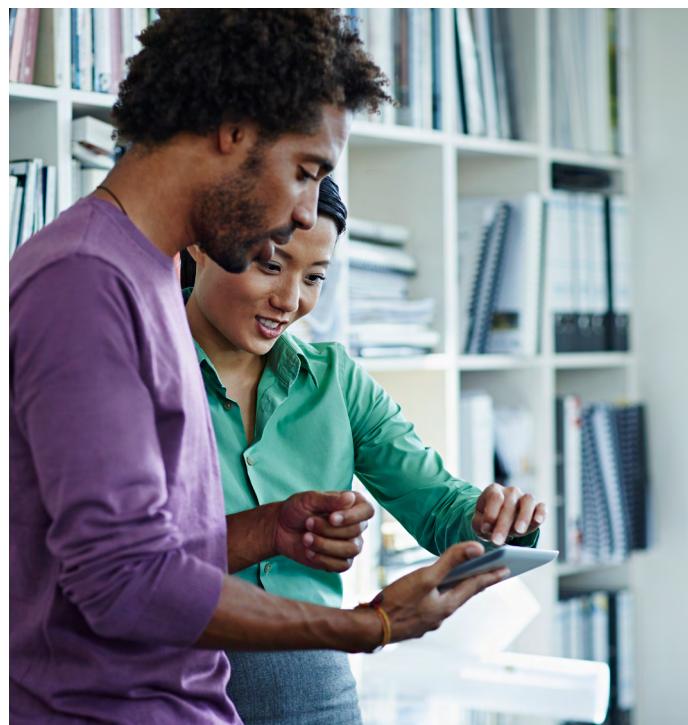
Project execution

SAP Activate

We recommend that you follow the SAP Activate methodology for transition projects for SAP S/4HANA. It is an especially valuable accelerator in new implementations. You can find more details in the “[RISE with SAP Methodology](#)” section.

SAP standard content activation and fit-to-standard workshops

According to the SAP Activate methodology, the “Explore” phase of a new implementation project is started with the SAP standard content activation service. SAP standard content is an umbrella term for SAP Best Practices, enterprise management layer for SAP S/4HANA, as well as additional line-of-business and industry-specific content. Through this content, SAP offers its customers preconfigured, comprehensive business processes enabled with a new SAP Fiori UX and other innovative functional capabilities.



Refer to the section “[Leveraging SAP standard content](#)” for details.

Gap validation and modern approaches to close the gaps

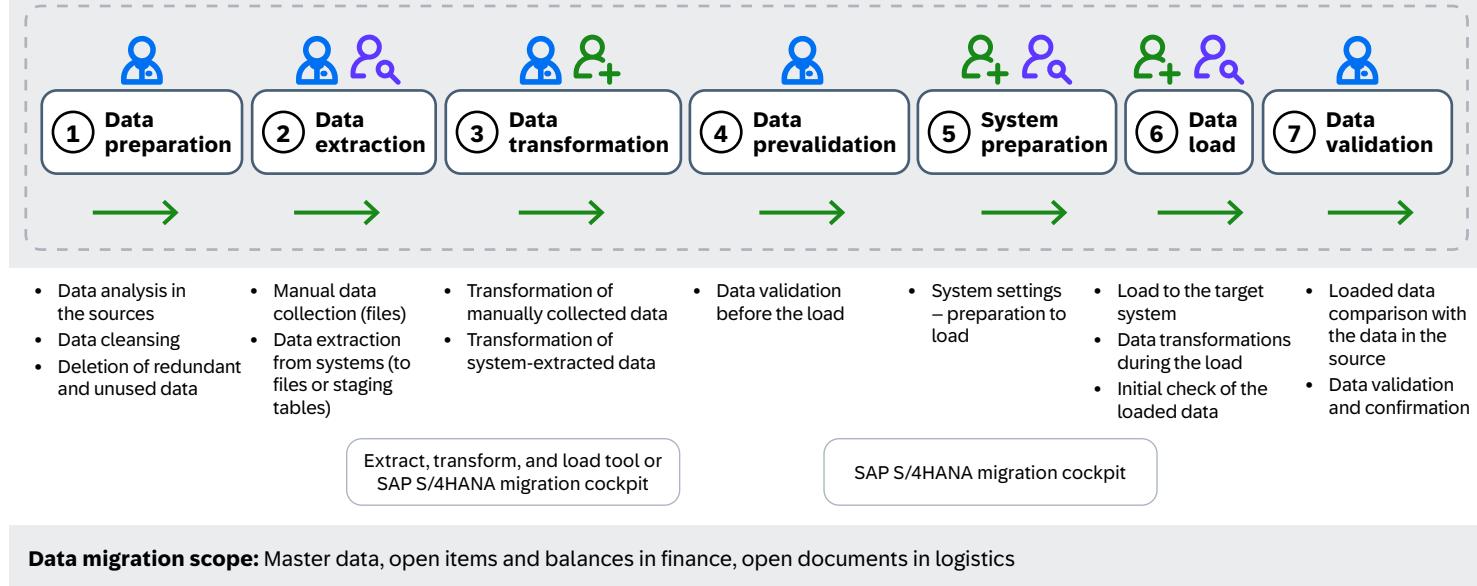
After activating SAP standard content, SAP S/4HANA is ready to show relevant processes to the business, collect feedback, and identify gaps. The identified gaps can be closed during the “Realize” phase of the project in sprints by customizing standard capabilities; new developments (using modern approaches and tools available for that: refer to this [guide](#), in particular the table “Traditional RICEFW Versus New Technologies”); or in exceptional cases, a lift and shift of your existing developments from SAP ECC with adjustments to the specifics of SAP S/4HANA. It is a best practice to follow clean core principles in this work (refer to the section “[Following the clean core principle](#)”).

Integrations

In new implementations, interfaces must be (re)developed and tested, especially interfaces to third-party solutions. Consider the new integration technologies SAP offers, especially SAP Integration Suite and the Integration Advisor capability within SAP Integration Suite. See section “[SAP Integration Suite and Integration Advisor](#)” in Part three.

Data migration

Whereas in a conversion scenario, full data migration happens automatically, in a new implementation scenario, it is necessary to set up a data migration workstream in the project to collect the data migration requirements, configure the tools, and perform multiple mocks of the test data migrations and validations.



Data migration scope: Master data, open items and balances in finance, open documents in logistics

Business expert

Data migration consultant

Functional consultant or IT expert

Figure 10: Data migration process steps and responsible roles for new implementation

During new implementations, only the initial data load of master data and open documents from the legacy systems is performed. Some of the open documents need to be processed in the source system before the migration or partially after SAP S/4HANA goes live. In many cases, freeze periods for changes or dual maintenance might be required for some of the master data objects during the cutover period.

In the scope of SAP S/4HANA, there is a tool called the SAP S/4HANA migration cockpit included to support the data migration process. See the section “[SAP S/4HANA migration cockpit](#)” for more details on the tool.

The term “open items” stands for financial open items, but it also includes balances, stocks, open sales and purchase orders, and other business objects. More generally, it refers to the initial data

set required to start business operations. When loaded with the SAP S/4HANA migration cockpit, some business objects have limitations. For example, partially delivered sales orders cannot be migrated along with the corresponding completed deliveries. Such orders must first be closed in the old system.

Historical data means completed and closed transactional data (for example, fulfilled and fully billed sales orders, purchase orders, or plant maintenance orders) as well as partially closed documents (for example, partly delivered sales orders). In new implementation scenarios, this data is not migrated to the new system, since it is not needed to run business processes in the new system. In cases where historical data is absolutely required, it might be better to consider a conversion or SDT scenario.

Selective data transitions

Selective data transitions encompass a variety of scenarios that go beyond standard options. They require specialized services from SAP or our partners and often entail more effort and cost compared to standard system conversions.

These scenarios give flexibility to combine the elements of a system conversion with a new implementation. They might be applicable if, during the transition to SAP S/4HANA, you would like to:

- Change elements of the organizational structure or key settings of the system without full reimplementations:
 - Change controlling areas, company codes, or plant
 - Change charts of accounts, cost centers, or profit centers
 - Change currency or fiscal year settings

- Roll out to SAP S/4HANA in phases (company code by company code) without full reimplementation
- Avoid preprojects (new general ledger, customer vendor integration, financial data quality, archiving, Unicode conversion, and so on) or embed them into the transition project to SAP S/4HANA
- Choose selected data migration:
 - Carve-outs or merges of modules such as HCM; governance, risk, and compliance; master data governance; and so on
 - Reduced system size and minimized downtime by reducing the migration scope
 - Migration of selected historical transactional data
- Consolidate or split the systems or clients together with historical data

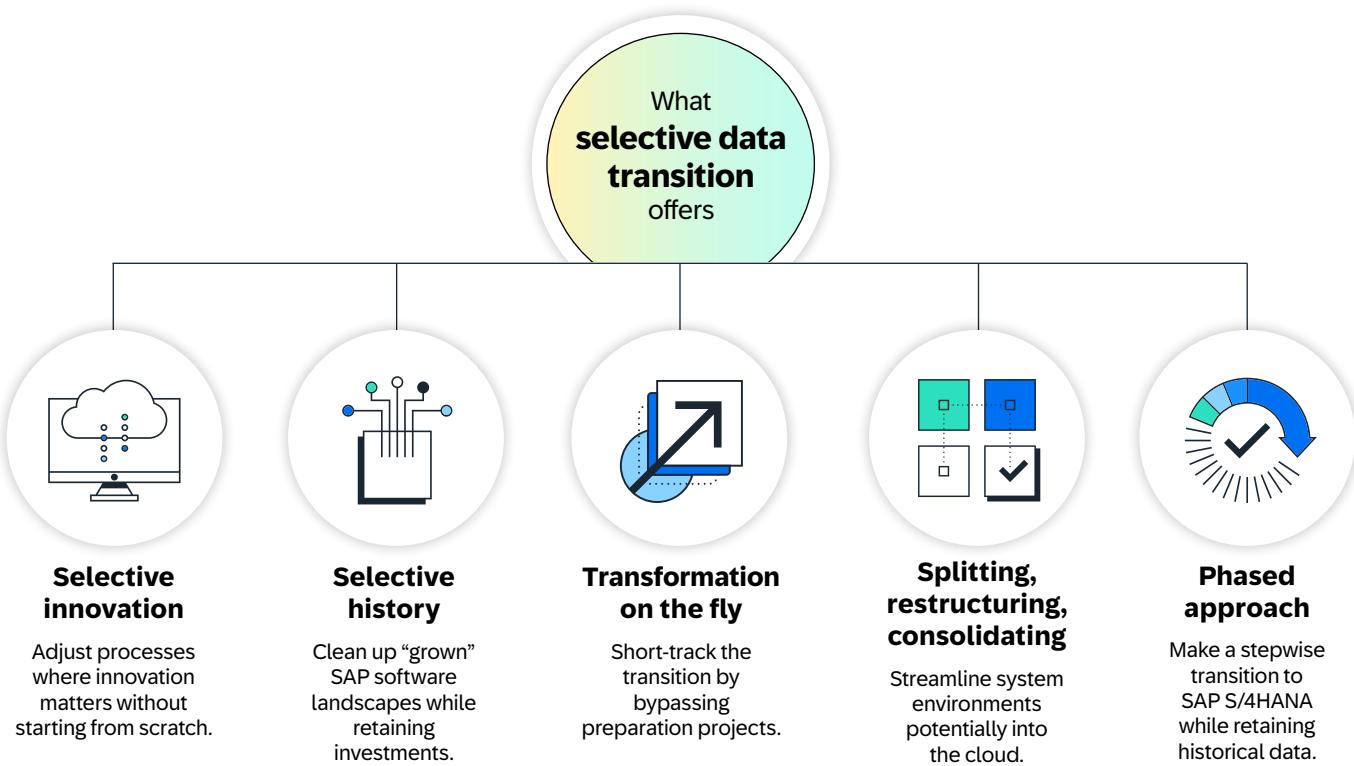


Figure 11: Advantages of selective data transition

If your company's needs lead to a selective data transition, we strongly advise you to engage SAP or one of our partners that has the necessary tools and knowledge to help.

In 2019 SAP founded a partner community to work on the quality standards and common approaches for selective data transition and thus better serve the customers choosing this scenario. The member partner companies use their own tools and products, among other solutions. SAP is a hosting member of this group but does not endorse, certify, or recommend a specific solution, approach, or product to carry out a selective data transition. SAP takes no liability and accepts no contractual obligations resulting from use of these products.

For more information about this, read SAP Knowledge Base Article [3018442](#). See also the "[Selective Data Transition](#)" page in the SAP Support Portal service.

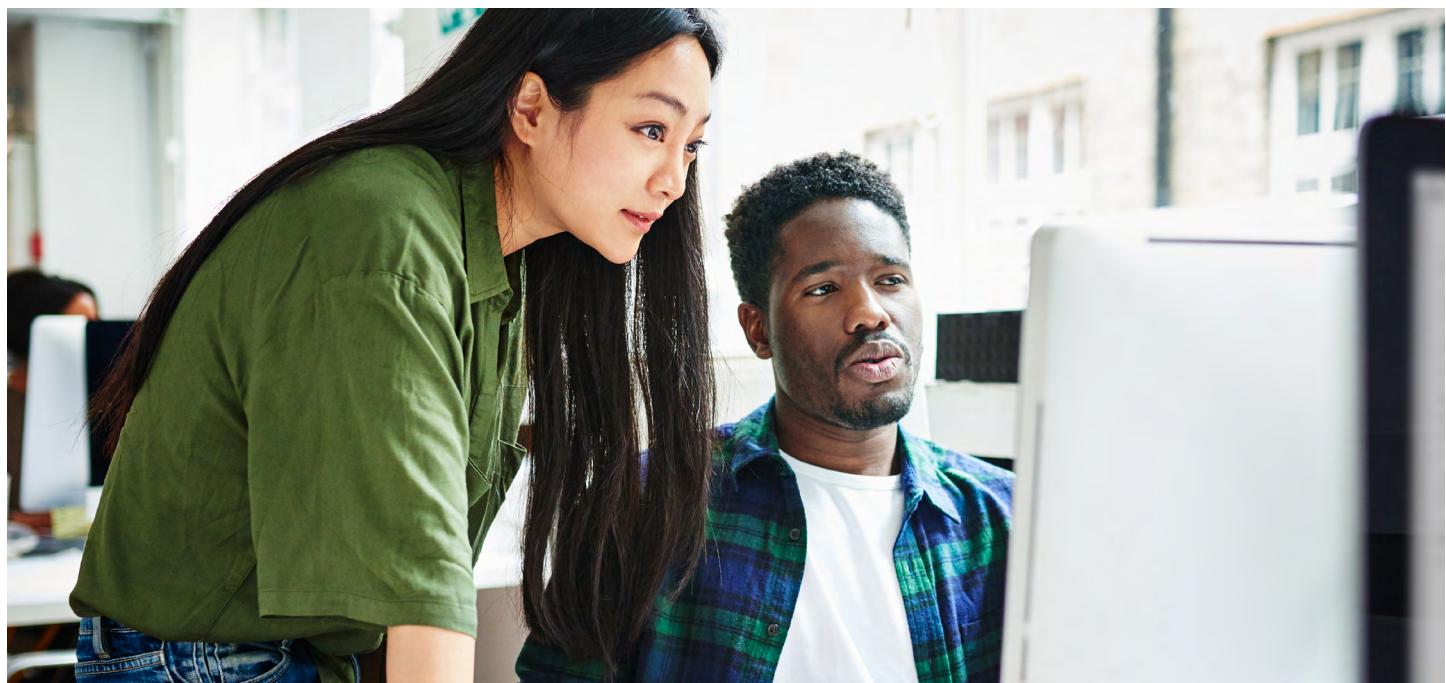
Project preparation

Usually, preparation activities for an SDT project are similar to the ones for a conversion project, with the following exceptions:

1. Not all preprojects are necessary. For example, if it is not planned to migrate historical finance data, cleansing and archiving this data is optional. Note that cleansing master data and open items is important for any scenario.
2. Depending on the requirements, scope of desired functional changes, and data migration, some preprojects might be embedded into the scope of the SDT project for SAP S/4HANA and performed "on the fly." However, in some cases, this might not be technically feasible. For example, if there are requirements to keep historical transactional data in the finance area but, at the same time, change the currency or fiscal year settings, these changes must be done as preprojects in SAP ECC.

Project execution

In SDT projects, there are multiple options for how the target SAP S/4HANA system can be created.



Shell system creation

The first option is called “shell creation” and makes sense if the majority of your current assets (configured solutions, developments, data) need to be saved and moved to SAP S/4HANA:

1. Using a client copy or specific tools, we create an empty copy of SAP ECC with all the customizing and repository code in it but without any application data. We call this system the “SAP ECC shell.”
2. Required housekeeping activities can be performed in the empty SAP ECC shell system. Even Unicode conversion or an upgrade can be done to meet the prerequisites for system conversion.
3. We perform all of the necessary activities to prepare this system to convert to SAP S/4HANA (since there is no data in it, data preparation is not required).

4. We perform the conversion of the prepared SAP ECC shell to SAP S/4HANA using a standard conversion toolset of the database migration option for Software Update Manager, performing SPDD and postconversion activities. This system becomes the “golden shell” of SAP S/4HANA – a template for all of the systems of the future SAP S/4HANA software landscape. They are created as copies of the golden shell.
5. Customizing changes required for simplification items or business requirements are implemented in the golden shell or development system (which is a copy of the golden shell).
6. If additional new functionalities need to be implemented, content from SAP Best Practices can be used as a reference for typical standard process steps and configurations.
7. Necessary data can be migrated to the configured system. More details on data migration approaches and tools are described below.

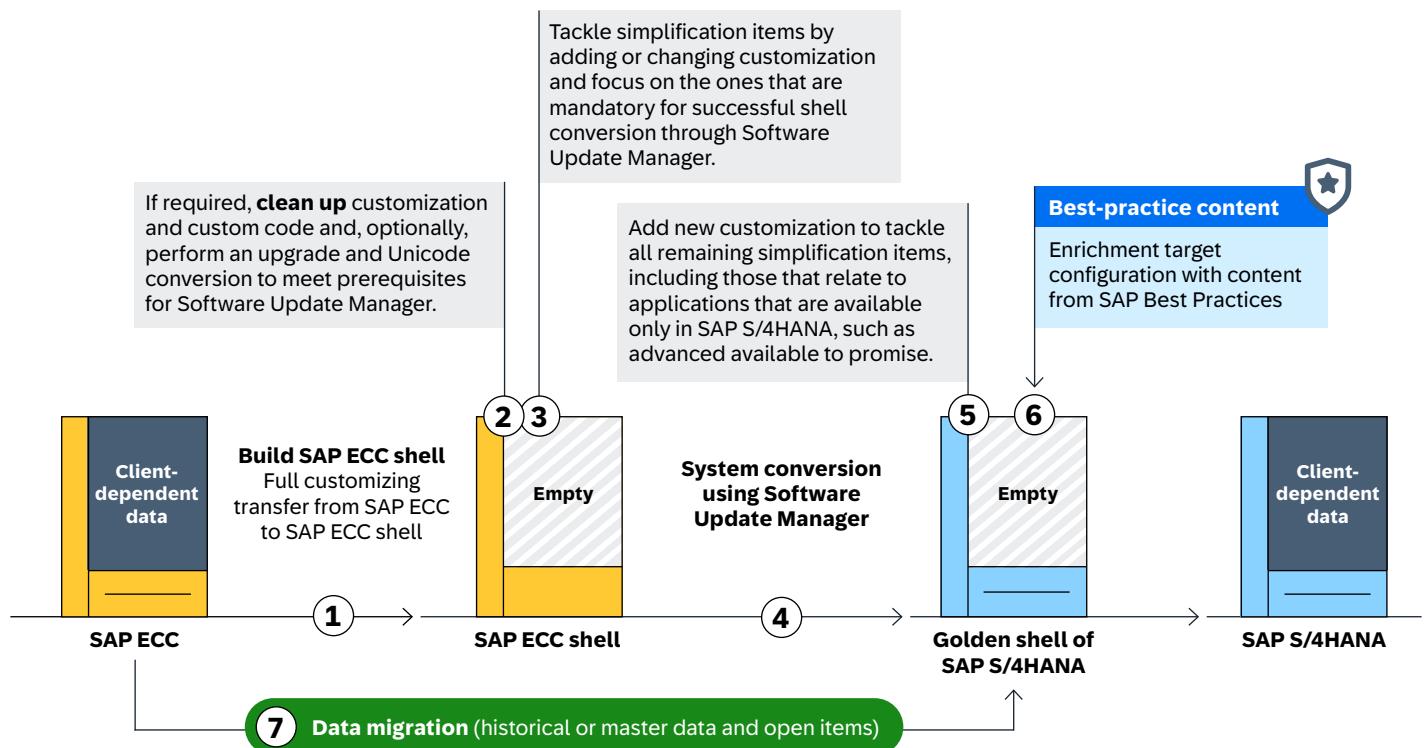


Figure 12: Shell creation for SAP S/4HANA

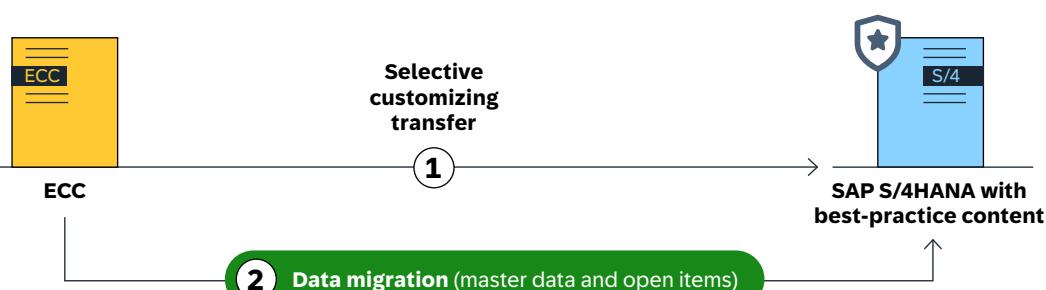
New SAP S/4HANA as a target

The second option is called “mix and match” and makes sense if the majority of your processes need to be changed and the system must be mainly reimplemented to support these changes but, at the same time, there are some selected assets (configured solutions, developments, data) that need to be saved and moved to SAP S/4HANA.

In this scenario, SAP S/4HANA is deployed with standard content and enriched by the transition of selected elements from SAP ECC or from the intermediate shell system.

Path 1

For a limited scope, for example, the materials management module only



Path 2

When there are multiple applications in scope, for example, materials management, production planning, and plant maintenance

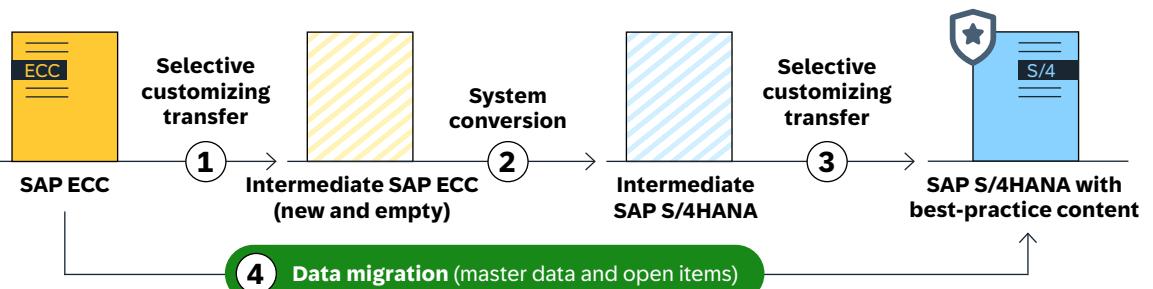


Figure 13: Two options for deploying best-practice content on SAP S/4HANA

Special case – systems consolidation

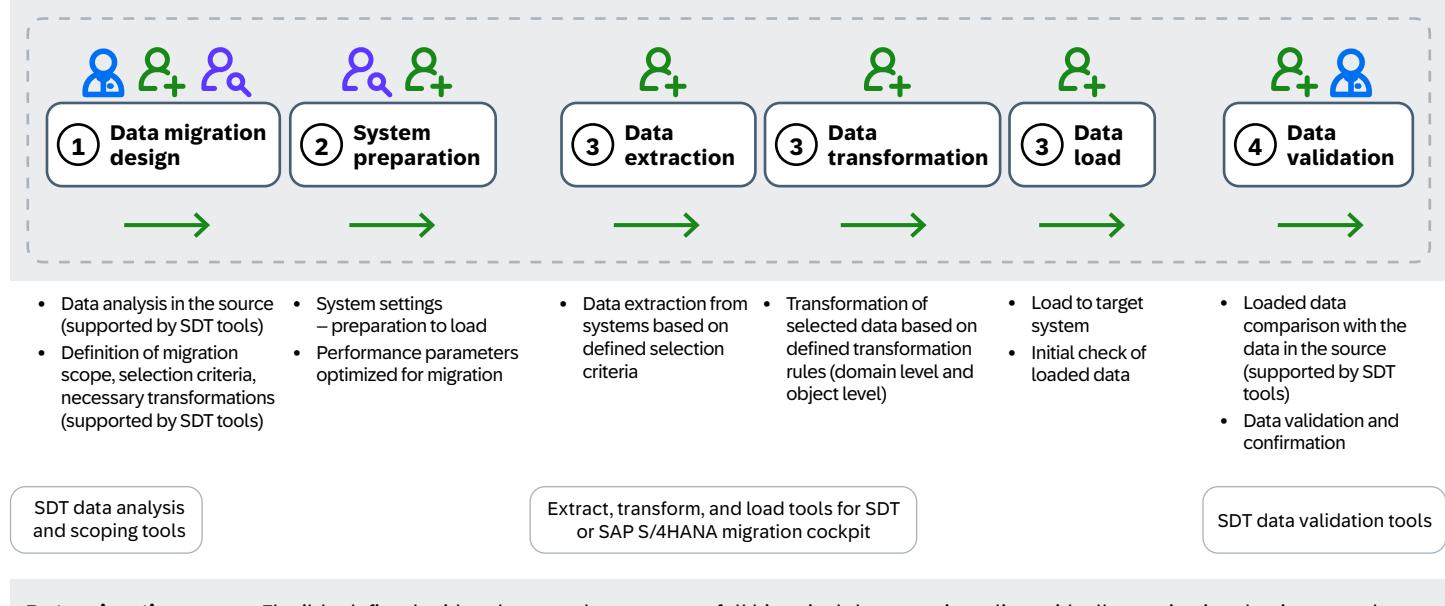
If it is required to consolidate multiple SAP ECC systems into one instance of SAP S/4HANA, variations of options 1 and 2 can be used to create the target system, depending on the requirements.

One of the common scenarios is as follows:

1. One of the consolidated systems is selected as a main template system.
2. An SAP ECC shell is created out of this system.
3. Customization and the repository for this SAP ECC shell is compared with all of the SAP ECC systems that will be consolidated using specific tools, and any identified differences are highlighted.

4. Analysis of the differences and decisions regarding how to resolve the conflicts needs to be done and recorded in the document or a special tool. Based on the decisions made, mappings are collected between the settings in the source system and in the target for data migration that will happen later.
5. Based on the recorded decisions, customizations and repositories are consolidated in the SAP ECC shell system manually or using special tools.
6. The consolidated SAP ECC shell is prepared for the conversion to SAP S/4HANA and converted into a golden shell of SAP S/4HANA.

Selective data migration and validation



Data migration scope: Flexibly defined, with only open documents or full historical data or a time slice, with all organizational units or a subset

Business expert

Data migration consultant

Functional consultant or IT expert

Figure 14: Data migration process steps and responsible roles for selective data transition

When the target system is ready, necessary application-specific customizing and custom-code adjustments need to be finished to prepare the system for data migration and tests.

First, the scope of data migration and transformation needs to be defined. The digital blueprint is the first feature release of the SAP Business Transformation Center solution, which helps customers and partners define the migration and transformation scope for transitioning from SAP ECC to SAP S/4HANA. It provides data-driven guidance and recommendations for decision-making roles, architects, and subject-matter experts. See **Part three** for details.

Two approaches are possible for data migration to SAP S/4HANA; in SDT projects, usually a combination of the two is used.

Table-based migration

Table-based migration allows you to migrate the data fast on a database-tables level; however, specific services (including tools, experts, and support) are required from SAP or partners. This approach allows migration of selected historical transactional data, but it doesn't have application-level validations of the migrated data (specific tools for validation are needed). Additional transformations of the migrated data to the data model for SAP S/4HANA are required after table-based migration. If historical data is migrated using this approach, there are some limitations on which level of application changes and "on-the-fly" transformations are possible. It's possible to apply filters on the data to be migrated based on the organizational units in scope (such as data for selected company codes) or a time slice (for example, the last three years of data).

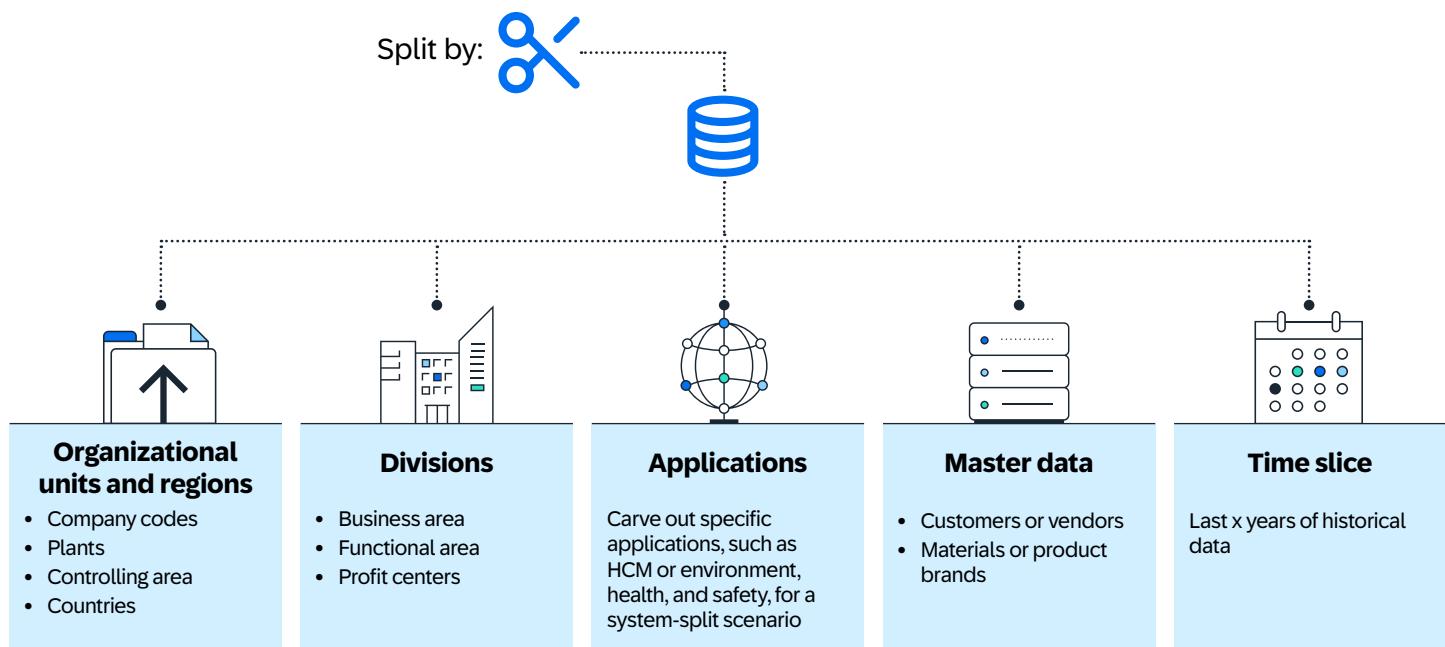


Figure 15: Possible splits in SDT scenarios

API-based posting

An API-based posting approach is used in generally available tools, such as the SAP S/4HANA migration cockpit, but also in some specific SAP consulting tools. To load the data in the target system, APIs (BAPI programming interface or function modules) are triggered in the application layer to post the data. Only master data and open documents can be migrated using this approach. It is usually less performant than table-based migration and requires following the sequence of migration-object posting, but it does trigger all of the application layer validations of the migrated data. In the areas where this approach is used, more application-level transformations are usually possible in the target system.

Selective data transition and the specifics of SAP S/4HANA Cloud Private Edition

SAP S/4HANA Cloud Private Edition has regulations in place that prevent providing OS-level access on deployed application and database servers from SAP in the cloud. Therefore, customers must evaluate if the tools used by their selected partners meet the restrictions of SAP S/4HANA Cloud Private Edition before using them. An alternative is to perform the selective data transition in a temporary landscape and, after the process is completed, make a system copy. However, this process must be evaluated case by case. Moreover, a temporary landscape implies additional costs for the customer.

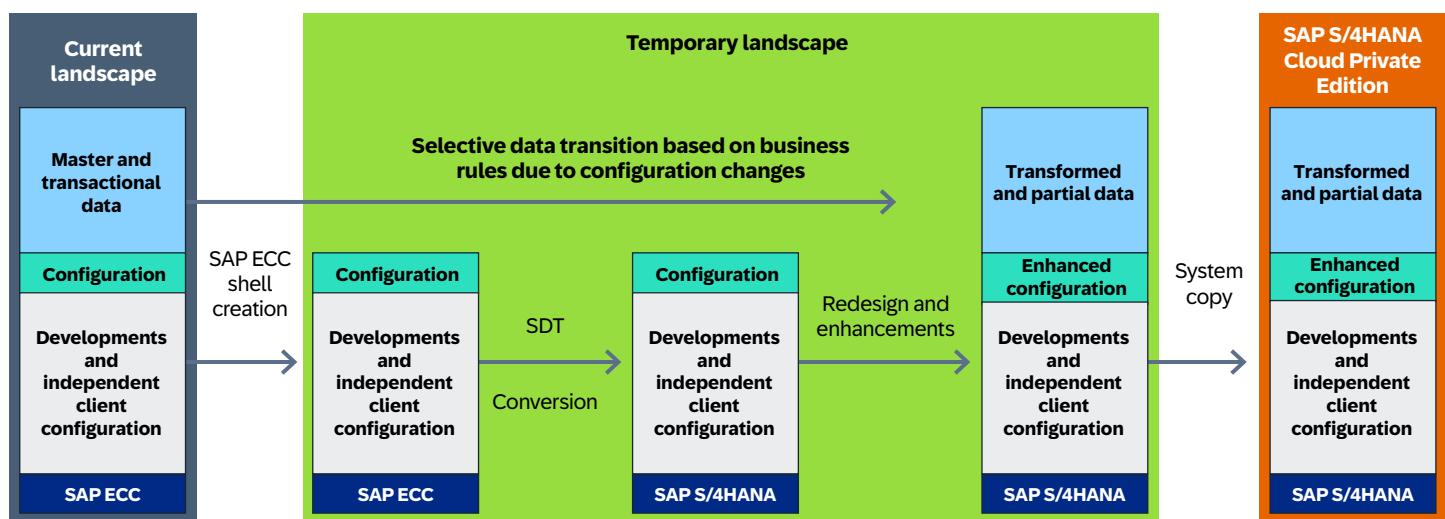


Figure 16: Temporary landscape for transition to SAP S/4HANA Cloud Private Edition

Discuss with the owner of the SDT tool how issues will be solved during or after the project without tools that need database or operating system access. Review SAP Note [3018442](#).

Part two

Ingredients for project success

Key takeaways

Although previously explained implementation methods are very different by nature, there are a few subjects you shouldn't neglect in either case. In Part two of this guide, we elaborate on those subjects, and we conclude by highlighting the essential aspects of the project setup.

For all SAP S/4HANA implementation projects, we recommend that you follow these best practices:

- Build up your team's skills. This will pay off economically and in many other ways.
- Understand RISE with SAP Methodology – with all of its concepts, adoption framework, accelerators, and much more – before you begin to execute the project. Best practices and proven experiences can shorten your project timelines and reduce transformation costs.
- Pay attention to the architectural guidance and parameters provided in this guide. Failure in the foundational work can cause significant effort in later phases of your transformation.

- Understand, explore, and leverage SAP standard content for your chosen implementation method. System-guided redesign and innovation discussions or visual explanations help to take your employees on the journey too.
- Consider in-memory computing for your business processes when redesigning the next level of solutions. This is about rethinking, not about doing the same things faster.
- Make sure your development team fully understands the new software development concepts and technologies – specifically, the value and possibilities that come with cloud platforms.
- Recognize that SAP Fiori is more than a new web UI. Establish an adoption strategy for SAP Fiori and appoint a user-experience lead to carry it out.
- Curate your master data prior to the transition to SAP S/4HANA.
- Make sure you put enough focus on pertinent hardware planning and performance testing.
- Leverage the power of the SAP ecosystem and partners. Regardless of the transition scenario to be addressed or the phase of your transformation, there is always support, services, and tools available from SAP and our large partner network.



For conversion projects, consider the following recommendations:

- Carefully review the results of SAP Readiness Check for SAP S/4HANA to help mitigate otherwise hidden project risks and preserve the planned budget and timeline.
- Take care of your financial data and understand the plans of your finance team to leverage the new general ledger, parallel accounting, and document split capabilities.
- Realize that conversion test cycles are the backbone of your project. Follow the guidelines to establish a successful project plan.
- Check the compatibility of your add-ons in advance and decide how to deal with each add-on before the conversion.
- Scrutinize your simplification items and pay close attention to the ones that require a business decision or a preparation project.
- Take advantage of the opportunity to reassess and clean up your custom code. Decide what you need and delete the rest.



For new implementations, we suggest that you:

- Use SAP standard content to organize show-and-tell workshops for business users.
- Don't lift and shift your custom code to the new system.
- Define the scope for data migration as early as possible. Make sure your team knows the capabilities of the SAP S/4HANA migration cockpit, and reassess the capabilities of your current extract, transform, and load (ETL) solution.
- During project setup, remember the following:
 - Apply the three pillars of practical governance by setting up a project steering committee, joint design authority, and architecture governance board.
 - Make sure you are familiar with the RISE with SAP adoption framework, the SAP Activate methodology and its principles, and SAP-qualified partner-packaged solutions
 - Consider estimating the duration of your project in one of the following ways: You can either use a past project or take the median value as a baseline and adjust it by evaluating the key influencing factors.

For selective data transition scenarios, we recommend that you involve experts and leverage tools such as SAP Business Transformation Center to derive the correct conclusions. Don't forget that these scenarios can get quite complex and require solid and deep system knowledge. Suggestions from both of the previous implementation methods may also apply here.

Building your skills

User and team enablement is a significant building block in a project's success. In practice, there are two major benefits:

- Faster deployment: Organizations providing more training can usually achieve shorter project timelines because of team efficiency.
- Increased satisfaction with the deployed solution: Well-trained employees are more likely to become proficient with the SAP solution faster and be more satisfied with it.

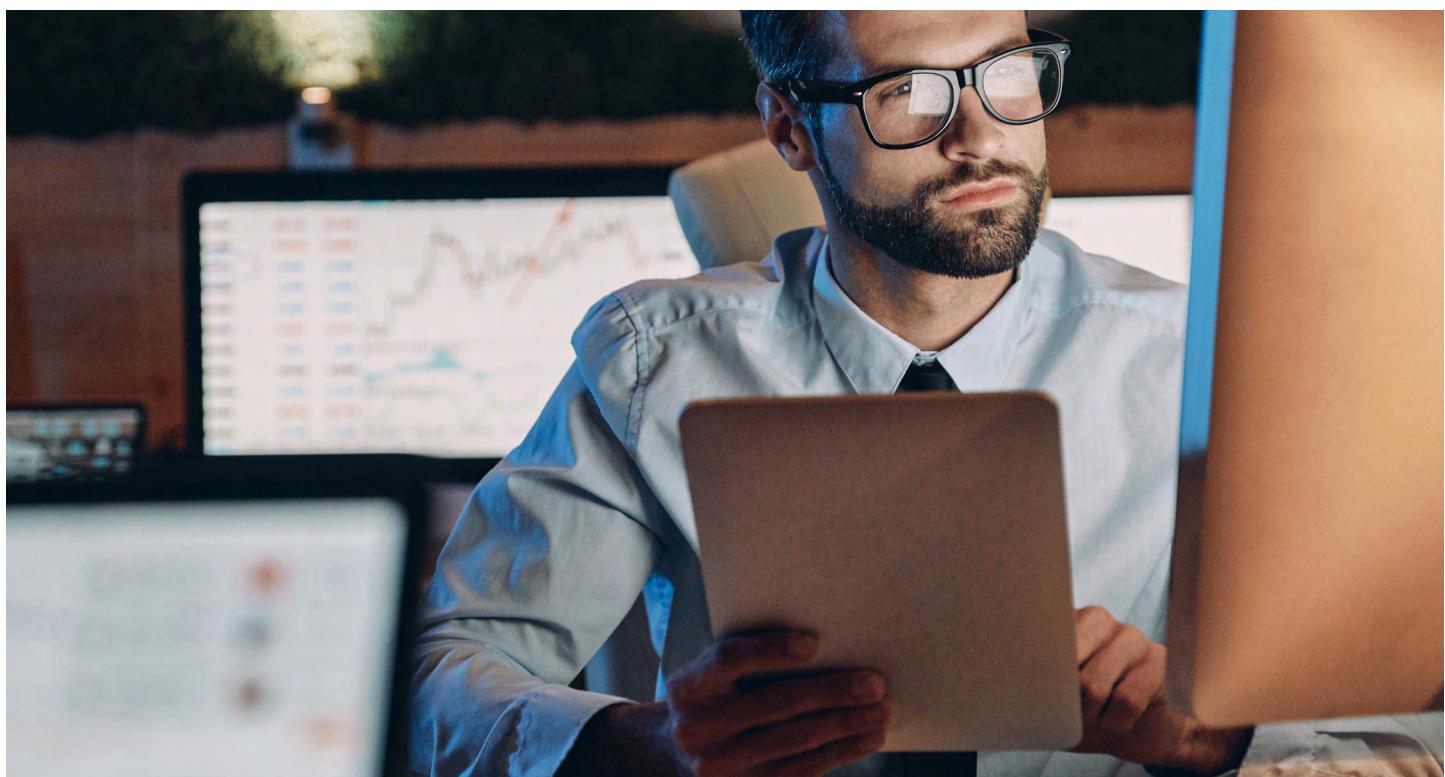
A perfect start for any implementation project team member is to review the available learning offerings on the [SAP Learning](#) site. You can find up-to-date [SAP Learning Journeys](#) that can be complemented by [live sessions](#) and [hands-on practice](#) offerings. Professionals working with SAP software can also validate their SAP expertise by [getting certified](#). The “2023 Value of IT Certification | Candidate Report” by Pearson VUE demonstrates tangible and compelling benefits of IT certification for individuals and organizations across the globe.

The following SAP Learning Journeys are especially recommended:

- [Exploring SAP Cloud ERP](#)
- [Implementing SAP S/4HANA Cloud Private Edition](#)
- [Managing Clean Core for SAP S/4HANA Cloud](#)

Users of SAP S/4HANA have access to standard enablement content directly through [in-app learning](#). In addition, a license of the SAP Enable Now solution allows customers of SAP S/4HANA to customize this content. SAP Training and Adoption solutions and the SAP ecosystem and partners can support customers and provide content production and enhancement services. For more information on user enablement, visit the [SAP Enable Now](#) solution site.

There is also an [SAP Learning group](#) moderated by experts from SAP Learning for any questions about learning offerings or certification preparation.



RISE with SAP Methodology

As explained earlier, RISE with SAP is a predefined offering combining tools, products, and service components for an accelerated and cost-efficient transformation journey. You get the most proven assets packaged by SAP and don't have to go through a cost- and time-sensitive selection process for their individual transition.

The [RISE with SAP Migration and Modernization program](#) that launched in the first quarter of 2024 helps customers build a cloud-first business strategy and address the two primary opportunities that companies realize when moving to the cloud – quickly driving tangible outcomes through efficiency gains and new opportunities to innovate faster. The program makes it easier for you to find current best practices, available incentives, planned innovation with RISE with SAP, and RISE with SAP Methodology.

The purpose of RISE with SAP Methodology is to give businesses further confidence to go live with predictability and help them leverage the full potential of cloud-based innovations. RISE with SAP Methodology leverages existing proven implementation best practices such as [principles from SAP Activate and the RISE with SAP adoption framework](#). We are now specifically focusing on weaving clean core principles throughout a consistent and prescriptive set of guidelines on core dimensions (such as business processes, extensibility, data, integration, and operations) of an ERP implementation.

A clean core ERP describes a system or a landscape of systems that is as close to standard as possible, with ongoing operational governance to maintain that state. The purpose of a clean core strategy is to help ensure customers benefit from the latest software releases and [innovations](#) such as AI and sustainability. By standardizing the processes and data underlying ERP operations, you can benefit from best practices and differentiate through cloud-compliant extensions and integrations available in [SAP Business Technology Platform](#).

With RISE with SAP Methodology, your business can:

- **Help ensure a clean core and fit-to-standard:** This helps you align with your clean core objectives and ensure that your ERP system is fit-to-standard.
- **Achieve greater transparency and informed decision-making:** By providing enhanced observations and recommendations from SAP, you can have a clearer understanding of your project's progress.
- **Handle effective change management and exceptions:** You can govern change management processes, helping ensure a smooth implementation of recommended changes and addressing any exceptions or issues that may arise.
- **Help ensure quality at each project milestone through automated checks by SAP:** By incorporating key milestone checks and automated quality gates, you can monitor project progress and ensure quality standards are met at each stage.

What's new in RISE with SAP Methodology?

A clean core strategy is embedded into RISE with SAP Methodology and begins with a clean core success plan. This success plan provides transparency on expected key clean core transformation KPIs right from the beginning of the “Discover and Prepare” phase. The methodology establishes a single cloud operations governance model, outlining stakeholder responsibilities. This collaborative approach allows for proactive decision-making and streamlined coordination.

The methodology includes new formal, prescriptive ways to check that SAP standard methods, tools, and offerings are being used to the best

effect in the context of the clean core dimensions. By visiting the RISE with SAP Migration and Modernization program, customers have direct links to self-guided tools in use today, such as the principles in SAP Activate and the RISE with SAP adoption framework. The methodology enhances existing quality gate checks, recommends accelerators, and promotes collaboration among all involved parties – customers, partners, and SAP – toward clean core dimensions.

Specifically, RISE with SAP Methodology includes:

- **Enhanced quality gates (Q-gates):** SAP proactively and transparently follows up with customers at project milestones using the methodology.

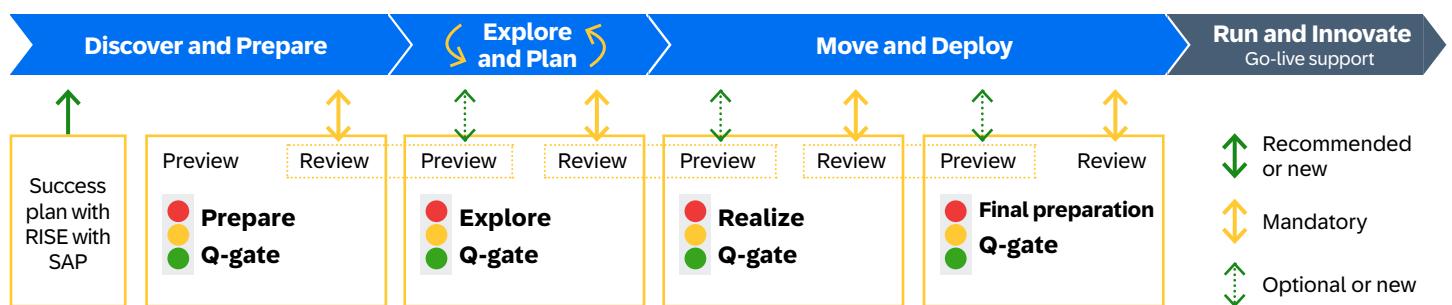


Figure 17: Enhanced quality gates

- **Clean core runbook:** The runbook helps ensure actual performance through an audit trail compared against the clean core success plan KPIs. The clean core runbook includes:
 - Inventory of enhancements: documented list of modifications and enhancements
 - Governance model: guidelines for governing process enhancements, roles and responsibilities, and data strategy
 - Prioritization method: prioritization method for implementation of recommendations, such as a replatforming of legacy integration with [SAP Integration Suite](#)
 - “Keep clean” monitoring: Reduction of non-compliant items (custom code, data quality, integration, and so on)
- **Clean core report:** This is a basic report of key deliverables that C-suite executives can review as an outcome to Q-gate checks and keep track of process, extensibility, integration, and data clean core KPIs. The report includes:
 - Project status: simple template to show the adherence of the project to fit-to-standard processes, integrations, and data management and harmonization
 - Enhanced reporting: option for an SAP Preferred Success plan for RISE with SAP, where eligible customers will have access to an enterprise adoption expert and enhanced reporting details
- **Transparency with SAP Cloud ALM:** The customer and the partner project team together will review and execute the tasks from SAP Activate that are relevant for a clean core. Customers will consume and engage with digital assets, one-to-many sessions, workshops, and more, which are recommended in the tasks, and will update the status in SAP Cloud ALM. SAP Cloud ALM will have the latest status of all tasks, such as onboarding, the success plan, and Q-gate execution and output from the clean core report. You can find more details in **Part three**.

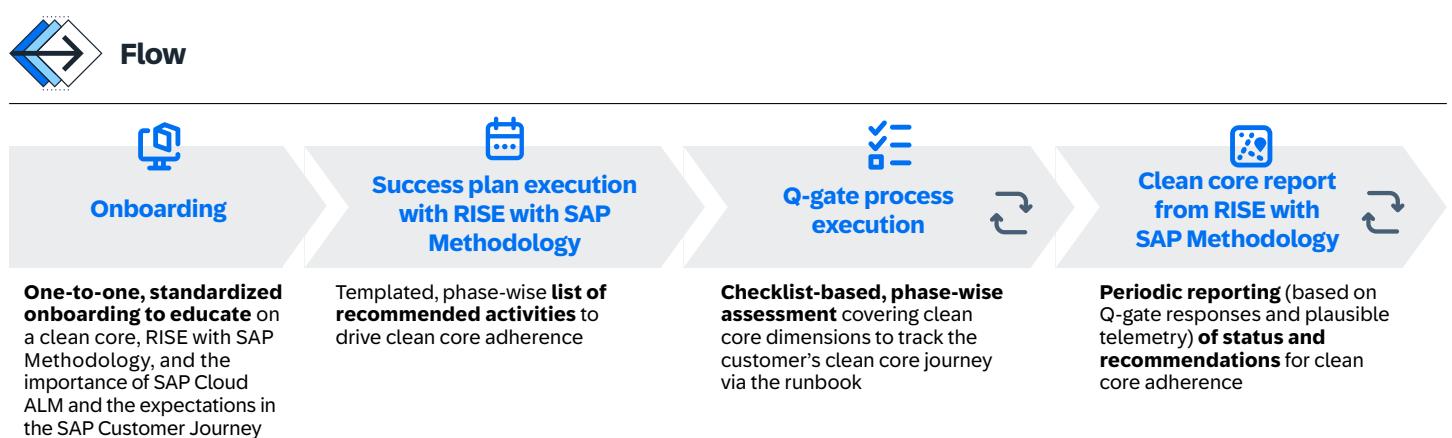


Figure 18: RISE with SAP Methodology – transparency with SAP Cloud ALM

The following are the next steps you can take:

1. As an SAP customer, you have access to free-of-charge or fee-based self-guided or assisted tools and services by visiting the [RISE with SAP Migration and Modernization program](#). You'll find helpful workshops that provide additional information about the value of RISE with SAP and operating with a clean core.
2. You can review the first set of clean core updates generally available in RISE with SAP Methodology by going directly to the [Road map viewer](#) for SAP Activate.

3. You are able to access a basic report:

- Step 1: The road map for SAP Activate is enriched with a Q-gate at the end of every “Activate” phase.
- Step 2: For Q-gate 1, the embedded launch activity experts will support you in populating the Q-gate and submit it to SAP. The Q-gate questionnaire is imported and submitted through SAP Cloud ALM.
- Step 3: Support from SAP for the rest of the Q-gates depends on the level of engagement the customer has with SAP, for example, through SAP Preferred Success.
- Step 4: The completed Q-gate questionnaires are submitted to SAP.
- Step 5: A RISE with SAP Methodology report is generated.

System Conversion to SAP S/4HANA Cloud, private edition with SAP Activate

Key Activate Assets Supporting Clean Core

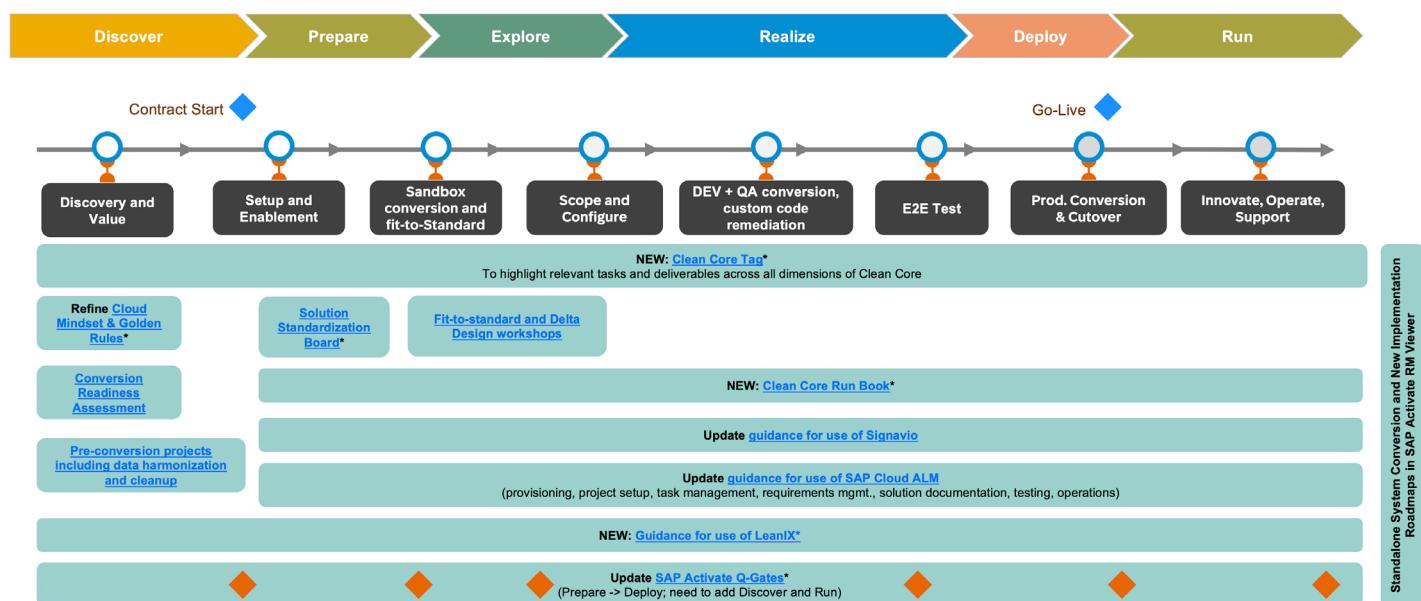


Figure 19: SAP Activate for RISE with SAP

There will also be an option for an [SAP Preferred Success plan for RISE with SAP](#), where eligible customers will have access to an enterprise adoption expert who will help them achieve optimal adoption of RISE with SAP Methodology.

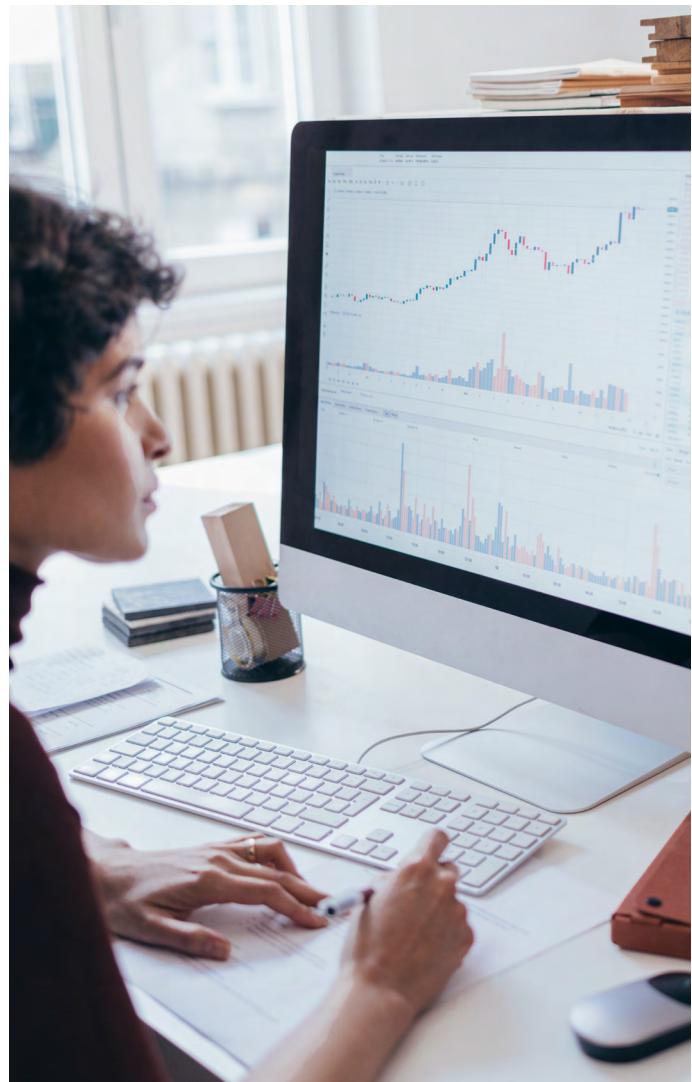
Leveraging SAP standard content

SAP standard content is an umbrella term for SAP's reference business content SAP Best Practices, the enterprise management layer for SAP S/4HANA, and additional line-of-business and industry-specific content. Through SAP standard content, we provide you with support for preconfigured and comprehensive business processes.

Note that SAP standard content is offered for SAP S/4HANA Cloud Public Edition and SAP S/4HANA Cloud Private Edition. SAP S/4HANA Cloud Public Edition uses a different configuration and content activation mechanism.

SAP Best Practices are cataloged in the [SAP Signavio Process Navigator](#) solution and can be used by SAP customers and partners after initial registration. You can activate selected SAP Best Practices packages using the SAP solution builder tool, which automatically deploys the required customizing and sample master data in the system. A scope item for SAP Best Practices corresponds to a certain business-process implementation in a specific country. You can combine multiple countries in the same client through sequential activation of the corresponding SAP Best Practices.

In 2020 SAP introduced the enterprise management layer for SAP S/4HANA, which is available to customers opting for SAP S/4HANA Cloud Private Edition or customer-managed deployment. It combines a standard set of SAP Best Practices into a global template for companies operating in multiple countries. This template consists of a fixed baseline and optional elements that you can choose, such as specific countries, settings, or functions. SAP creates it upon customer request and ships it as an SAP HANA database backup from which you can build your sandbox, development, quality assurance, and production systems. For more information on the enterprise management layer, read this [blog post](#).



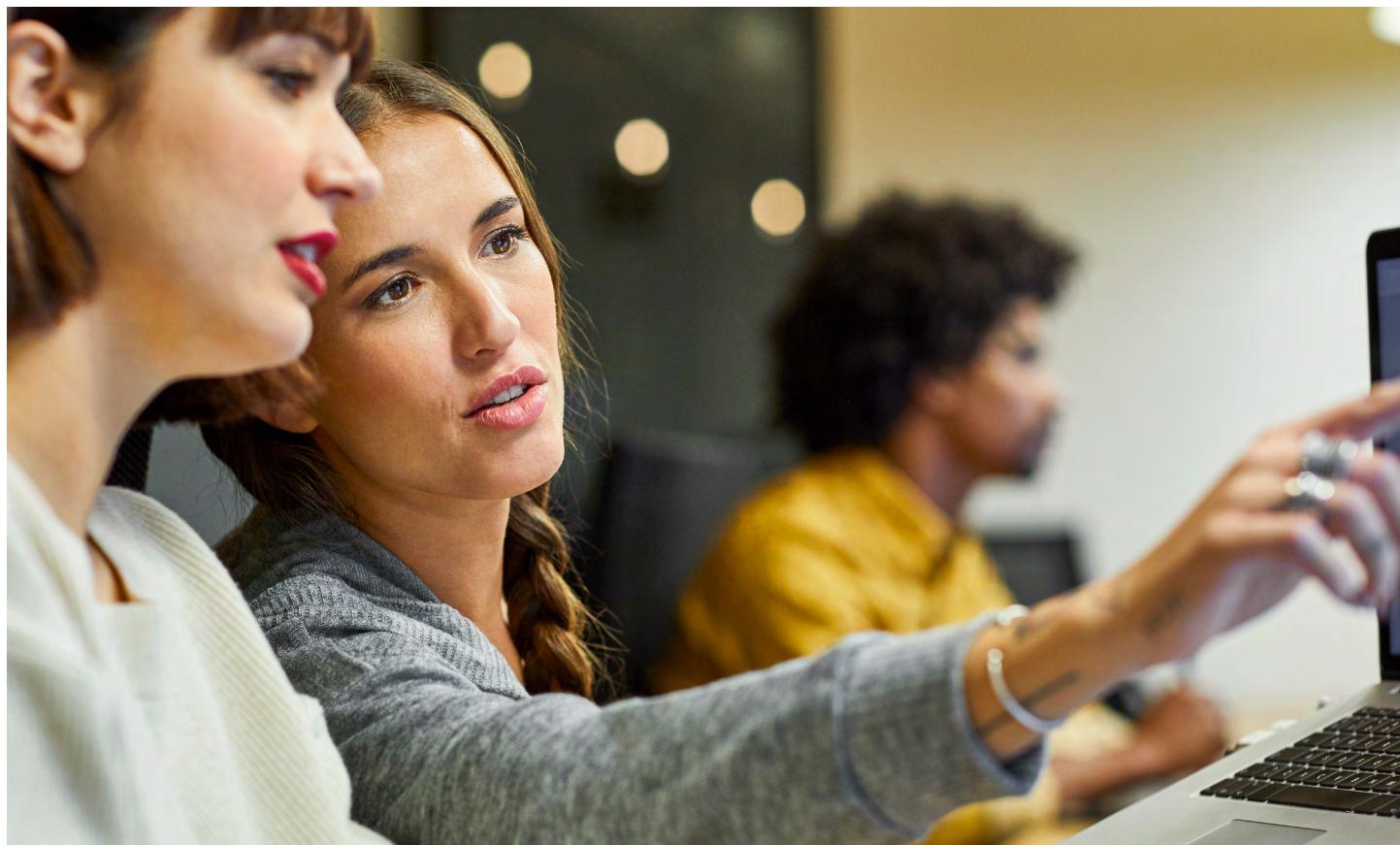
SAP Best Practices and the enterprise management layer for SAP S/4HANA both serve as a basis for additional line-of-business or industry-specific content developed and deployed by the Customer Success organization at SAP or by SAP partners. You can request such additional content from us through the SAP standard content activation service. This service is carried out by process experts from SAP who deploy the content to a newly installed instance of SAP S/4HANA Cloud Private Edition, intended to serve as a reference and demo system.

Technically, this content is a set of customizing and configuration settings that enable you to execute a certain set of business scenarios for SAP S/4HANA and, possibly, other SAP solutions, such as the SAP Transportation Management application or the SAP Manufacturing Integration and Intelligence application. For each scenario, there is a detailed description, process diagram,

test or demo script, and configuration guide explaining how to set up the system. These are available as JavaScript Object Notation file content on SAP Solution Manager and need to be uploaded to an instance of it.

SAP standard content is not only essential for new installations, but it is also very helpful for conversions. You can use it during a project's preparation and exploration phases to:

- Demonstrate the functionality and process in show-and-tell sessions for business users
- Have your key users study preconfigured scenarios with test scripts
- Build prototypes by using or extending the existing configuration
- Use as a reference when conducting fit-gap and fit-to-standard analyses
- Use as a reference system for the project's joint design authority



Leveraging the power of the SAP ecosystem and partners

With more than 5,000 customers having experienced the transformation to SAP S/4HANA Cloud, the [SAP ecosystem and partners](#) have played an important and powerful role in delivering the change. Partners support over 90% of customer implementations, giving them the expertise and experience needed. Your company will likely go through an ERP implementation only once or maybe twice in your career, so leveraging the proven experience of a company that has done it numerous times and has unmatched experience is an absolute must.

After all, you know your business, and you excel at it. You live it every day. Similarly, implementation experts know their business. Not only do they excel at what they do, but they also bring a wealth of knowledge – from product to industry to business process knowledge. Their expertise is in delivering successful cloud migration journeys. And the great news is that you too can leverage their experience.

In any relationship, finding the right partner is key

Companies seek a reliable and skillful partner who can show that they understand their business and industry. They are also looking for a partner they can trust to be their technology and business advisor.

On the other side, consulting firms and system integrators can differentiate themselves from their competition through their skills and experience.

These firms strive to demonstrate that they have a successful track record, expertise, and work style to meet a customer's business needs.

SAP has a large ecosystem of over 25,000 partners with different skills, maturity, and experience to meet the varied needs of organizations. SAP partners are provided with a comprehensive training program to help ensure they are current with the latest tools, innovations, and methodologies. Our partners gain credibility in the marketplace by differentiating their skill sets based on their solution capabilities, industry expertise, and project experience.

Helping you identify the right partner for your needs

Customers may require guidance in finding a best-fit partner for their business or industry, a qualified partner that is right for their company. To do this, a company can leverage the [Competency Framework](#), which helps cut through the noise, allowing customers to find the expertise they need – no matter their business challenges, company size, or location.

The Competency Framework recognizes partners who meet the rigorous criteria and requirements of competency with designations that allow them to differentiate their skills, levels of expertise, and acumen.

The competency levels (essential, advanced, and expert) and descriptors for each level are displayed [on the next page](#). Use them as a guide for the type of partner that you may require for your specific business needs.

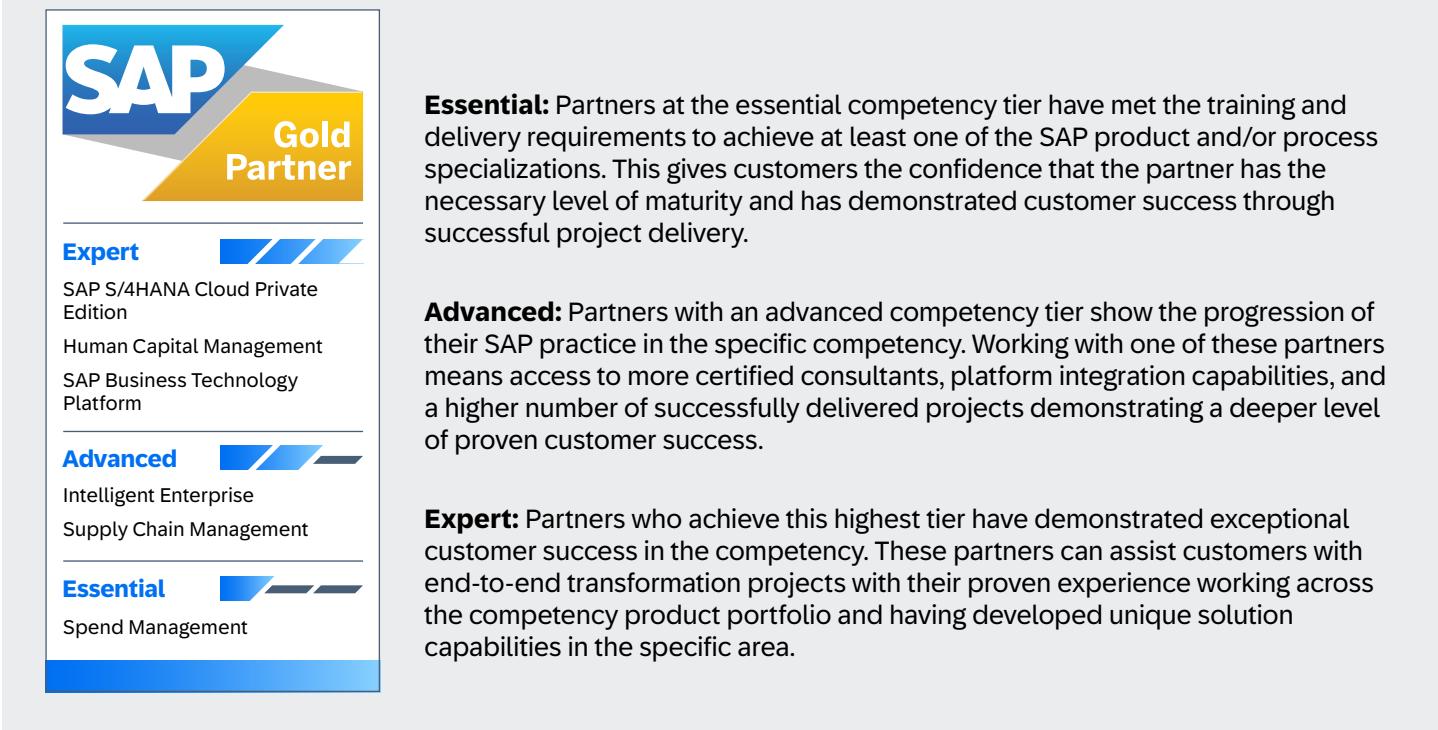


Figure 20: Competency Framework

When selecting a partner, SAP encourages customers to use the [SAP Partner Finder tool](#). This tool is designed to help customers discover and connect with partners within our ecosystem to support a successful cloud transformation.

GROW with SAP S/4HANA Cloud Public Edition

Expert

The attained competency level demonstrates the partner's proficiency and knowledge in delivering customer success in this Solution area. [Learn more](#)

SAP Certified Consultants ✓

Delivered Projects (within past 24 months)	Count
Netherlands	6
Germany	5
Australia	4
Belgium	3
India	3
Luxembourg	3
United Kingdom	3
South Africa	2

RISE with SAP S/4HANA Cloud Private Edition

Expert

The attained competency level demonstrates the partner's proficiency and knowledge in delivering customer success in this Solution area. [Learn more](#)

SAP Certified Consultants ✓

Delivered Projects (within past 24 months)	Count
China	28
India	6
Spain	6
New Zealand	3
Brazil	3
Canada	3
Chile	3
Nigeria	3

Intelligent Enterprise Competency

Design to Operate
The integrated business process that connects supply chains across the company's product lifecycle (design, planning, manufacturing, logistics, and operations).

Source to Pay
The integrated business process to optimize and effectively manage all spend processes across the enterprise, making use of the network effect of the marketplace.

Lead to Cash
The integrated business process from initial contact with a prospective customer, to order fulfillment and service delivery.

Recruit to Retire
The integrated business process that spans the employee lifecycle of workforce planning, staffing, onboarding, work, payment and exit.

Solutions & Competencies

GROW with SAP

RISE with SAP

SAP S/4HANA

SAP Business ByDesign

SAP Business One

Figure 21: Where to find partner competency levels in SAP Partner Finder

In the partner profile on SAP Partner Finder, you can see a partner's achieved competencies for SAP S/4HANA Cloud. These achieved competencies are used to provide best-fit partner rankings in the tool's search results. This pool of information makes it easier and faster to find the best partner to fit your company's needs. But there's more value to derive from the SAP ecosystem and partners in addition to our implementation partners. We have partners that offer SAP Solution Extensions, SAP-qualified partner-packaged solutions, and a variety of others.

SAP-qualified partner-packaged solutions
Depending on the strategy you choose for your migration, there are several flavors for SAP-qualified partner-packaged solutions that can help you significantly accelerate your transition from SAP ECC to SAP S/4HANA Cloud. SAP-qualified partner-packaged solutions are "turn-key" fixed-scope and fixed-price offerings that are "proven in action" and designed to attain rapid implementation, reduced risk, and faster time to value. These solutions are sold and delivered by partners that have not only the certifications and competencies required but also the experience in delivering the particular scope of such solutions.

There are three variants of SAP-qualified partner-packaged solutions that may be relevant, based on your chosen migration strategy:

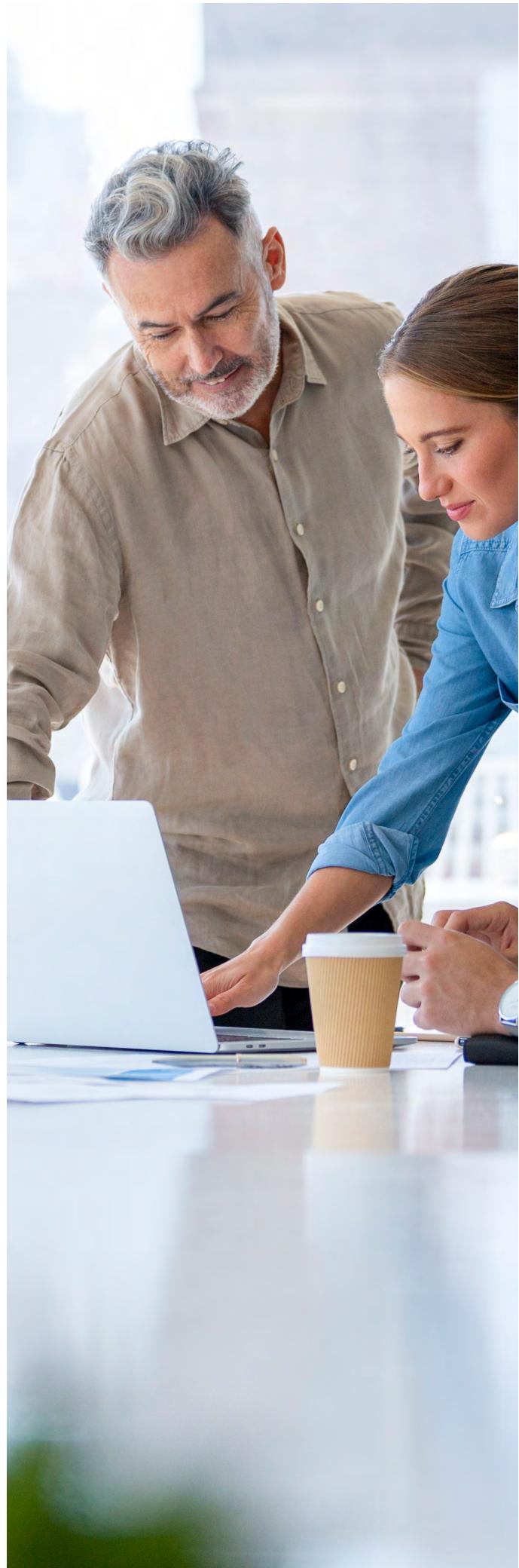
- [Packages for conversion to SAP S/4HANA Cloud](#): These offerings are focused on the evaluation and scoping of changes necessary for a successful migration, with the typical outcome being a recommended road map for migration.
- [Packages for SAP S/4HANA Cloud Public Edition](#): These offerings are for customers wishing to move to a public cloud solution (typically, this will be a greenfield project) and are aligned with the GROW with SAP offering while often also including industry functionality and best practices added by the partners and based on clean core principles.
- [Packages for SAP S/4HANA Cloud Private Edition](#): These offerings are for customers wishing to transition to a private cloud solution (typically, this will be a greenfield project) and are aligned to the RISE with SAP offering while also including significant industry functionality and best practices added by the partners and based on clean core principles.

SAP-qualified partner-packaged solutions can be explored in further detail on [SAP Partner Finder](#).

Collaboration is key

With the increasing number of customer systems being either onboarded to the SAP Enterprise Cloud Services portfolio in the context of RISE with SAP or moving to other cloud providers, the number of systems being upgraded to the latest product portfolio and the need for improved tool support, automation, and standardization are constantly increasing. In this environment, SAP will now centrally support partners with new and better tools and services to facilitate a smooth cloud transition process. With the help of these tools and services, the risk of failures, issues, or delays during the move to the target architecture will be reduced significantly, and the effort will decrease while the reliability – for both partners and customers – of SAP Enterprise Cloud Services and other SAP tool development departments will increase.

Interested partners can [contact SAP](#) and support pilot initiatives for new tooling. As an advantage, partners will experience our offerings firsthand and be able to have an impact on the development of the tools before the new tooling is globally rolled out.



Relying on the role-based SAP Fiori UX

SAP Fiori is the go-to user experience for SAP S/4HANA Cloud Private Edition. SAP Fiori launchpad offers a role-based single entry point for business users to access the user interfaces of SAP S/4HANA Cloud Private Edition with the consistent SAP Fiori look and feel. These user interfaces include SAP Fiori apps, SAP GUI transactions, Web Dynpro, and WebClient UI applications.

Business users can access many innovations in SAP S/4HANA Cloud Private Edition through SAP Fiori apps that support key processes, such as:

- Finance: [Carbon accounting for sustainability outcomes; contract accounting – machine learning support for incoming payments](#)
- Supply chain: [Advanced intercompany sales and stock transfers; monitor transportation of handling units via IoT sensors; composite barcode scanning for inventory](#)
- Procurement: [Collecting and managing carbon footprint data from suppliers and holistic service procurement](#)
- Environment, health, and safety: Monitor, prioritize, and respond to incidents from the [workplace safety overview page](#)
- Sales: [Import sales documents through spreadsheets including Google Sheets](#)

Users can gain real-time insights and monitor key concerns of their business domain using embedded analytics, such as overview pages and analytical list pages. They can also access innovations in SAP S/4HANA Cloud Private Edition through

services within SAP Fiori launchpad, such as enterprise search, and intelligent automation use cases, such as [situation handling](#). This means that customers who do not implement SAP Fiori and continue to use SAP GUI as their primary UI will have only limited benefit from the innovations in SAP S/4HANA Cloud Private Edition.

The UX paradigm of SAP Fiori differs fundamentally from the classical transaction pattern. Instead of big multipurpose transactions, SAP Fiori offers a role-based navigation network of task-oriented UIs interconnected through SAP Fiori launchpad content. Selectively implementing only some individual SAP Fiori apps not only breaks the user experience but also results in high implementation costs. In short, SAP Fiori apps are not designed to be used individually.

Layout, favorites, and collaboration

The go-to visualization in SAP Fiori launchpad is **Spaces and Pages** with **My Home**. Business users benefit from a lean, flexible, and business-meaningful UX that is intuitive to navigate. To explore more on **Spaces and Pages**, refer to this [blog post](#).

My Home relies on **Spaces and Pages** and provides personalized and simplified access to relevant to-do tasks, favorites pages, and apps as well as key business insights.

SAP Home ▾

Purchasing | Sourcing and Contracting | Self Services

To-Dos ▾

Tasks (7) Situations (5)

- Approve Purchase Contract 4600005777
Medium Priority
Created By: Toni Greenland
Task created 1 day ago
- Approve Purchase Contract 4600005776
Medium Priority
Created By: Toni Greenland
Task created 3 days ago
- Approve Purchase Contract 4600005775
Medium Priority
Created By: Toni Greenland
Task created 1 wk. ago
- Approve Purchase Contract 4600005774
Medium Priority
Created By: Toni Greenland
Task created 1 wk. ago

News ▾

Manufacturing
Discover the new features and changes in this release
SAP S/4HANA Cloud 2308.3 (HFC9)

Pages ▾

- Sourcing
Sourcing and Contracting
- Purchase Order Processing
Purchasing
- Overview
Sourcing and Contracting
- Source of Supply Management
Sourcing and Contracting
- Purchase Requisition Processing
Purchasing
- Supplier Evaluation
Purchasing
- Supplier Management
Sourcing and Contracting
- Overview
Purchasing

Apps ▾

Add Apps

Favorites Most Used Recently Used

- Analysis
- Request For Quotation Types
RFQ Target Value and Types
Target Value... 10.00 EUR
Target Value f... 0.00 EUR
Target Value f... 0.00 EUR
🕒 4h ago EUR
- Manage Purchase Requisiti...
Professional
- Manage Purchase Orders
- Manage Purchase Contracts
- Manage RFQs
- Manage Supplier Quotations
- Procurement Overview

Insights Tiles (7) ▾

Add Tiles Show More

- Request For Quotation Types
RFQ Target Value and Types
10.0 k
🕒 4h ago EUR
- Non-Managed Spend
Invoices Without Pur...
100 %
🕒 4h ago
- Scheduling Agreement Consumption
Value
Since the beginning of last year
5500003903 100%
5500003904 100%
5500003905 100%
🕒 now
- Purchase Order Value and Scheduling Agreement
Value
Since the beginning of last year
Computer ... 58.40M EUR
Inlandsliefer... 1.79M EUR
Domestic ... 651.00K EUR
🕒 20m ago EUR
- Supplier Invoice Inbound Automation Rate
By Origin
95.9 %
Manual Invoices 102
Automated Invoices 2.41K
Self-Billed Invoices 0

Insights Cards (6) ▾

Show More

- Purchase Requisition Item Types
8 K
By Item Type

Free-Text Items (GUI)
Material Items (GUI)
Non-Manual Items
- Non-Managed Spend
As % of total spend | By Material Group
Not assigned 100 %
Trading Materials 0 %
Raw Materials 0 %
166.7B EUR
4.4 EUR
0.0 EUR
- Purchasing Spend
Purchasing Spend Trend
PO Net Amount by Quarter

PO Net Amount
Planned Spend for Schedule Lines
Expected Spend for Purchase Requisitions
- Supplier Performance Monitoring
Supplier Performance Monitoring
Operational Score and Purchasing S...

Operational Score
PO Net Amount
Computer Systems (DE)
Inlandslieferant DE 1
- Off-Contract Spend
11
As % of total spend | By Material Group
Trading Materials 100 %
64.4M EUR
Test Scenarios 100 %
461.7K EUR
Accessories 100 %
204.5K EUR
Multimedia 100 %
181.1K EUR
PC-Components 100 %
123.2K EUR

Figure 22: My Home based on Spaces and Pages

Collaborative ERP allows experts in your organization to work together in real time by sharing content from the system of record through links, chat, or cards that contain information directly from the ERP system.

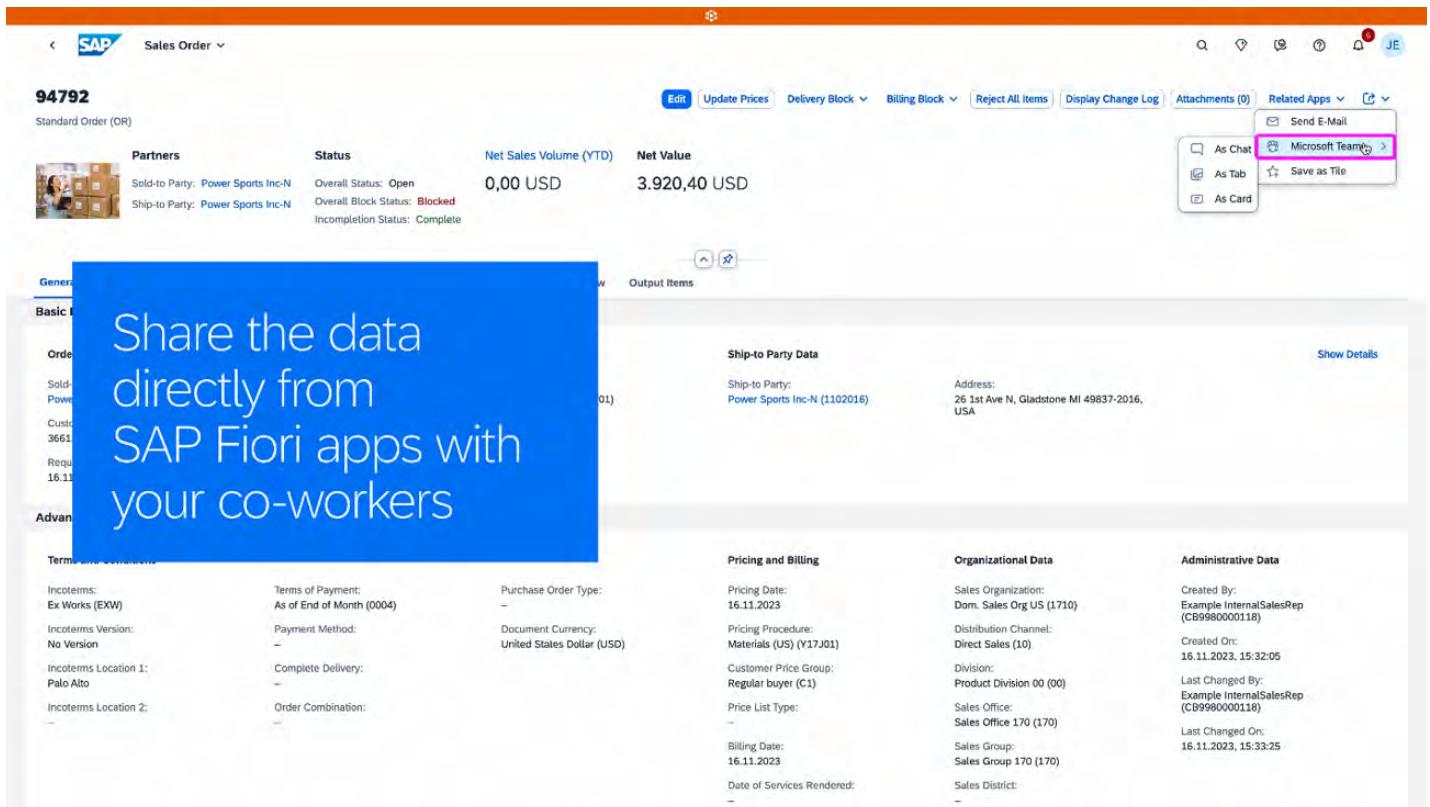


Figure 23: Example of collaborative ERP

Access and deployment options

The SAP Fiori front-end server is deployed in embedded mode on SAP S/4HANA systems. This is the strategy of SAP and also the recommendation for customers with on-premise SAP S/4HANA. The strategy is explained in this [blog post](#).

SAP Fiori launchpad runs in a web browser. The launchpad supports access from multiple device types (desktop, tablet, smartphone) and major browsers (Google Chrome, Safari, Firefox, Microsoft Edge).

As another option, SAP Fiori launchpad can be exposed to [SAP Build Work Zone, standard edition](#).

This provides a unified access entry point across SAP S/4HANA, other cloud solutions from SAP, third-party apps, and custom-built apps. With SAP Build Work Zone, standard edition, you can also deploy [SAP Mobile Start](#) to provide a native device entry point on Apple and Android devices, including wearables such as smartwatches and [Apple Vision Pro](#).

For desktop users, SAP Fiori launchpad can be integrated with [SAP Business Client](#) software. This integration allows users to access SAP Fiori apps and native transactions in the SAP GUI for Windows interface from a single entry point.

Role-based implementation approach

SAP recommends the following role-based approach to implementing SAP Fiori:

- In SAP S/4HANA Cloud Private Edition, the foundation for SAP Fiori is prepared and SAP Fiori launchpad is preconfigured, for instance, containing configuration of notifications, navigation properties, and app support functionality. Roles for administrators and business users to access SAP Fiori launchpad functionality are generated for immediate use.
- For steps and adaptation options related to SAP Fiori app implementation foundation, you can refer to the [rapid activation of SAP Fiori](#).
- Complete business roles should be implemented, not just single apps.
- You can copy the business roles and business catalogs delivered by SAP and adjust them to your needs.
- As an option, selected business roles can be exposed to SAP Build Work Zone, standard edition.

To explore the business roles and related SAP Fiori apps, visit [SAP Fiori Apps Reference Library](#). Find more information on the business-role approach in this [blog post](#).

Transition to SAP Fiori

You can control the pace of your transition to SAP Fiori. You can start with as little as introducing SAP Fiori launchpad as a single entry point for business users and choosing a single business role as a first showcase for SAP Fiori apps. Furthermore, SAP Readiness Check has standard functionalities that recommend SAP Fiori apps based on usage within the existing SAP ERP application. You can go about the process as follows:

- As a first step, introduce your business users to the new capabilities. The following provide a good overview:
 - [Tips and tricks for using SAP Fiori with SAP S/4HANA](#)
 - [Getting Familiar with Spaces and Pages in SAP S/4HANA Cloud Public Edition](#)
(SAP S/4HANA Cloud Private Edition provides similar features to SAP S/4HANA 2023 feature package stack 01.)
 - [SAP Mobile Start: The Intelligent Enterprise at Your Fingertips](#)
 - The [SAP S/4HANA Cloud Private Edition product tour](#) gives a brief introduction of the SAP Fiori user experience across multiple lines of business.
 - The latest news can be found in one of our [user experience blog posts](#).

- Use the [fully activated appliance for SAP S/4HANA](#) to demonstrate new capabilities to your business in workshops. The appliance is a preconfigured SAP S/4HANA system for trial and demo purposes. It can be quickly brought up on a hyperscaler as your personal system instance. It comes with many ready-to-use business scenarios, sample demo data, and activated SAP business roles. [Curated demo guides](#) help you quickly dive into a topic of interest. A guide to experience the rapid implementation of SAP Fiori is also available.
- Take advantage of workshop templates, app selection guides, and other accelerators in the [road map for SAP Activate](#) to discuss your now, next, and later UX adoption road maps with your business stakeholders.
- Once your sandbox system is ready, use the [task lists for rapid activation of SAP Fiori](#) to quickly experience the business roles delivered by SAP. Use this as a starting point for analysis and content adjustment of SAP Fiori launchpad. Use the content manager for SAP Fiori launchpad to adjust the launchpad content to your specific needs by [creating custom business roles](#). Explore and practice clean core, upgrade-safe, key user extension techniques to minimize development effort, as explained in this [blog post](#).
- Plan for the tailoring of [Spaces and Pages](#) that define how apps are organized and grouped in SAP Fiori launchpad. You need to define these from a business perspective, reflecting the way users in your organization work as well as their most important tasks. You will find a demo and best-practice considerations in this [video](#) on the openSAP platform.
- Allocate additional time for authorization management in your project planning. Front-end roles – that is, the assignment of catalogs for SAP Fiori to user business roles – control the visibility of apps on SAP Fiori launchpad and navigation between apps. Users can see and navigate to apps only if they are authorized to use them. That's a crucial difference from the menu-based approach in SAP GUI.
- Establish a UX as a project workstream, which should be at the same level as functional and technical workstreams. Appoint a user experience architect role in your project team to take responsibility for the UX strategy, including common UX components such as SAP Fiori launchpad, enterprise search, and “My Inbox.” Further UX architecture tasks include designing the home page for business roles, coordinating with technical and functional architects, and giving guidance on app activation, authorizations, and extensions.

Redesigning your processes for in-memory computing

SAP S/4HANA provides companies with breakthrough technology and brings a new software architecture that makes use of this technology to the utmost degree. However, this is of little benefit if a company uses a 2024 system to run its business processes in the same fashion as in the 1990s. In the past, many steps in a business process executed in a traditional ERP system were actually performance work-arounds aimed at overcoming the limitations of the databases and the hardware. These steps included data preparation, replication, aggregation, and reconciliation – all of which collectively entailed long process-execution times, outdated information, and reactive process-exception handling.

When such “band-aid processes” are used long enough, it becomes increasingly difficult to tell the actual business purpose from the work-arounds. In fact, you may have to learn anew how to design business processes with the new degree of freedom provided by SAP S/4HANA. The first step is to understand that performance isn’t all about doing the same things faster.

With SAP S/4HANA, you have a system that is designed to enable information workers to make decisions on the fly. Through the underlying SAP HANA database and the new data model, it largely eliminates the need for work-arounds. This means you can turn a process into an instantaneous self-service that operates directly on the original data set and helps you prevent process exceptions through instant responses to what-if simulations. As expensive data preparation steps and batch jobs become superfluous, the processes can be shortened to hours instead of days.

Cue card for in-memory computing process design

Business processes	Analytics and reporting	Business practices
<ul style="list-style-type: none">• Where did we design the processes around performance impasses?• Which processes are too slow?• Where does outdated information cause process exceptions or rework?• Which processes have not been implemented because of performance requirements?	<ul style="list-style-type: none">• Where was it particularly difficult to define the correct reporting architecture?• Which processes require variations of existing aggregates?• Where is a drill-down from reports to transactions missing?• Where do we have frequent change requests for reports?• Where did we oversimplify the data model?• Where do users resort to spreadsheets?	<ul style="list-style-type: none">• Where can real-time information and processes make a difference to the business?• Where do end users run an “informal” process through “help-yourself” tools?• What did we disallow because of system performance constraints?• What scenarios did business users request that we judged to be unfeasible?

Another key element is embedded analytics, which is an exceptionally cost-efficient model for operational reporting. Rather than collecting all requirements to present the data in a way that suits everyone (and often failing to do so because of the complexity and trade-offs), you can now afford to offer specific views for each user. This way, downloading data to spreadsheets becomes a thing of the past. Needless to say, this saves the costs of “shadow IT” and also helps improve compliance.

Here are some rather general pieces of advice to conclude:

- To find the opportunities for process innovation, you need to ask the right questions. You may want to start with the ones listed in the table [on the previous page](#).
- Have an open discussion on how far the users' actual ways of working resemble the initial blueprints. At times, it is truly impressive how often people work around or outside the system and only enter the data at the very last moment.
- Be persistent. Raise interest by showing what's possible. Be assured that your business users will be able to extrapolate what you have shown and to build on these ideas. You should also be prepared to find that some of your peers remain constrained by their experience with the old technology. If that happens, recall the quote attributed to Henry Ford (rightly or not), “If I had asked people what they wanted, they would have said faster horses.”



Leveraging the new efficiencies of ABAP

ABAP has seen a tremendous evolution over the past decade. The new cloud-optimized, declarative, and expression-oriented ABAP programming language helps you achieve more with less. Core data services from ABAP platform is one of the most advanced concepts for enterprise data modeling and database-centric applications to date. Core data services also form the basis for the programming models from the ABAP Cloud development model, such as the ABAP RESTful application programming model and analytics in ABAP. With ABAP Cloud – the new development model for building cloud-ready and upgrade-stable business apps, services, and extensions that are compliant to the clean core principles in the cloud and on premise – SAP offers a set of robust technologies and methodologies to its customers and partners. Developments from ABAP Cloud can be carried out

on SAP BTP, ABAP environment and SAP S/4HANA using public local and remote APIs. Essential elements of ABAP Cloud are the cloud-optimized ABAP programming language, ABAP development tools for Eclipse, core data services from ABAP platform, and the ABAP RESTful application programming model, public SAP standard APIs, and extension points.

Ask your development team about the new development technologies from SAP. Setting up a technology bootcamp for ABAP can be a worthwhile first step on the way to the latest technologies. Educate your developers to become [SAP-certified development associates for ABAP Cloud](#).

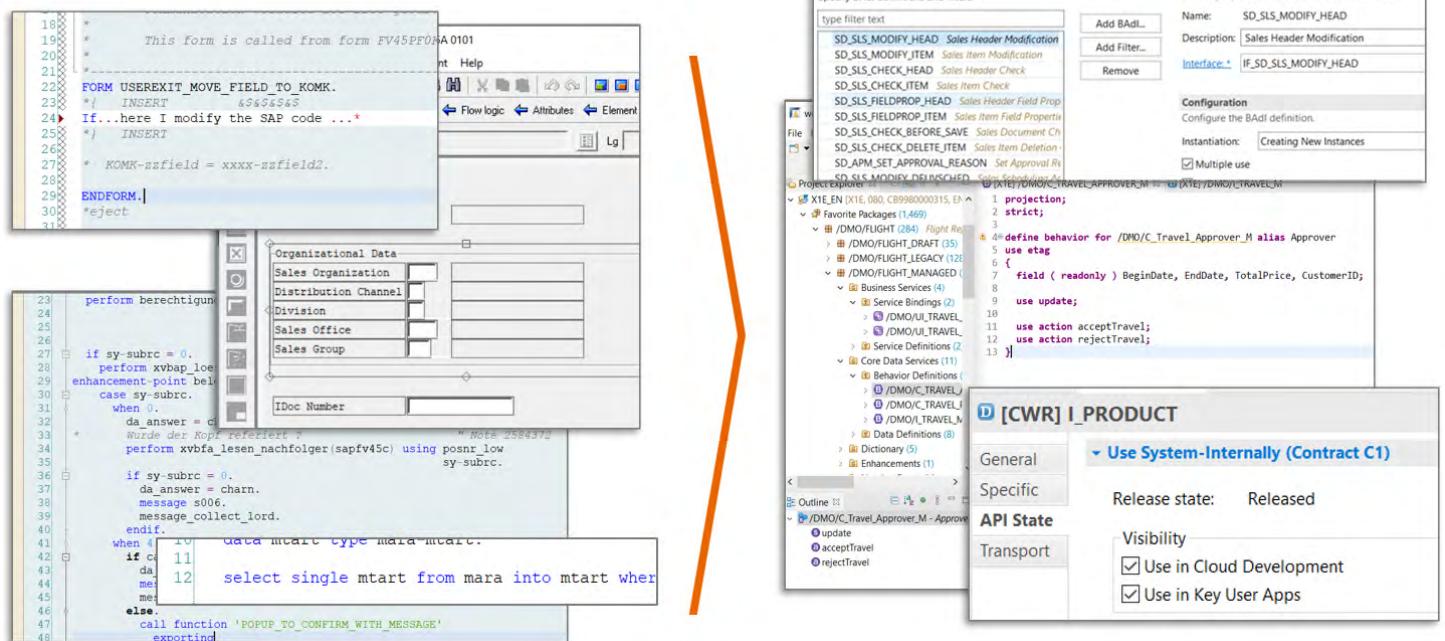


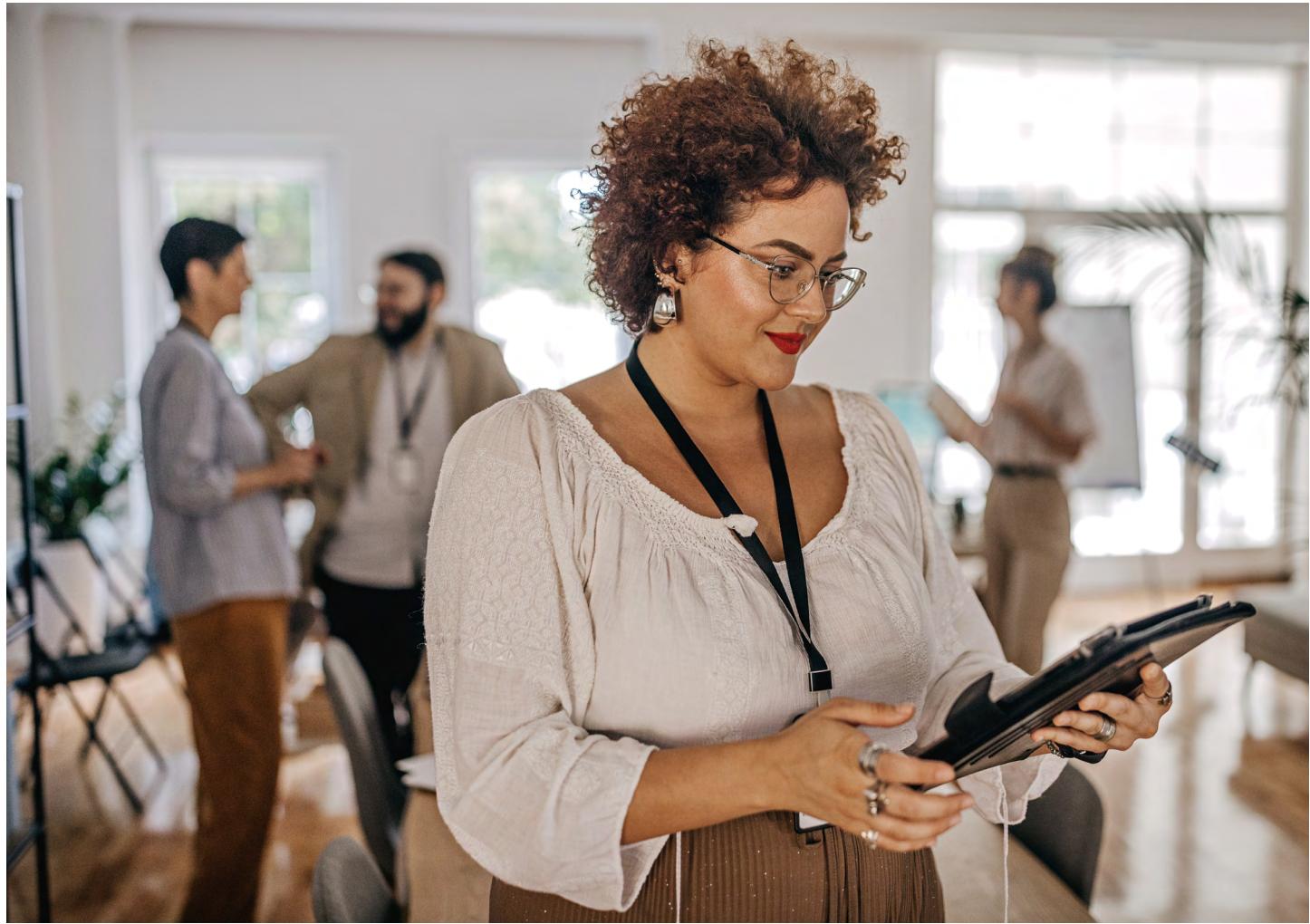
Figure 24: The evolution of ABAP – from classic ABAP to ABAP Cloud

Highlights of the ABAP platform include:

- ABAP Cloud development model to build cloud-ready business apps, services, and extensions that are compliant with the clean core principles
- Cloud-optimized, declarative, and expression-oriented ABAP programming language for simplified and concise ABAP code through inline declarations, constructor expressions, and advanced table operations
- Advanced data modeling, analytical capabilities, and simplified usage of powerful native capabilities in SAP HANA using core data services and database procedures and functions managed by ABAP

- [ABAP RESTful Application Programming Model](#) to efficiently build cloud-ready transactional business apps, services, and extensions
- [ABAP Development Tools for Eclipse](#) as a modern, mature, integrated development environment for all kinds of development tasks based on ABAP
- Efficient quality assurance tools supporting custom-code migration to SAP S/4HANA and clean core extensibility with ABAP Cloud
- One common extensibility model, including key user extensibility, on-stack developer extensibility, and side-by-side extensibility options, for SAP S/4HANA editions using ABAP Cloud

Learn more about the development of ABAP on [SAP Community](#).



Applying the power of SAP BTP

SAP Business Technology Platform is SAP's strategic development, innovation, and integration platform. SAP BTP brings together data and analytics, artificial intelligence, application development, automation, and integration in one unified environment. It is also the only platform where your team can leverage existing ABAP skills along with Java, node.js, and other technologies.

SAP BTP brings a wide set of services designed for enterprise applications. These are offered in a number of data centers from several infrastructure providers around the world. You can choose the locations for your accounts according to your company's compliance policy. Moreover, you can choose between a subscription-based license model with a predefined set of services and a consumption-based license model for flexible consumption of services on a pay-as-you-go basis. You can use SAP BTP for your move to SAP S/4HANA in the following ways.

Integration

You can create and operate highly integrated side-by-side solution extensions or individualize your business without harming the stable application core. To enable integration with SAP S/4HANA:

- Use SAP Integration Suite as the integration layer for on-premise-to-cloud and cloud-to-cloud integration.
- Use standard prepackaged integration content for SAP and third-party system integration. SAP Integration Suite provides more than 1,100 integration scenarios including government, business-to-business, and third-party software integration.
- Use the Open Connectors capability for tight integration with more than 160 third-party cloud applications.



Extension

To keep your core clean, you can create and operate highly integrated, side-by-side solution extensions. This allows you to individualize your business processes without harming the stable application core. To create extensions:

- Use SAP BTP to help keep your core clean and reinforce the associated policies. Use released APIs and avoid native access to nonpublic APIs. This will pay off in future upgrades.
- Check [SAP Store](#) for SAP solutions and the [SAP Certified Solutions Directory mobile app](#) for available partner solutions.
- Use SAP BTP, ABAP environment to leverage the ABAP skills of your development team.
- Rely on the wider developer community to build Java or node.js applications and extensions. Make sure you use the SAP S/4HANA Cloud software development kit and the API Management capability.
- Use SAP BTP as a central platform for extending SAP products (whether SAP S/4HANA, SAP SuccessFactors solutions, or others).

Use **artificial intelligence** to drive decisions based on data as well as:

- Predict, manage, and run your business faster and smarter with relevant, reliable, responsible AI infused onto your SAP applications.
- Build and deploy context-aware applications that use generative AI and securely connect to vital business data.

- Use built-in AI models to establish self-learning programs and intelligent business processes to realize your goal of becoming an intelligent, sustainable enterprise.
- Start with AI Foundation on SAP BTP, SAP's all-in-one AI toolkit to help you achieve data and process harmonization and go through a digital transformation with ready-to-use, customizable business data.

Innovation

To support innovation, consider the following:

- Use SAP BTP to quickly create minimum viable products and proof-of-concept apps for your business. Connecting these “playground” accounts to systems with test data will help convince your business.
- Combine the platform’s mobile services and intelligent technologies with third-party data and services from our partner ecosystem to quickly create new apps.

Make the right connections

Whichever use case you decide to start with, connect SAP BTP to your SAP S/4HANA software landscape (on premise or in the cloud) and your identity provider. This is essential for side-by-side extensibility and will help make your innovative apps truly productive from day one.

To explore what other customers have done with SAP BTP and get inspiration for your own new apps, visit the [SAP Discovery Center](#) site.

Pertinent hardware planning

Pertinent hardware planning must factor in these aspects:

- Regular annual data-volume growth
- Business growth
- New system functionality
- Data-volume reduction

Regular annual data-volume growth

Think ahead and plan your resources for the next three to four years. Use the current system statistics to estimate the regular annual data-volume growth.

Business growth

Understand your business's plans for the next few years and the implied requirements for the needed resources. Take into account planned mergers and acquisitions and understand the associated postmerger integration plans. Estimate how these new business entities will increase system workload and expected volume of master or transactional data.

New system functionality

Review other projects in your portfolio that plan to introduce new functionality and estimate the associated system workload and data footprint. Consult the solution architects who assess simplification items to understand the impact on your solution landscape. Pay close attention to the functionality that will be reintegrated from other solutions, such as the SAP Advanced Planning and Optimization component or stand-alone warehouse management systems, into SAP S/4HANA.

Estimate the workload and data footprint of planned major custom developments. Pay special attention to core data services views or any analytical workload.

Data-volume reduction

The following two tasks can help you reduce your data footprint and, hence, the memory size of your SAP HANA database server:

- Archive your old data and do housekeeping. According to practitioners, you can reduce the data volume in ERP significantly. Start with the "SAP_BASIS" tables, as they are often among the largest tables in a system. Make sure these tables are archived or reorganized regularly.
- Delete obsolete tables after the conversion. Use the obsolete data handling tool in SAP S/4HANA for this.

Here is some practical advice:

- Sizing has to be done for both the database server and the application servers individually.
- There is no fixed CPU-to-RAM ratio for SAP HANA; you must size both parameters individually.
- Use SAP Readiness Check for SAP S/4HANA to get a sizing report for the database server. Enrich the results with the above considerations.
- Use the QuickSizer tool for new embedded functionality in SAP S/4HANA, such as SAP Transportation Management or the SAP Business Planning and Consolidation application. The tool can also be used for SAP S/4HANA Cloud Private Edition.
- Use QuickSizer to estimate the additional analytical load from SAP Fiori apps.
- Repeat hardware sizing several times during the project.

Performance testing

System performance is one of the project's go/no-go criteria and thus must be managed rigorously. As a matter of fact, a volume test remains the only way to ascertain whether the solution is ready for productive load. However, performance and volume tests deliver a reliable result only when constructed and executed diligently – that is, with an appropriate scope and correct measurements on hardware identical to that of the production system and with production-like data in terms of volume and quality to recreate a production-like system load.

Here are the most essential lessons learned from the volume and performance tests conducted for some of the largest SAP systems:

- It's important to involve business users well in advance to agree on the objectives, scope, and sign-off criteria of the performance test.
- Experience shows that the root causes of 60% of performance issues reside in custom code, especially in complex views of core data services. Find more information regarding these views in the [CDS View Performance Best Practices blog series](#).
- You can activate SQL monitor in the system from the moment it is handed over to the project. Having its data readily available will help your team resolve reported issues in a timely manner.
- Regardless of the deployment option, a single-execution performance test for most business-critical transactions and activated SAP Fiori apps can be performed. Work with key users to identify the most business-critical transactions to include in the scope of the performance test.
- It's wise to plan for sufficient time in the course of the project for both the test and the optimization. Don't assume the results of the first performance test will fully meet your expectations.
- Performance of SAP Fiori apps is a result of an interplay of multiple technology components: the app itself, network infrastructure, front-end OS, and web browser. It is worth testing the performance of SAP Fiori apps from different physical locations.
- Constructing a day-in-the-life test – that is, a test to recreate a typical system load – is extremely difficult and may not be achievable with given resource constraints. However, in practice, you can compose a good load mix through a combination of:
 - Main load drivers – that is, programs or transactions consuming the largest share of both CPU and database time. You can easily identify these through the system's statistics.
 - Most time-critical business process steps – that is, the transactions and reports with variants that should be completed within a given time frame on a given data volume
 - Other applications that business teams deem critical for performance

Treat the volume and performance test as a full-fledged project and consider involving an experienced partner. Think of it as a litmus test for your project. Most of the time, you can predict the project outcome just by examining the performance test setup.

Manage your RICEFW

As you might be familiar with from the 1990s, the acronym RICEFW stands for “Reports, Interfaces, Conversions, Extensions, Forms, and Workflows.” Regardless of the transition scenario, these need to be managed meticulously, just as they needed to be for migrations to SAP R/3 software or SAP ERP.

It’s important that you develop an early understanding of the full scope of RICEFW objects in your current system. Catalog them and track

which ones require adjustment or replacement, which ones are outdated and can be deleted, and which ones are new. Make sure that you don’t underestimate the importance of this task while dealing with simplification items and conversion activities. Neglecting it will result in a failure of the first integration test and user frustration.

When categorizing RICEFW, consider the new technological options in the [table on the next page](#) and leverage these for either new developments or ones that require considerable rework.



Traditional RICEFW versus new technologies

Traditional RICEFW	New technology
Reports (analytics)	<ul style="list-style-type: none"> Real-time analytics and KPI tiles with SAP Smart Business cockpits and drill-down analysis with the Analysis Path Framework service in SAP S/4HANA embedded analytics Custom analytical application with multidimensional reporting in SAP S/4HANA Other SAP Fiori apps, such as “Overview Pages” and “Analytical List Pages” SAP Analytics Cloud
Reports (automation)	<ul style="list-style-type: none"> SAP Intelligent Robotic Process Automation services
Reports (applications)	<ul style="list-style-type: none"> Custom applications on SAP BTP with SAP Business Application Studio, and the SAP Build Apps tool, integrated with the core through open APIs and event brokering using the SAP Event Mesh capability Custom extensions of SAP S/4HANA (any deployment) using developer extensibility, decoupled from the core through open APIs
Interfaces	<ul style="list-style-type: none"> Extension of standard OData services or creation of new ones based on custom core data services views with key user extensibility in SAP S/4HANA SAP Integration Suite SAP Application Interface Framework tool (part of SAP S/4HANA) Event brokering using SAP Event Mesh
Conversions	SAP Integration Suite, SAP Cloud Integration service for data services
Enhancements	Custom business logic with key user and developer extensibility in SAP S/4HANA
Workflows	<ul style="list-style-type: none"> Flexible workflow in SAP S/4HANA SAP Workflow Management service
Forms	Output management of SAP S/4HANA: custom forms with Adobe LiveCycle Designer with OData as a data source
Custom tables	Custom business objects with generated UI with in-app extensibility in SAP S/4HANA
Modifications	You shouldn't have to make any; key user extensibility in SAP S/4HANA covers a wide range of business requirements for UI adaptation and business logic
User interface	SAP Fiori and SAPUI5
Performance	Code pushdown in SAP HANA

Curate your customer and vendor master data

Implementing the business partner data model

A system conversion requires you to implement the business partner data model in SAP ERP prior to the transition to SAP S/4HANA. However, the well-known customer and vendor master data structures are still available in SAP S/4HANA and continue to be used in sales, logistics, and financial transactions.

There are high-quality standards on master data in SAP S/4HANA, and they are met through an extended set of check rules. You need to correct technical inconsistencies found by these checks, regardless of the transition scenario. It's important that you curate your master data before, and not during, the project.

For systems with high amounts of master data and quality issues accumulated over decades, this may take considerable effort. Be sure to assign a team lead and charge them with the preparation and execution of these tasks:

- Archive unnecessary master data records, such as those pertaining to inactive customers and vendors.
- Identify and eliminate duplicates.
- Standardize the master data.
- Extend the master data records with fields that are relevant for SAP S/4HANA.

- Learn from business users how they employ customer and vendor account groups and use this information to guide the design of the business partner data model.
- Discuss the new number ranges with business users to allow enough time to agree on a new concept.
- Document the business partner concept, including the current usage of account groups mapped to business partner groupings.
- Consult this [FAQ](#) and [cookbook](#) on customer vendor integration. The cookbook offers a step-by-step guide, including options for implementation activities.
- Employ CVI_COCKPIT to guide you through the implementation process. Read this [blog post](#) to find out how it can help you.
- Use CVI analysis offered as part of SAP Readiness Check (see [Figure 25](#)).

Cleaning address data

Errors in customer and vendor address data are a common issue. Integration between the master data consistency check report and SAP Data Quality Management, microservices for location data can help by automatically finding a correct postal address and proposing the correction. See this comprehensive [blog post](#) for more information.

Customer Vendor Integration Analysis

Analysis: Readiness Check for SAP S/4HANA 2023

Business Partner Status:	CVI Status:	Data Synchronization:	Total Number of Data Quality Issues:	Total Number of Business Partner Master Records:	Synchronization Issues:
Used	Active	Issues Found	33,987	29,165	21,233

Customers **Vendors** **Integration**

Data Volume

All customers, vendors, and contact persons must be synchronized with Business Partner entities. The current record count in the respective tables may differ if records were added or removed after the data collection.

Count of customer master records (KNA1)	19,824
Thereof synchronized to a business partner (CVI_CUST_LINK)	837
Count of defined contact persons (KNVK-KUNNR)	16,734
Thereof synchronized to a business partner (CVI_CUST_CT_LINK)	364

Consider merging pairs of customers and vendors referencing each other to the same business partner legal entity.

Vendor master records referencing customer master records (LFA1- KUNNR)	74
Customer master records referencing vendor master records (KNA1- LIFNR)	81

Data Quality

Your master data records have been evaluated for the most common issues. This is an aggregated view only; the actual records are not loaded due to the data privacy policy. To see individual issues and to access the corresponding records, use the CVI_PRECHK transaction in your SAP ERP system (SAP Note 2743494).

By Impact Type

Impact Type	Count
Number range	16,261
Tax jurisdiction	14,667
Industry	998
Tax code	30
Email	13
Postal code	7
Transportation zone	6
Address	0
Bank	0

Check Type Detail (31,982)

Check Type	Data Quality Issues Found	Description
Number range	16,261	The numbers are checked by verifying whether they are within the current number range interval, which is defined in the respective account group.
Tax jurisdiction	14,667	The combination of countries/regions, state, county, city, and ZIP code in the address data is checked by verifying that the combination corresponds to a valid tax jurisdiction.
Industry	998	The Industry field is checked against the standard industry types that are defined in the table TB038.
Tax code	30	The tax fields STCD1 to STCD5 are checked against the rules defined in the Countries/Regions table (T005). The tax type is also checked against the TFKTAXNUMTYPE_C table.
Email	13	The email is checked by verifying that the format is correct (for example, @ is part of the email address and only allowed characters are used).
Postal code	7	The format of the postal code is checked against the customizing in the table ADDR_PCDFORMAT.
Transportation zone	6	The transportation zone is checked against records in table TZONE. The value is checked by verifying that it is not empty (if defined as mandatory in the configuration).
Address	0	Issues reported by checks in this category include invalid entries for countries/regions, district, or street. In addition, reported issues identify invalid combinations of postal code and city or PO box, a missing PO box, and so on. The checks are performed against the customizing settings in the Countries/Regions table (T005).
Bank	0	Countries/regions, number, and account number of banks are checked against the bank master customizing (table BNKA).

Custom Fields

To use the custom fields identified below, in the future, with Business Partner, you need to enhance the Business Partner user interface by using Business Data Toolset (BDT).

Items (6)			
Table	Description	Append Structures	Custom Fields
KNA1	General data in customer master records	0	0
KNB1	Company code data in customer master records	0	0
KNBK	Bank details of customer master records	0	0
KNVK	Contact person for customers and vendors	0	0
KNVP	Partner functions	0	0
KNVV	Sales area data	0	0

Figure 25: CVI analysis in SAP Readiness Check for SAP S/4HANA

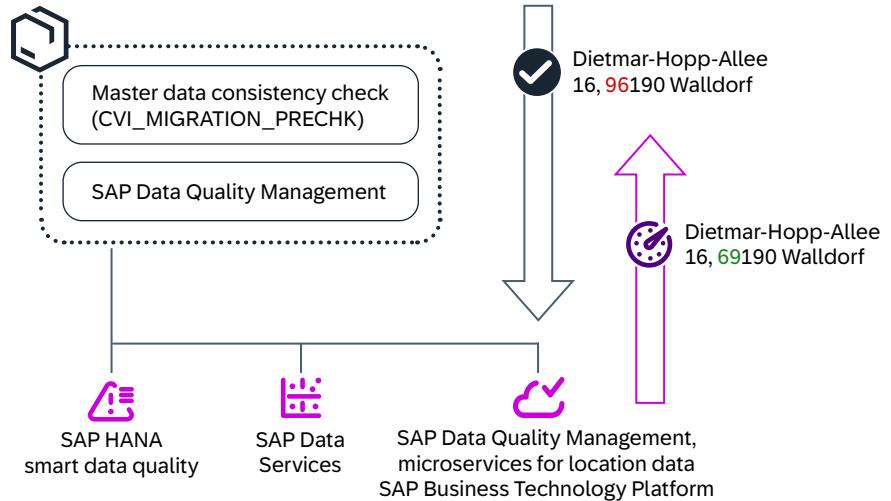


Figure 26: Cleanse your address data with SAP Data Quality Management, microservices for location data

Sustaining the quality of your master data

Last but not least, consider implementing the SAP Master Data Governance application, as it helps you to not only curate the master data but also keep it in good shape. Corrupt or incomplete master data causes disruptions to business processes and errors in analytical applications.

SAP Master Data Governance supports you with these four functions:

- Central governance: The solution takes control over master data creation and updates it as it employs a set of staging tables and workflows to enforce relevant quality checks.
- Mass processing: This offers a guided process for applying mass changes with data selection, quality checks, approval, and change activation.
- Consolidation: When the master data is created at several sources without a common set of quality checks and duplicates have potentially been created, the application helps you standardize the records and consolidate each group of duplicates to a logical best record.

- Data quality management² (embedded): You can define data quality rules and use analytical reports to assess the quality of your master data. Correction of the discovered quality issues can be triggered through workflows or mass changes.

SAP Master Data Governance is optimized for SAP S/4HANA and is part of its software stack; however, an additional license is required for use. The application allows implementation of the above concepts for different master data types in phases, for instance, starting with the business partner and proceeding with materials and equipment. Likewise, you can work out a phased plan for connecting other SAP and third-party systems to SAP Master Data Governance.

Learn more about the centralized and distributed deployment variants in this [document](#).

2. Do not confuse this with the add-on for SAP ERP.

Part three

Essential tools from SAP

Key takeaways

Each transformation runs through several phases, with all of them focusing on specific objectives, output, and challenges. To find required assets, services, and tools efficiently, we list and describe them along the journey:

- Gain access and insights – Conduct preparation and analysis for the customer transformation journey.
- Make decisions – Finalize the transformation journey through derived conclusions.
- Extract, transform, and load – Execute the transformation journey.

- Confirm correctness – Validate the target state of the transformation journey.
- Governance and run – Monitor and manage the transformation journey.

The following paragraphs focus on tools from SAP, but we would like to emphasize that our partner ecosystem offers a wide range of complementary tools. Ways to find suitable partners are described in the section “[Leveraging the power of the SAP ecosystem and partners](#).”

Gain access and insights

Every transformation starts with a clear understanding of the current status quo. By accessing the source system and analyzing its current data, analytical insights can be gained. This data provides information such as overall system health, application domains, and business processes in use. By presenting actionable insights, customers gain a comprehensive understanding of their data and can make informed decisions that align with their business objectives.

In the SAP Activate methodology, the “Access and Insights” step is typically positioned in conjunction with the “Discover and Prepare” phase. It is considered the initial phase of the project and lays the foundation for the rest of the implementation process. The results of this step help to establish a common understanding of project goals, timeline, and resource requirements. The step also helps identify potential risks and challenges that may arise during implementation.



SAP Readiness Check for SAP S/4HANA

SAP Readiness Check for SAP S/4HANA helps you perform functional and technical assessments of SAP ERP before a planned conversion to SAP S/4HANA. The tool helps identify required preparations and possible preprojects well before the transition project starts, and it enables

you to understand respective implications. This early insight means that you can scope and plan your transition project with a higher degree of accuracy. In addition, it identifies improvement opportunities based on system usage and current business processes.

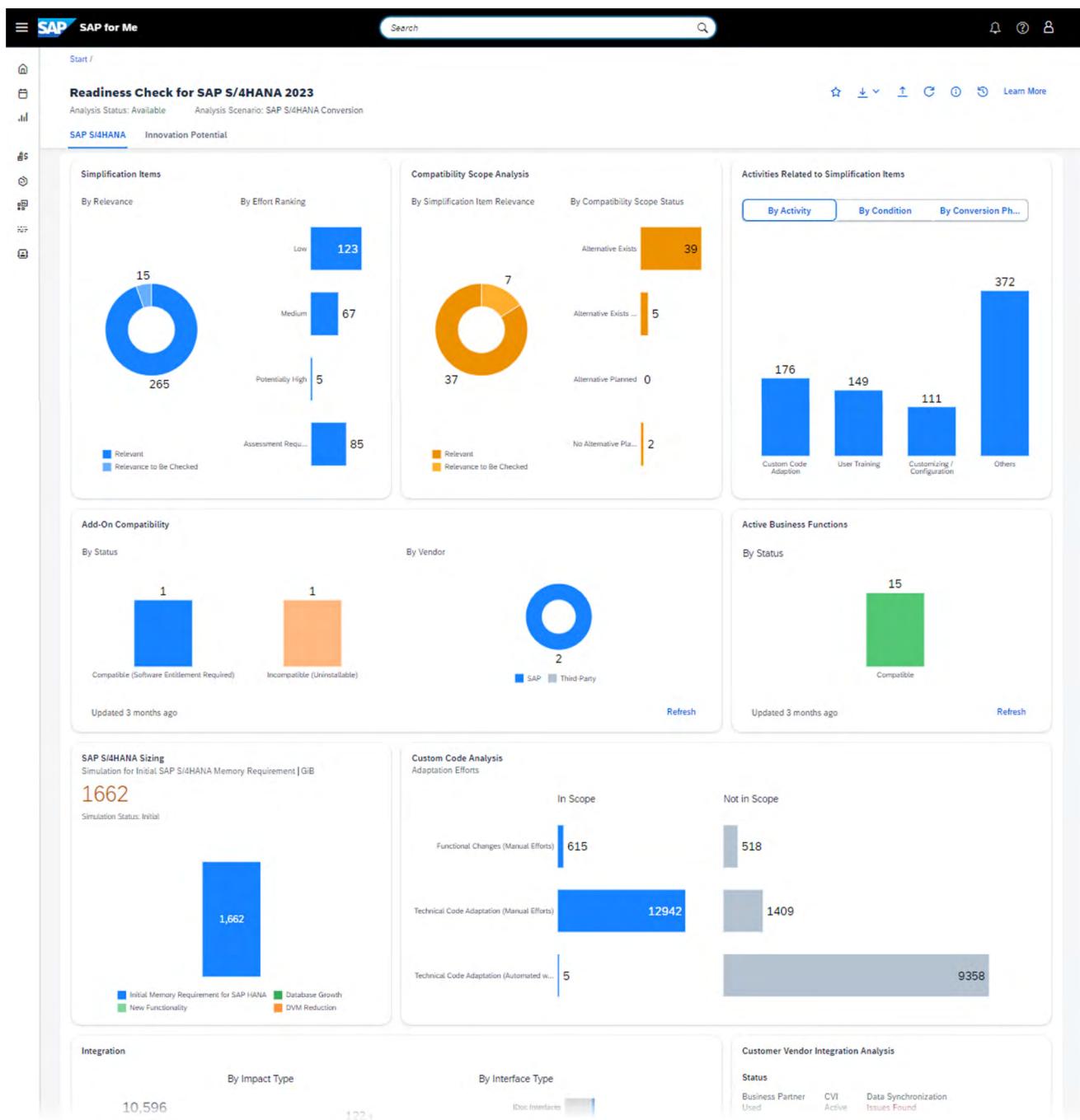


Figure 27: Dashboard view in SAP Readiness Check for SAP S/4HANA

Core functional assessments include identifying relevant **simplification items** (with a ranking of the amount of effort you might expect to face when implementing the associated changes),

analysis of the **financial data quality** in preparation for the financial data model change, and an evaluation of **customer and vendor master data** in preparation for the transformation to business partners.

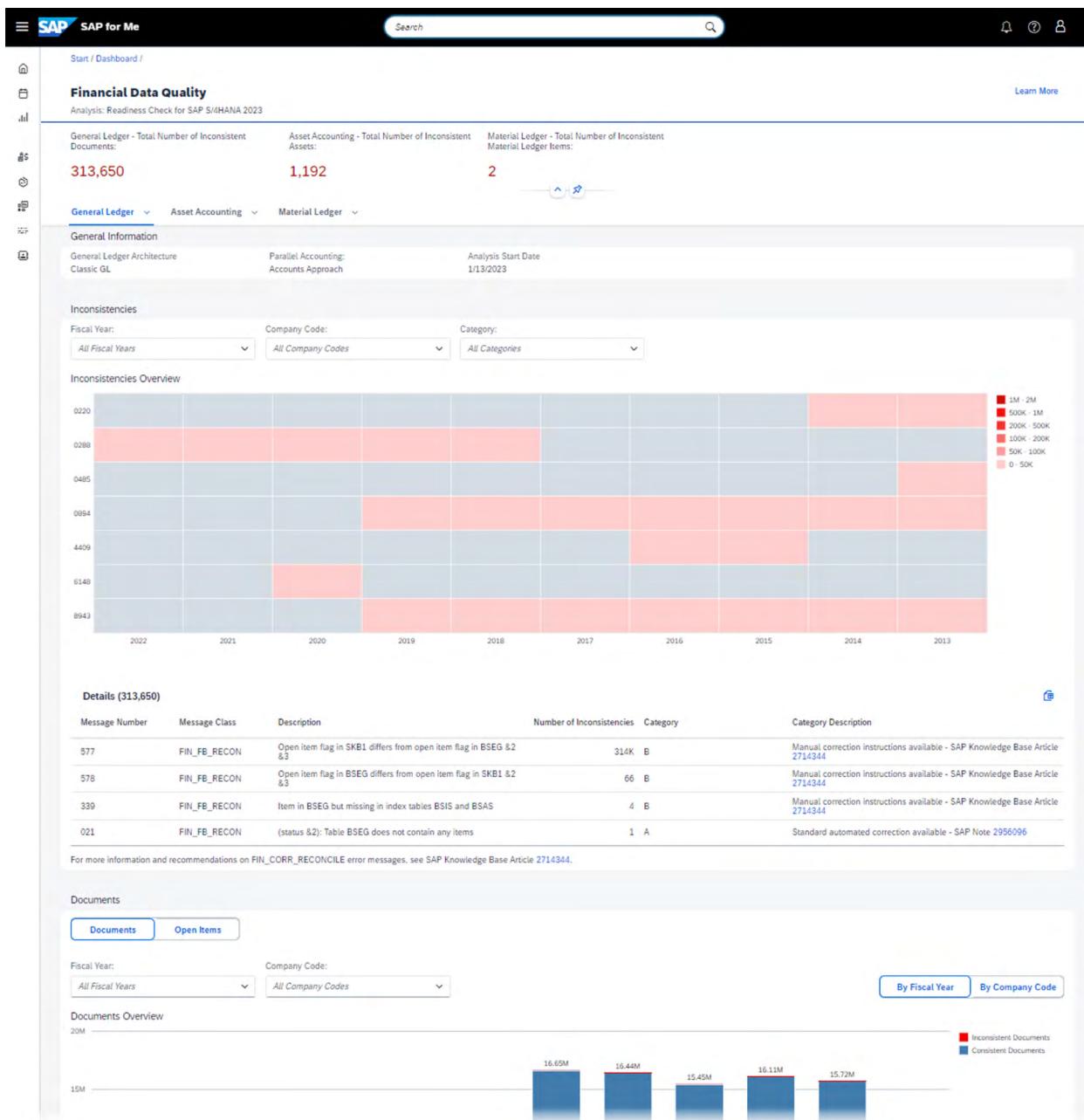


Figure 28: Financial data quality – detail view of the general ledger

The compatibility scope analysis indicates which compatibility packages are used in the analyzed systems to assist in planning the migration to alternative successor solutions before the compatibility package usage rights expire (2025 or 2030, depending on the compatibility package).

Additional functional assessments include a business process discovery evaluation that indicates whether current business processes can be improved, insights about recommended SAP Fiori apps that provide enhancement opportunities based on the system's current transactional load, and an overview of innovation potential.

Technical assessments include add-on compatibility analysis, evaluation of active business functions, sizing projection of SAP S/4HANA, custom-code analysis, integration compatibility for interfaces, downtime insights with the planned downtime calculator, and app availability classification. The app availability analysis highlights apps in the source system using various UI technology types (SAP GUI, Web Dynpro, and SAP Fiori), which will be deprecated, unavailable, or available with a successor in the target release of SAP S/4HANA.

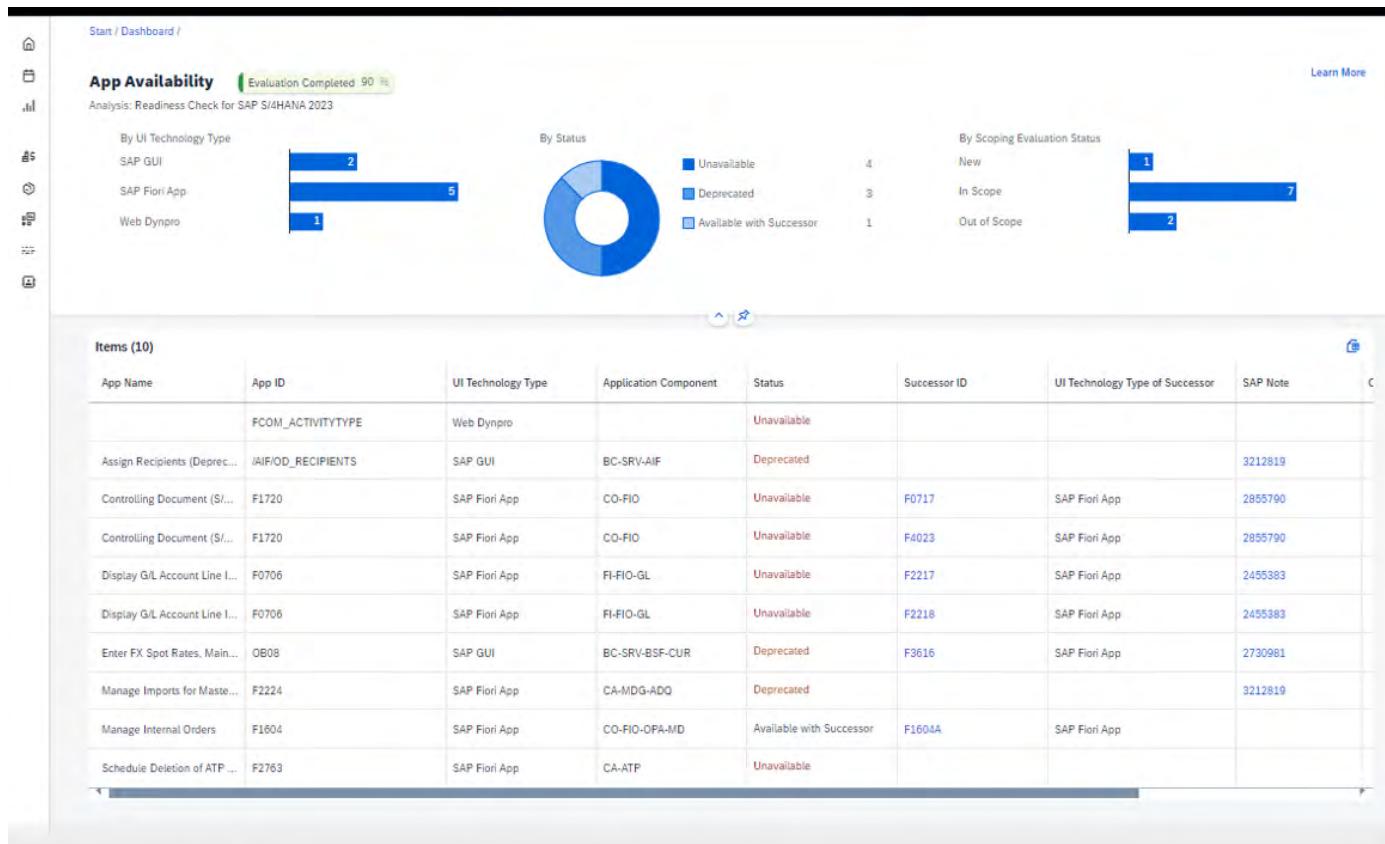


Figure 29: Detail view of app availability

Options for generating and viewing SAP Readiness Check results

SAP Readiness Check is available for customers with an active SAP maintenance contract and is [accessible through SAP for Me](#). Alternatively, customers with a provisioned tenant for SAP Cloud ALM can generate and view their SAP Readiness Check results within their tenant. When using SAP Readiness Check on SAP Cloud ALM, we offer enhanced task integration with project management in SAP Cloud ALM through the integration app for SAP Readiness Check. When using SAP Readiness Check on SAP for Me, tasks can still be generated and uploaded to SAP Cloud ALM using a manual download and upload process.

Timing and frequency for running SAP Readiness Check for SAP S/4HANA

We recommend running SAP Readiness Check for SAP S/4HANA in your production system early in the transformation project (the “Discover” phase or early on in the “Prepare” phase) to get a list of relevant simplification items and other insights that would otherwise stop the conversion process. This will help you identify the impact on your business processes and give you sufficient time to act.

We also recommend updating the analysis from SAP Readiness Check as the project progresses to track the progress of required activities, for example, monitoring the financial data quality cleanup activities, the customer-vendor integration process, or the refinement of relevant simplification items.

In addition, it is insightful to analyze each system in the transport landscape undergoing the conversion process, as each system will have unique aspects to consider. For instance, the volume of

financial data in a test system may require more effort to remediate than production, due to the number of clients in the system. Similarly, the interfaces could be more complex in a testing environment due to landscape requirements.

Scenarios for SAP Readiness Check

While SAP Readiness Check for SAP S/4HANA has been available since 2019, used by our customers and partners to generate over 50,000 analyses, and continually enhanced, SAP Readiness Check supports other SAP solutions and transformation scenarios. This includes the move from SAP ERP HCM to SAP SuccessFactors solutions, SAP BW to SAP BW/4HANA, SAP CRM to SAP Customer Experience solutions, SAP Solution Manager to SAP Cloud ALM, and the move to SAP Datasphere, SAP BW bridge.

We also offer SAP Readiness Check for SAP S/4HANA upgrades to prepare and plan the upgrade to a new SAP S/4HANA release. We offer SAP Readiness Check for SAP ERP usage and data profiling for those who have yet to decide on the approach (new implementation, system conversion, or selective data transition) they will take to move to SAP S/4HANA. This scenario provides detailed insights into the existing SAP ERP to help determine the best transformation approach. The data collector archive generated by SAP Readiness Check for SAP ERP usage and data profiling can also be used as input to SAP Business Transformation Center for SDT projects.

Additional information

For more information on SAP Readiness Check for SAP S/4HANA and our other supported transformation scenarios, visit us [online](#).

To stay informed on new and updated capabilities, join our community [online](#).

Custom Code Migration app

The Custom Code Migration app is SAP's recommended tool to assess the impact of custom code during your conversion to SAP S/4HANA. The app is technically based on the remote ABAP test cockpit. It can perform SAP S/4HANA-specific checks for your ABAP-based custom code and provides detailed analysis results with comprehensive filtering and navigation capabilities that can help you understand the impact on the custom code and structure your work accordingly (see Figure 30 and this [blog post](#)). The app also helps you identify unused custom code upon system conversion based on the code execution statistics (usage data) collected directly from the SAP ERP production system. To benefit from this feature, SAP advises that you activate the ABAP

Call Monitor (SCMON transaction) and data aggregation (SUSG transaction) in the SAP ERP production system and start collecting usage data as soon as possible (see this [blog post](#)). Based on the uploaded usage data in the Custom Code Migration app, you can either delete the custom code that has not been executed in the monitored time period during the conversion or back it up. The analysis results from SAP S/4HANA should be used as a basis for all custom-code adaptation activities.

We recommend that you run the Custom Code Migration app out of the sandbox once it has been converted to SAP S/4HANA.

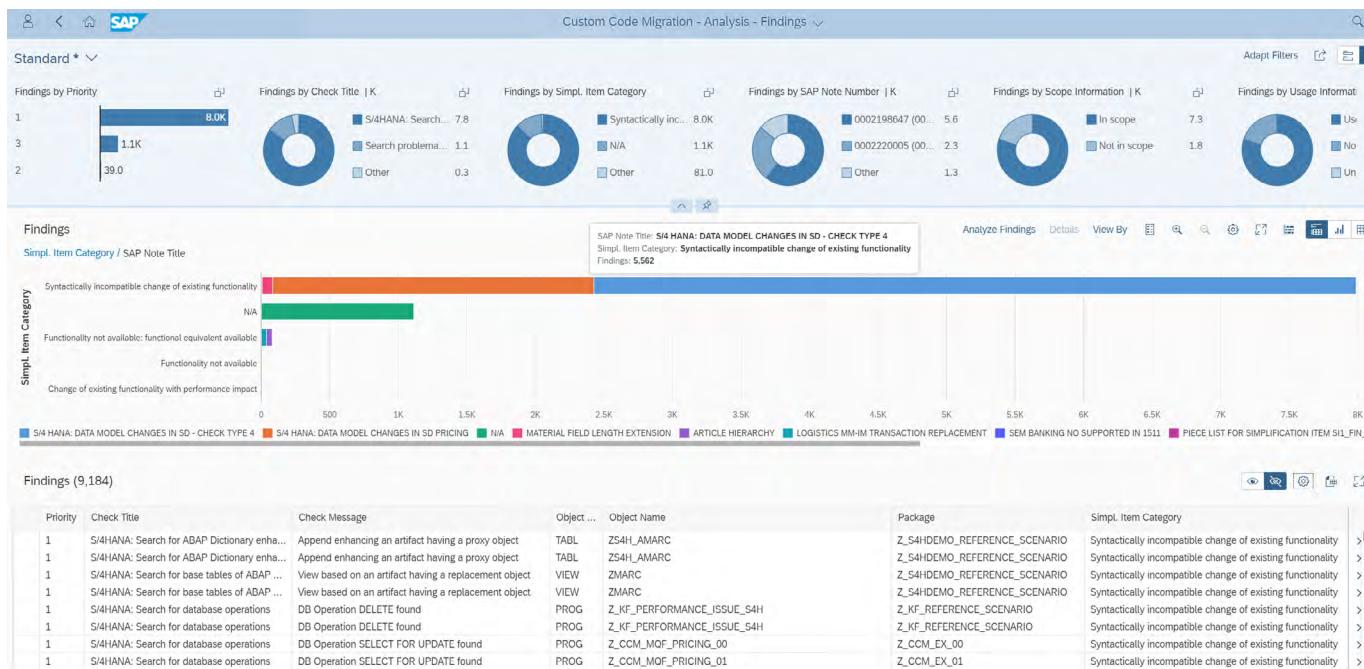


Figure 30: Custom Code Migration app

The Custom Code Migration app is also available on SAP BTP, ABAP environment. With this option, you can perform analysis of custom code for SAP S/4HANA readiness in your on-premise SAP ERP application remotely from the cloud. Besides the common advantages of SaaS offerings, this option helps ensure that you always have the latest custom code checks offered by SAP. For more information on analysis of ABAP custom code using SAP BTP, read this [blog post](#) and discover the [custom code migration mission](#) in SAP Discovery Center. For details on SAP BTP, ABAP environment, visit the [product page](#).

SAP Business Transformation Center

SAP Business Transformation Center provides you with tool-based support within the transition from SAP ECC to SAP S/4HANA Cloud Private Edition. Rather than a new implementation (greenfield) or system conversion (brownfield) approach, a partial transfer of data (selective data transition) is frequently requested for various business reasons. As yet, this hasn't been covered by an SAP standard product answer. It will now be addressed by SAP Business Transformation Center.

Based on existing capabilities in SAP Readiness Check and integrated in SAP Cloud ALM, SAP Business Transformation Center supports your scoping activities of to-be transferred data as part of a selective data transition to SAP S/4HANA.

These profiling and scoping capabilities in SAP ECC are part of the "digital blueprint." Less effort is needed to extract data from SAP ECC because a direct system connection is not required. The result is an XML file uploaded to SAP Business Transformation Center. In the early stages of transition, this provides some benefits quickly.

Once you gain initial insight into the overall usage of your source system, you can take a closer look at your company code data. In addition to general attributes, the data contains assigned organizational units, related transformation objects, and open items from a financial perspective. A yearly data distribution chart is available for many transformation objects.

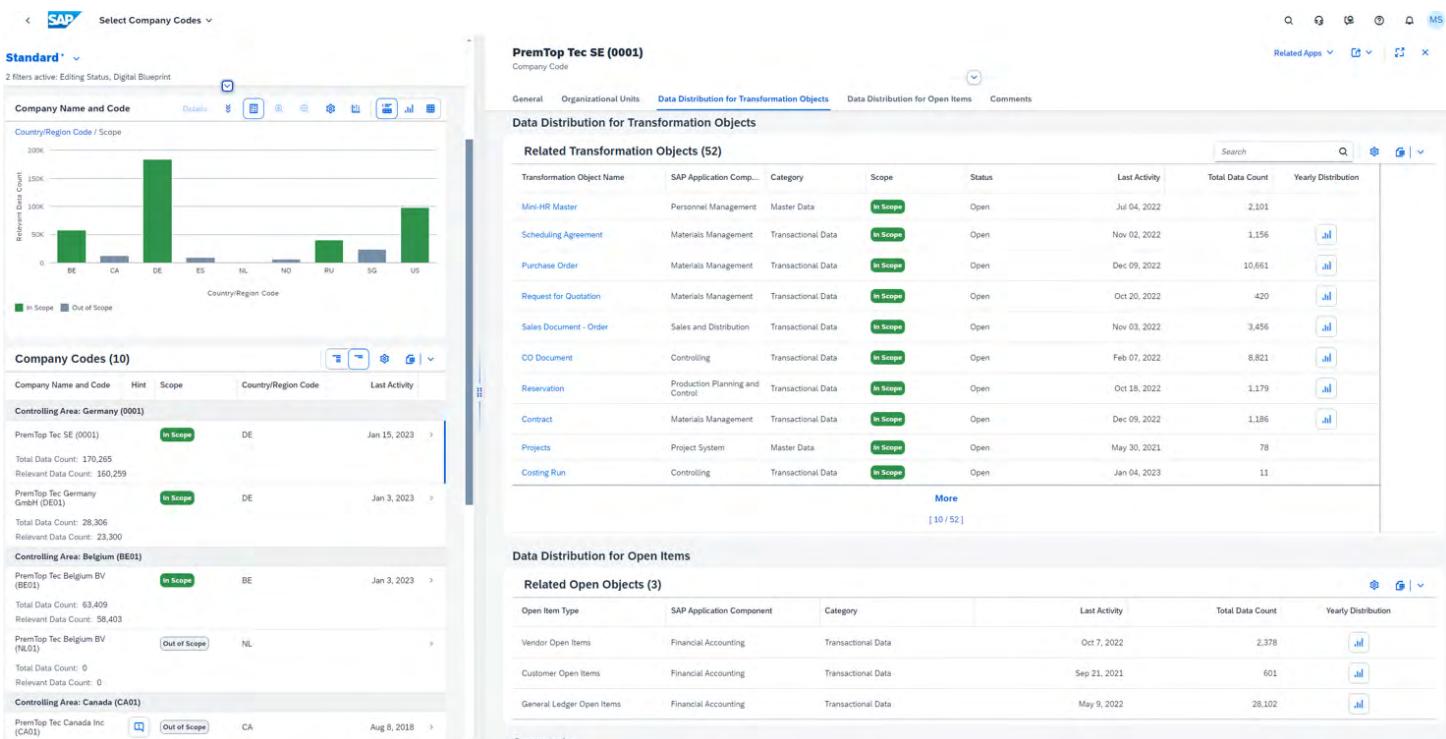


Figure 31: Example of company code data

In addition to standard SAP software objects, customer-specific enhancements can also be part of the profiling and scoping activities. To achieve this, you can perform a table scan on the source system. You can also retrieve existing custom

tables and add them to the digital blueprint. The results of the scoping activities are summarized in the digital blueprint overview, which manifests the scoping decisions and sets a foundation for the subsequent data load in SAP S/4HANA Cloud Private Edition.

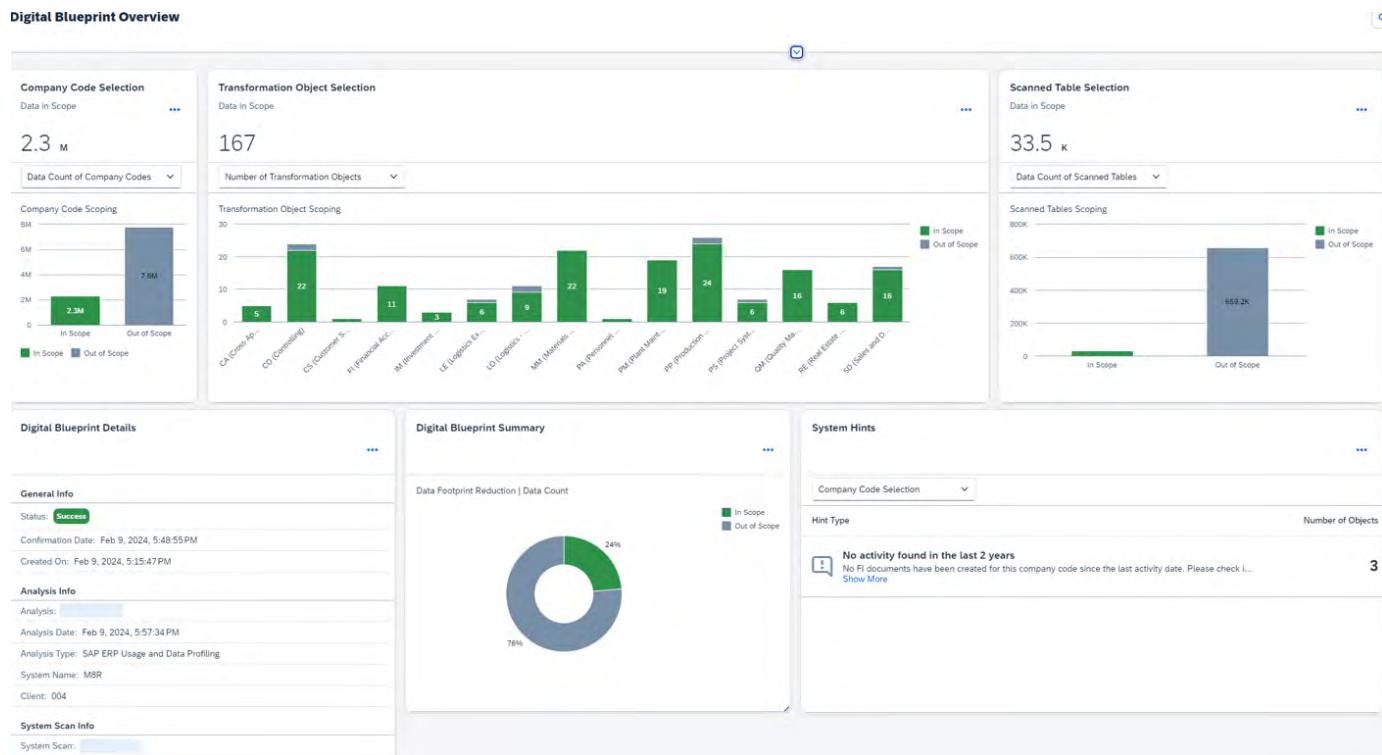


Figure 32: Example of a digital blueprint overview

Further information can be found on [SAP Support Portal](#) and in this [blog post](#).

Maintenance planner

The cloud-based maintenance planner available through [SAP for Me](#) enables you to plan changes in your SAP software landscape intuitively and efficiently. The tool simplifies the maintenance process by combining tasks such as defining product maintenance dependencies, generating configuration stack files, downloading software archives, and many more. The maintenance planner is indispensable for either planning a new SAP S/4HANA system or converting existing SAP ERP to SAP S/4HANA. For more information, visit [SAP Support Portal](#).

Further, the maintenance planner offers an accelerated approach for new implementations as well as system conversions. Combined with SAP Cloud Appliance Library, it is possible to automate most of the target infrastructure setup, depending on the hyperscaler. For more information on this, read this [blog post](#).



SAP Signavio³ Process Insights, discovery edition

SAP Signavio Process Insights, discovery edition is a free tool that helps you build your case for SAP S/4HANA. It shows where SAP S/4HANA can make a difference in your company, thus allowing for a focused discussion between business decision-makers and IT, based on hard facts and measurable business objectives.

This tool analyzes the functional system usage of your SAP ERP application. It then highlights the new or improved functionalities of SAP S/4HANA and other SAP innovations most relevant to your respective lines of business and can help you improve the performance and efficiency of the associated business processes. It includes several capabilities, including one process flow (to be chosen among three available). A process flow is a visualization of process performance along a

coherent journey, with related blockers and lead times (see [Figure 33](#)). There is a selection of process performance indicators, such as degree of automation, process failures, and on-time execution, with details that you can dive into and filter, as well as recommendations to fix identified process issues. These support you in the preparation of your transformation to SAP S/4HANA.

SAP Signavio Process Insights, discovery edition contains two complementary elements:

- A PDF document providing an executive summary targeted at business executives (see [Figure 33](#))
- A cloud-based interactive solution for process analysis (see [Figure 34](#))

Request an analysis of your system and a presentation of the solution [online](#).

3. In March 2021, SAP completed the acquisition of Signavio, a leader in enterprise business process intelligence, process mining, and the process management space. Signavio's products have become part of our business process intelligence portfolio, now renamed "SAP Signavio." Learn more about SAP Signavio [online](#).



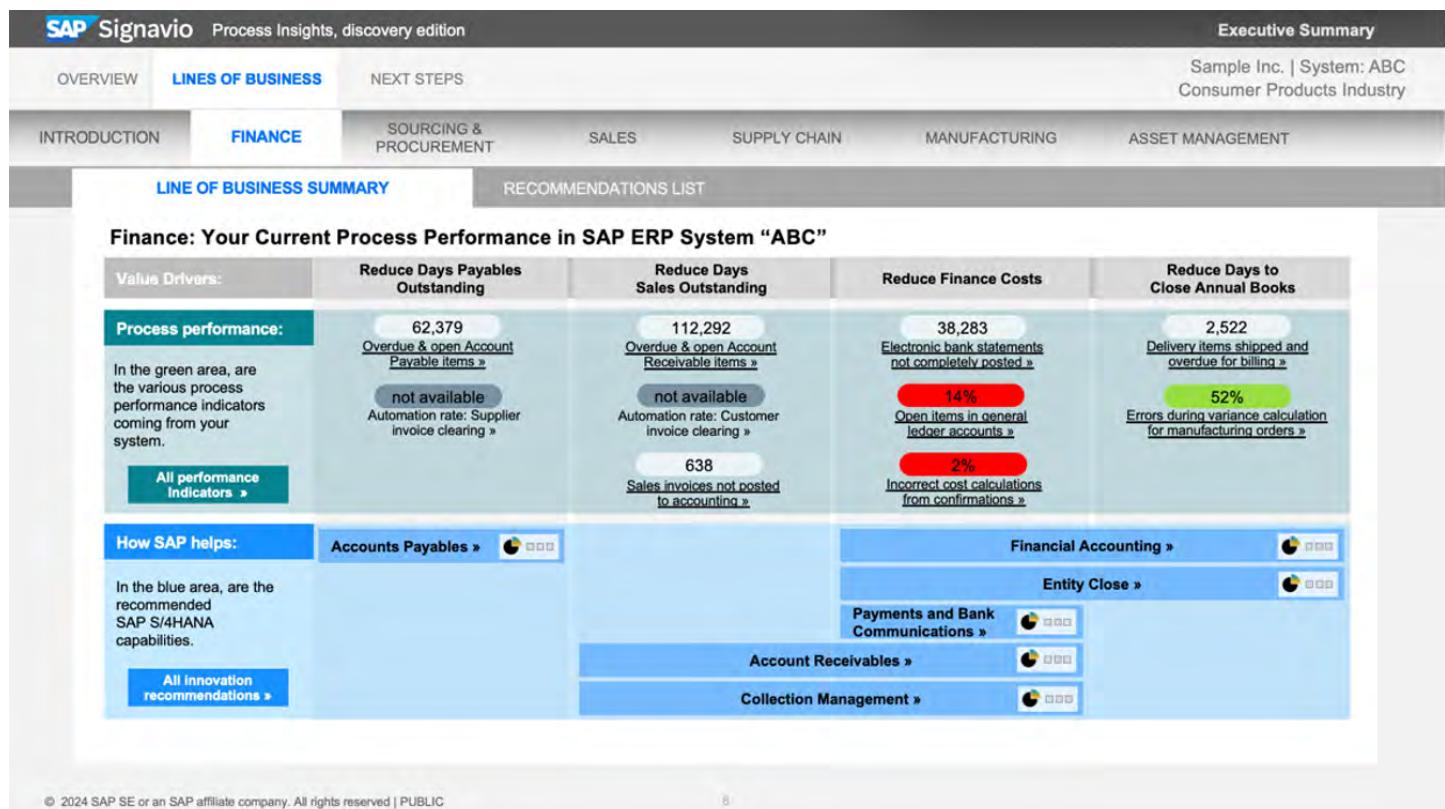


Figure 33: SAP Signavio Process Insights, discovery edition – line-of-business summary for finance

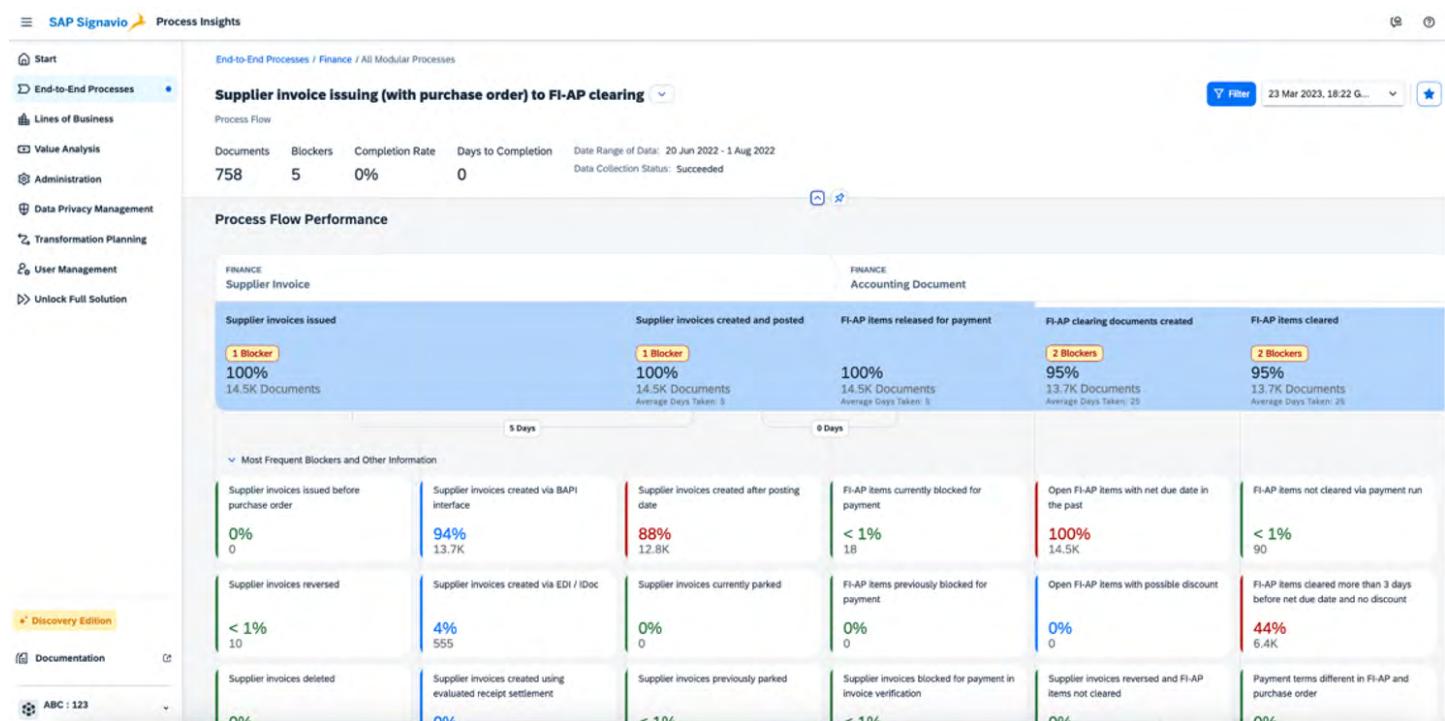


Figure 34: SAP Signavio Process Insights, discovery edition – process view

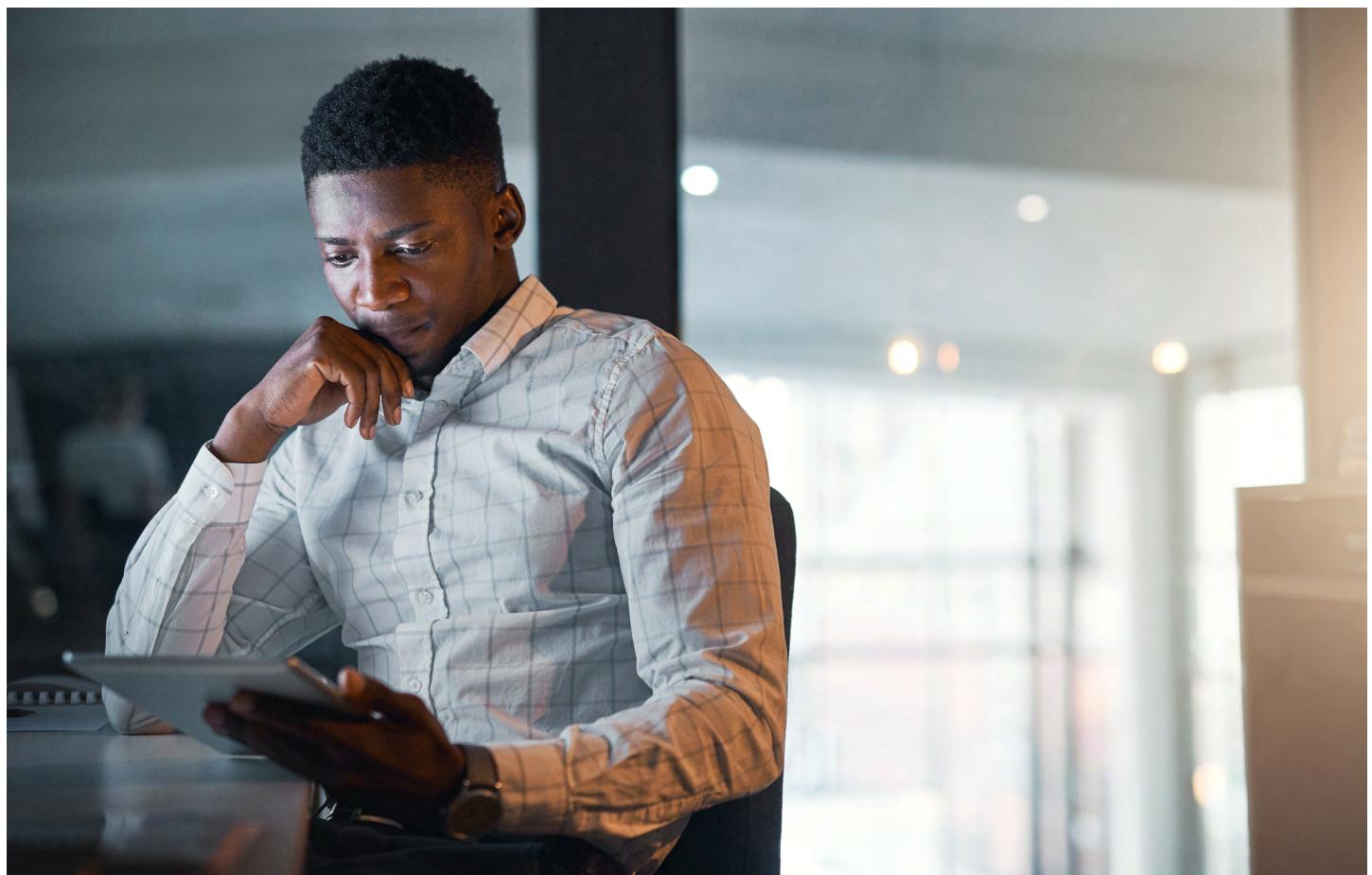
Making decisions

All previously mentioned tools support the process of making the best decision for your transformation journey by providing relevant data.

Accurate and clear data is the basis for making the right decisions. As there is no such thing as a perfect system that has grown over decades, data preparation such as master data consistency or financial document cleansing is the first action to take. Clean data plays a crucial role in later project planning and reduces execution time. It also provides guidance on further steps to be taken, such as relevant simplification list items, identification of obsolete or incompatible custom code, and recommendations for adopting new solutions and technologies. In line with specific business objectives and project circumstances, a

guided assessment of the next steps on the road to transformation sets the stage for smooth execution.

In the SAP Activate methodology, the “Make Decisions” step can be mapped to the “Explore” phase. It focuses on defining the business requirements, understanding available SAP solutions, and developing a high-level project plan. Key deliverables include a project charter, a high-level business process diagram, a high-level project plan, a requirements document, and a fit-gap analysis report. These deliverables provide the foundation for the rest of the implementation project and help you ensure that your project is aligned with business objectives.



Complexity analysis in Custom Code Migration app

Complexity analysis in the Custom Code Migration app helps you identify the top drivers of total cost of ownership in your custom developments for redesign to save on adaptation effort and future maintenance costs. It summarizes the number of

relevant changes in accordance with the complexity of the custom code in the system. The upper-right part of Figure 35 represents the most complex and most frequently changed development packages as candidates for your redesign activities.

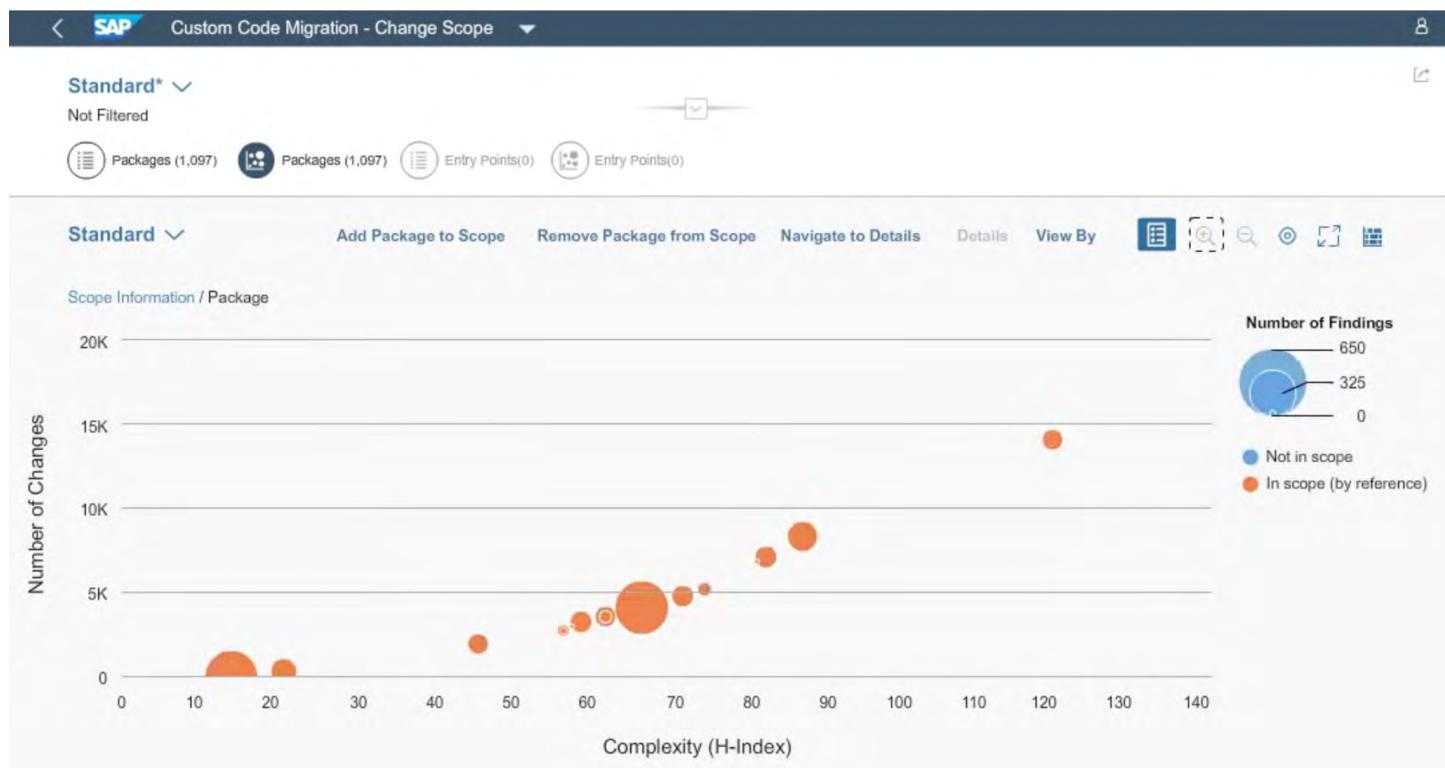


Figure 35: Custom Code Migration app – complexity analysis

We generally recommend that you try to avoid lift and shift and take the time to reduce the scope and complexity of the custom code for SAP S/4HANA. There are a number of procedures to help you do this, for example, removing old and

orphaned business logic, evaluating SAP standard functionality in SAP S/4HANA or partner solutions, or redesigning your custom applications using modern extensibility options in SAP S/4HANA.

SAP Business Transformation Center

To help you prepare, SAP Business Transformation Center supports your decision-making by profiling outstanding payments that can be cleared before a transition. In addition, the actual scoping process is assisted by “system hints.” These indicate

certain data situations that may be considered as guidance for scoping decisions. Consideration is optional and does not necessarily need to be followed.

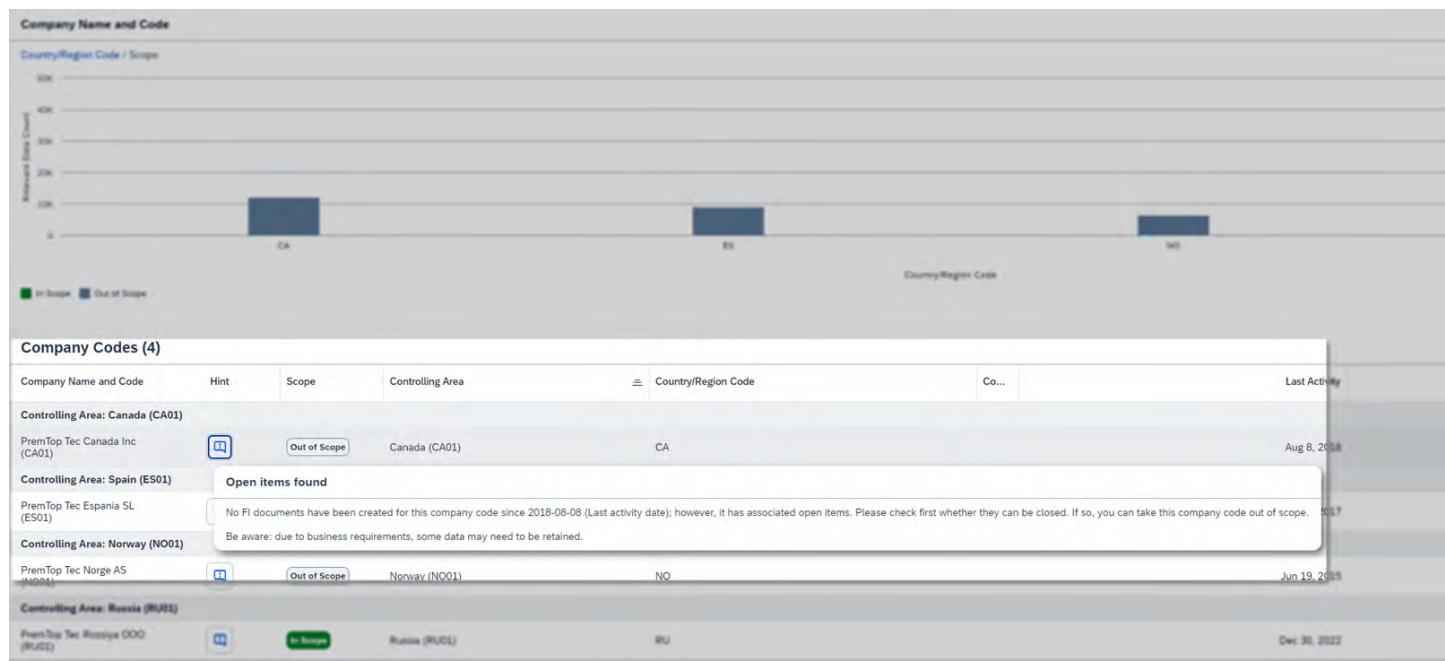


Figure 36: Example of a system hint

Further, providing transparency for the data counts of custom tables, as part of the system scan, supports you in answering the usual questions about whether legacy tables are used at all and can be decommissioned.

SAP Integration Suite and Integration Advisor

SAP Integration Suite is SAP's strategic suite for solution integration across cloud-based and on-premise environments. It provides features such as:

- Core runtime for transactional message exchange, including message processing, transformation, and routing with tenant isolation
- Built-in connectivity support through technology and application adapters (for example, Java Database Connectivity, IDoc, Secure File Transfer Protocol [SFTP], AS2, HTTP, SAP S/4HANA, SAP SuccessFactors solutions, SAP Ariba solutions, and more)
- Predefined integration content as integration packages containing integration flows
- Support for advanced security

The Integration Advisor capability within SAP Integration Suite is unique. It is an intelligent integration content management system

for designing and managing your interface and mapping content, designed to make business-to-business and application-to-application integration simpler than ever before. Through a smart combination of machine learning and crowdsourcing, the capability generates proposals for interfaces and mappings tailored for a specific industry, country, and business context – ultimately creating savings from the most labor-intensive part of integration projects (see [Figures 37 and 38](#)).

The early adopters of Integration Advisor report savings of 60% and more in their integration projects. For more information, check out these resources:

- Join [this course](#) to learn more about Integration Advisor.
- Read this [white paper](#) and the materials referenced therein.



Integration Content Advisor for SAP Cloud Platform Integration

Source - S4HANA Cloud - SOA Purchase Order /

Message Implementation Guideline: Source - S4HANA Cloud - SOA:Purchase Order

Export Simulate Activate Get Proposals Save Cancel Delete Version: 1.0

OVERVIEW STRUCTURE NOTES (0) CODELISTS (0)

Structure

Node	Constraint	Proposal Indicator	Cardinality	Position	Primitive Type	Syntax Data Type	Length	Codelist	Data
✓ OrderRequest_Out – Order Request Out			1..1						
✓ MessageHeader – Message Header			1..1						
> ✓ ID – ID			0..1						
> ✓ ReferenceID – Reference ID			0..1	2					
✓ CreationDateTime – Creation Date Time			1..1	3	DateTime	xsd.dateTime			1976-01-01T01:01
✓ ReconciliationIndicator – Reconciliation Indicator			0..1	4	Boolean	xsd.boolean			A
✓ SenderBusinessSystemID – Sender Business System ID			0..1	5	Token	xsd.token	1..60		SenderBusinessS
✓ RecipientBusinessSystemID – Recipient Business System ID			0..1	6	Token	xsd.token	1..60		RecipientBusiness
> ✓ SenderParty – Sender Party			0..1	7					
> ✓ RecipientParty – Recipient Party			0..unbounded	8					◀ 1..2 ▶
> ✓ BusinessScope – Business Scope			0..unbounded	9					◀ 1..2 ▶
> ✓ Order – Order			1..1	2					
✓ PurchaseOrderID – Purchase Order ID			0..1	1	Token	xsd.token	1..35		PurchaseOrderID
✓ PurchasingDocumentType – Purchasing Document Type			0..1	2	Token	xsd.token	1..5		AF
✓ PurchasingOrganization – Purchasing Organization			0..1	3	String	xsd.string	1..4		Pur0
✓ PurchasingGroup – Purchasing Group			0..1	4	String	xsd.string	1..3		Pu0
✓ PurchaseOrderCreationDate – Purchase Order Creation Date			0..1	5	Date	xsd.date			1976-01-01
✓ PurchaseOrderLastChangeDate – Purchase Order Last Change Date			0..1	6	Date	xsd.date			1976-01-01
✓ SalesOrderID – Sales Order ID			0..1	7	Token	xsd.token	1..35		SalesOrderID0
✓ SalesDocumentType – Sales Document Type			0..1	8	Token	xsd.token	1..5		AF
✓ SalesOrganization – Sales Organization			0..1	9	String	xsd.string	1..4		Sa0
✓ DistributionChannel – Distribution Channel			0..1	10	Token	xsd.token	1..2		10
✓ OrganizationDivision – Organization Division			0..1	11	Token	xsd.token	1..2		00
✓ SalesGroup – Sales Group			0..1	12	String	xsd.string	1..3		Sa0

Figure 37: Generated interface proposal for POs in a specific industry context

Integration Content Advisor for SAP Cloud Platform Integration

Integration Content Advisor / Mapping Guidelines / Mapping Source - S4HANA Cloud - SOA:Purchase Order to Target - SAP ERP - IDoc:ORDERS05 /

Mapping Guidelines: Mapping Source - S4HANA Cloud - SOA:Purchase Order to Target - SAP ERP - IDoc:ORDERS05

Export Get Proposal Simulate Clear Proposal Select Best Proposal Version: 1.0

OVERVIEW MAPPING NOTES (0)

Source: Source - S4HANA Cloud - SOA Purchase Order

Target: Target - SAP ERP - IDoc:ORDERS05

Structure	Name	Cardinality	Data	Structure	Name	Cardinality	Data
Order	Order	1..1		ORDER05	Purchasing/Sales	1..1	
PurchaseOrderID	Purchase Order ID	0..1	PurchaseOrderID0	E1EDK040	IDoc Control Record for ...	1..1	
PurchasingDocumentType	Purchasing Document T...	0..1	AF	E1EDK01	IDoc Document header...	1..1	
PurchasingOrganization	Purchasing Organization	0..1	Pur0	E1EDK14@QUALF =	IDoc Document Header...	0..1	
PurchasingGroup	Purchasing Group	0..1	Pu0	E1EDK14@QUALF =	IDoc Document Header...	0..1	
PurchaseOrderCreationDate	Purchase Order Creation Date	0..1	1976-01-01	E1EDK14@QUALF =	IDOC qualifier organization	0..1	
PurchaseOrderLastChangeDate	Purchase Order Last Ch...	0..1	1976-01-01	ORGID	IDOC organization	0..1	Pu0
SalesOrderID	Sales Order ID	0..1	SalesOrderID0	E1EDK14@QUALF =	IDOC Document Header...	0..1	
SalesDocumentType	Sales Document Type	0..1	AF	QUALF	IDOC qualifier organization	0..1	008
SalesOrganization	Sales Organization	0..1	Sa0	ORGID	IDOC organization	0..1	Sa0
DistributionChannel	Distribution Channel	0..1	10	E1EDK14@QUALF =	IDOC Document Header...	0..1	
OrganizationDivision	Organization Division	0..1	00				

Mapping List

Confidence	Source	Source Node Name	Cardinality	Documentation	Target	Target Node Name	Cardinality
<input type="checkbox"/>	✓ OrderRequest_Out	Order Request Out	1..1		/ORDER\$05	Purchasing/Sales	1..1
<input type="checkbox"/>	✓ OrderRequest_Out	Order Request Out	1..1		/ORDER\$05	Purchasing/Sales	1..1
<input type="checkbox"/>	✓ OrderRequest_OutMessageHeaders	Sender Business System ID	0..1		/ORDER\$05/EDI_DC40/SNDPDR	Sender port (SAP System, external)	1..1
<input type="checkbox"/>	✓ OrderRequest_OutMessageHeaders	Internal ID	0..1		/ORDER\$05/EDI_DC40/SNDPRN	Partner Number of Sender	1..1
<input type="checkbox"/>	✓ OrderRequest_OutMessageHeaders	Internal ID	0..1		/ORDER\$05/EDI_DC40/SNDSAD	Sender address (SADR)	0..1
<input type="checkbox"/>	✓ OrderRequest_OutMessageHeaders	Internal ID	0..1		/ORDER\$05/EDI_DC40/SNDSDR	Sender address (SADR)	0..1
<input type="checkbox"/>	✓ OrderRequest_OutMessageHeaders	Creation Date Time	1..1		/ORDER\$05/EDI_DC40/CREDITAT	Created on	0..1
<input type="checkbox"/>	✓ OrderRequest_OutMessageHeaders	Creation Date Time	1..1		/ORDER\$05/EDI_DC40/CREDITAT	Created on	0..1
<input type="checkbox"/>	✓ OrderRequest_OutMessageHeaders	Creation Date Time	1..1		/ORDER\$05/EDI_DC40/CRETIM	Created at	0..1

Figure 38: Generated mapping proposal

Extract, transform, and load

Transferring data from source to target transforms plans into tangible reality. Regardless of which transition path to SAP S/4HANA Cloud you choose, the scoped business data is selected, possibly transformed (such as new field values), and then physically moved into the target structures of the new system. This step covers the critical execution phase, which is typically performed in multiple test cycles to help ensure a smooth productive load in a short time frame and minimize business downtime as much as possible.

In the SAP Activate methodology, the ETL step corresponds to the “Realize” phase. In addition to migrating data or entire systems, it includes key activities such as configuration and cutover tasks. Overall, the “Realize” phase focuses on building and implementing the configured SAP solution and making sure that it meets the business requirements and preparing the organization for the transition to the new system.



System conversion and downtime tools

To help you meet system downtime requirements, SAP offers the following options for system conversion (see [Figure 40](#)):

- Standard conversion for smaller instances of SAP ERP
- Downtime-optimized data migration option (DMO) (uptime migration) for midsize and large systems
- Downtime-optimized conversion for extra-large systems

As a rule of thumb, a small system has data volumes of less than 5 TB, and extra-large systems have data volumes of more than 20 TB.

You can significantly reduce the overall conversion time for the standard conversion option by applying the right optimization strategy and exploiting the capabilities of Software Update Manager. The planned downtime calculator of SAP Readiness Check provides an initial indicator of downtime, which customers can leverage to help determine the appropriate downtime optimization approach for them. The [Technical Downtime Optimization application](#) offered in SAP Support

Portal helps you choose optimal system settings based on the results of your first conversion run (see Figure 39).

Read this [blog post](#) on Technical Downtime Optimization and the mechanics behind it.

When combining a system conversion with the transition to SAP S/4HANA Cloud Private Edition in one step, Software Update Manager offers two options: DMO with system move and DMOVE2S4. DMOVE2S4 is the recommended approach, as it allows you to use downtime-optimized DMO or even downtime-optimized conversion but requires a good connection between source and target infrastructures.

Downtime-optimized DMO is an approach that allows the migration of large application tables already in uptime and thus is sometimes referred to as uptime migration. All approaches are available depending on whether the source SAP ERP is already running on SAP HANA or not.

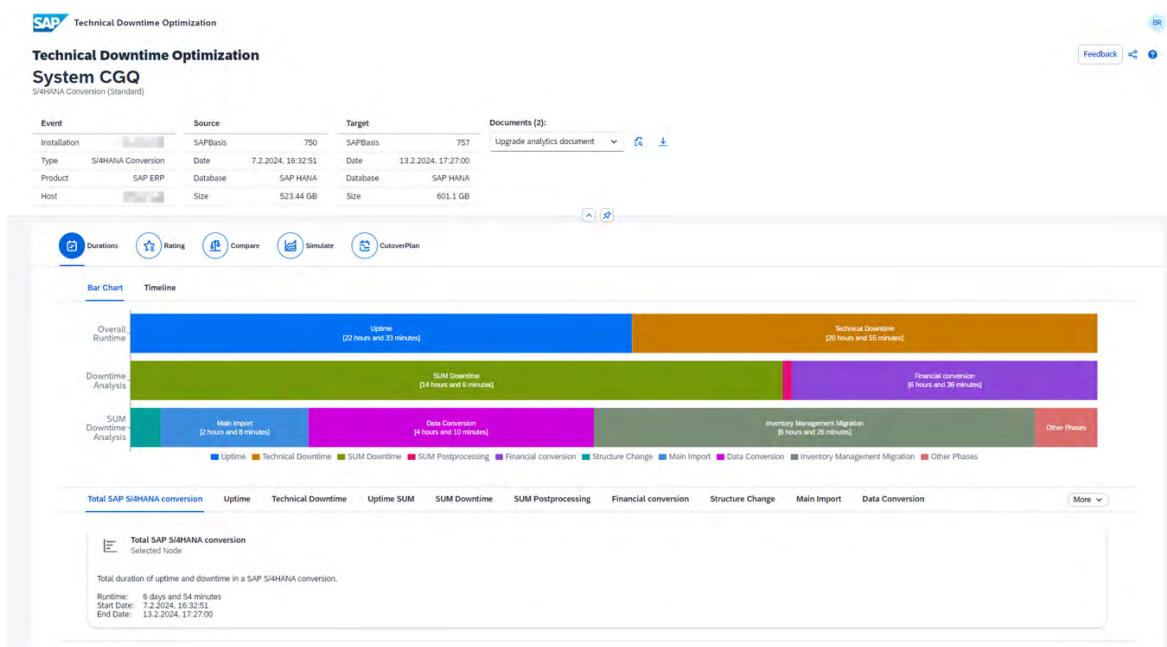


Figure 39:
Dashboard in
Technical
Downtime
Optimization

Standard conversion with Software Update Manager

Software Update Manager is a multipurpose tool used for SAP software maintenance (for example, for installing support packages, migrating an SAP system to another database, installing add-ons, and other tasks). It is also the tool that technically converts SAP ERP into SAP S/4HANA. It combines the migration of the system to SAP HANA (if required), conversion of data, and software upgrade into one step.

This single-step conversion is supported for SAP ERP 6.x (any enhancement package) single-stack, Unicode systems; however, database and OS-level restrictions may apply.

Most of the data conversion (that is, the transfer into the new data model) is carried out by Software Update Manager with the help of special programs, namely, XPRAs and XCLAs. The conversion is executed partially directly in SAP HANA and partially in the application server(s) for ABAP. However, both the conversion of financial data and the conversion of material ledger data are special steps that are performed after the actual conversion procedure of Software Update Manager.

Before executing your first conversion run on a sandbox system, you can use the prerequisite check extended mode of Software Update Manager. In this mode, Software Update Manager will execute the same checks it usually does. However, instead of breaking at hard issues, it will collect them in a single list (a CSV file) and stop prior to entering the downtime phase. With that, you can analyze the issues and solve them, optimally preparing for the first complete conversion run.

You can significantly reduce the overall conversion time for the standard conversion option by applying the right optimization strategy and exploiting the capabilities of Software Update Manager. [Technical Downtime Optimization](#) offered in SAP Support Portal helps you choose the optimal system settings based on the results of your first conversion run.

Downtime-optimized conversion with Software Update Manager

For larger systems, converting data into the new data structures may need a long runtime. In practice, project teams and business users can usually negotiate a cutover window between 8 hours (that is, one factory shift) and 60 hours (that is, from 6:00 p.m. on Friday to 6:00 a.m. on Monday). This time window includes not only the actual downtime but all phases of the cutover procedure (see [Figure 40](#)).

To make this cutover window achievable for midsize and large systems, SAP has developed the downtime-optimized conversion option and has included it in the standard Software Update Manager tool. In a nutshell, it converts large parts of the data in SAP ERP during uptime and uses record-and-reply technology to incorporate the data changes. This way, midsize and large systems are able to comply with the common downtime requirements using the standard tool set.

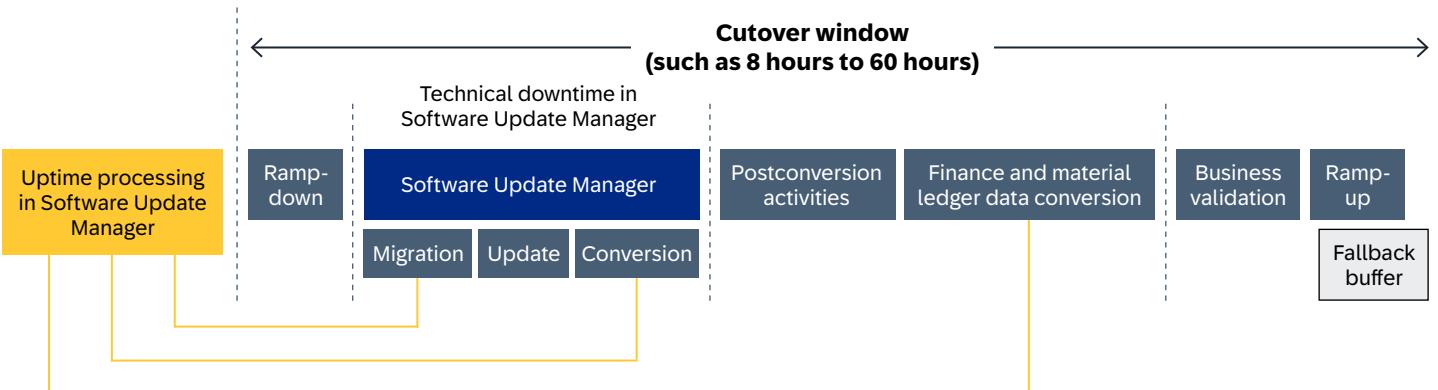


Figure 40: Cutover phases for system conversion and downtime-optimized conversion

Minimized downtime service from SAP Services and Support

The minimized downtime service is a collection of several engineered consulting services that have the common goal to significantly reduce the required technical downtime for a conversion to SAP S/4HANA.

It starts with a filled copy of the service questionnaire attached to SAP Note [693168](#), which must be available prior to a to-be-scheduled planning workshop. Based on the gathered information of this planning workshop, a suitable technical approach will be chosen and presented to the customer.

The portfolio contains the already-described [downtime-optimized conversion](#) with Software Update Manager as a default approach (usually targeting system sizes between 5 TB and 30 TB). Still, the methodology that fits best depends on many factors that are discussed and agreed upon with the customer during a planning workshop for the minimized downtime service.

In selected cases (for instance, for system sizes over 40 TB), it might be useful to consider the downtime minimization tool for SAP S/4HANA instead of a downtime-optimized conversion for SAP S/4HANA, even though it is more complex

and only project-specific tool support is available. The technology applied within the procedure in this tool is composed of the following steps:

- Activating a change recording in the SAP ERP production system with database triggers
- Creating a copy (clone) of the production system
- Performing a standard system conversion with Software Update Manager using the clone as the source system
- Synchronizing the newly converted system with the original production system
- Performing the cutover to the newly converted system

With this approach, a cutover window of 24 hours is usually achievable. However, given the complexity of the procedure, the exact runtimes must be confirmed individually for any given environment.

This high-end conversion procedure needs special approval to use the technology. It will be deployable on many potential start releases, fulfilling product standards and more. SAP will provide updates on availability as soon as the development team can provide more details.

For more information, contact the [minimized downtime service](#).

SAP S/4HANA migration cockpit

We recommend the SAP S/4HANA migration cockpit as the tool to use for the initial data load in new implementation scenarios. It comes as part of both SAP S/4HANA and SAP S/4HANA Cloud without an extra license or cost. It is also the only tool to initially load data to SAP S/4HANA Cloud Public Edition.

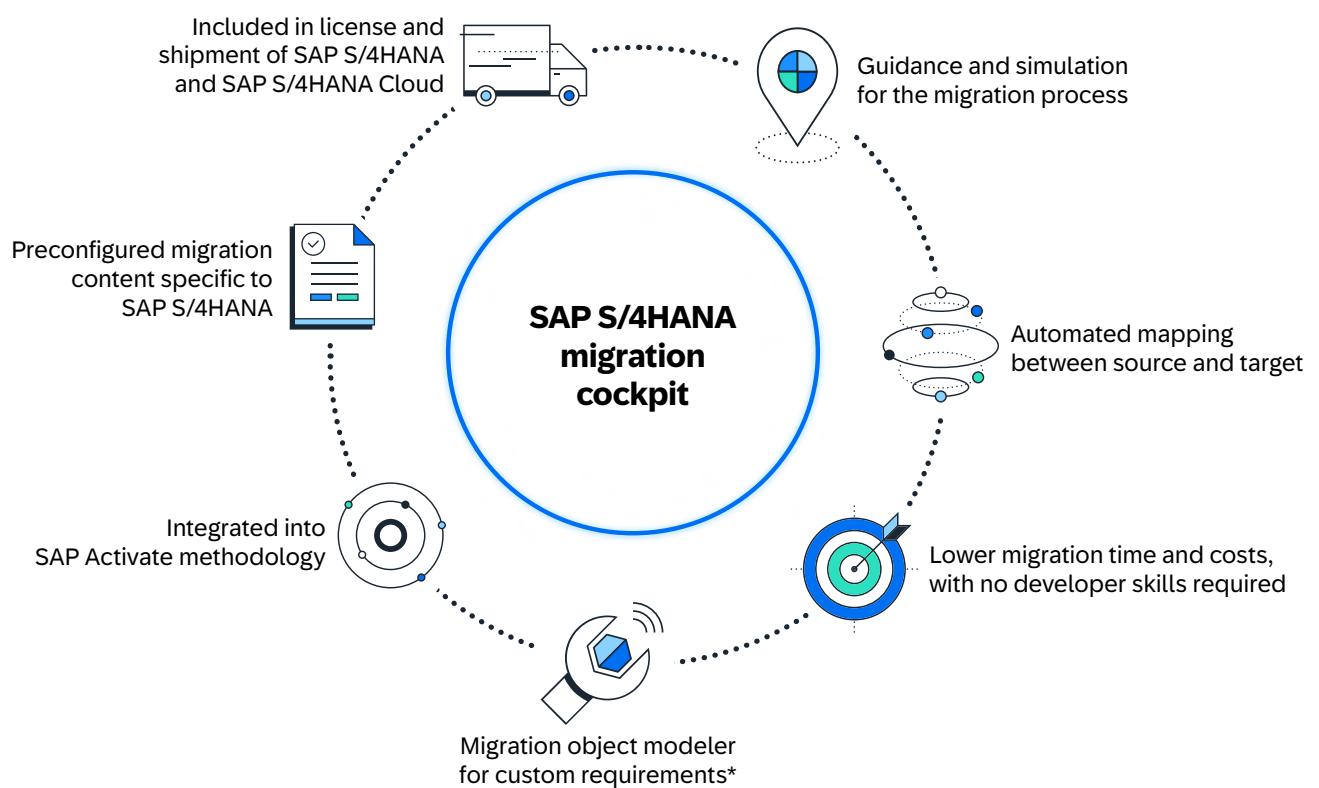
The migration cockpit facilitates the transfer of business data and guides you throughout the data migration process. It comes with a comprehensive set of predefined migration objects that represent business entities in SAP S/4HANA, such

as customer, supplier, and product. It encapsulates the logic to create these specific business entities through the corresponding APIs offered by SAP S/4HANA. Migration objects are ready for immediate use (see the [list of available migration objects](#)).

Furthermore, the migration cockpit includes the automatic generation of migration programs, simulation mode for migration to verify data quality and help ensure error-free data loading, cross-object value mappings to help ensure data consistency, progress monitoring, and more.

Facilitate migration projects with SAP S/4HANA migration cockpit

Transition scenario: new implementation



*Reduced scope for SAP S/4HANA Cloud Public Edition

Figure 41: SAP S/4HANA migration cockpit

In the initial data load process, the first step involves choosing the migration object you need. This is followed by providing the relevant data either from your SAP ECC or any other legacy system. What comes next is the crucial task of mapping and transforming the original data values to new values. For instance, source business data would need to be transformed to fit into the values in SAP S/4HANA.

After this, in the simulation step, the data is checked for logical correctness. This is done with an API that is set in the migration object. Any discrepancies or errors identified in this simulation step offer an opportunity to make alterations and adjustments, perfecting the data set before the final step of migrating to SAP S/4HANA.

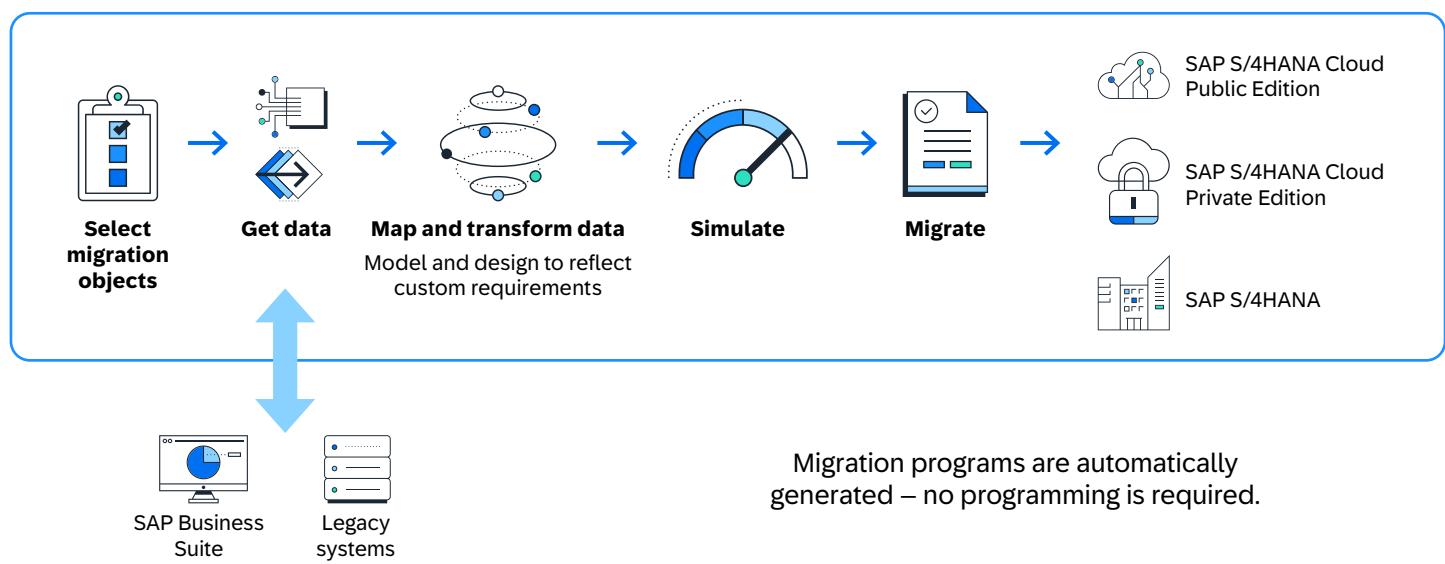


Figure 42: Data migration process overview

Within the migration cockpit, data from the source system can be maneuvered using two approaches:

- Migrate data using staging tables
- Migrate data directly from an SAP system

In the first approach, staging tables are created on the database. You can use XML or CSV template files to provide data, or you can use any ETL tools to populate the staging tables directly. In

the second approach – called direct transfer – you connect to the source system through remote function call and the data is fetched automatically based on defined selection criteria.

The SAP Fiori app “Migrate Your Data” in SAP S/4HANA comprises the two migration approaches (see Figure 43).

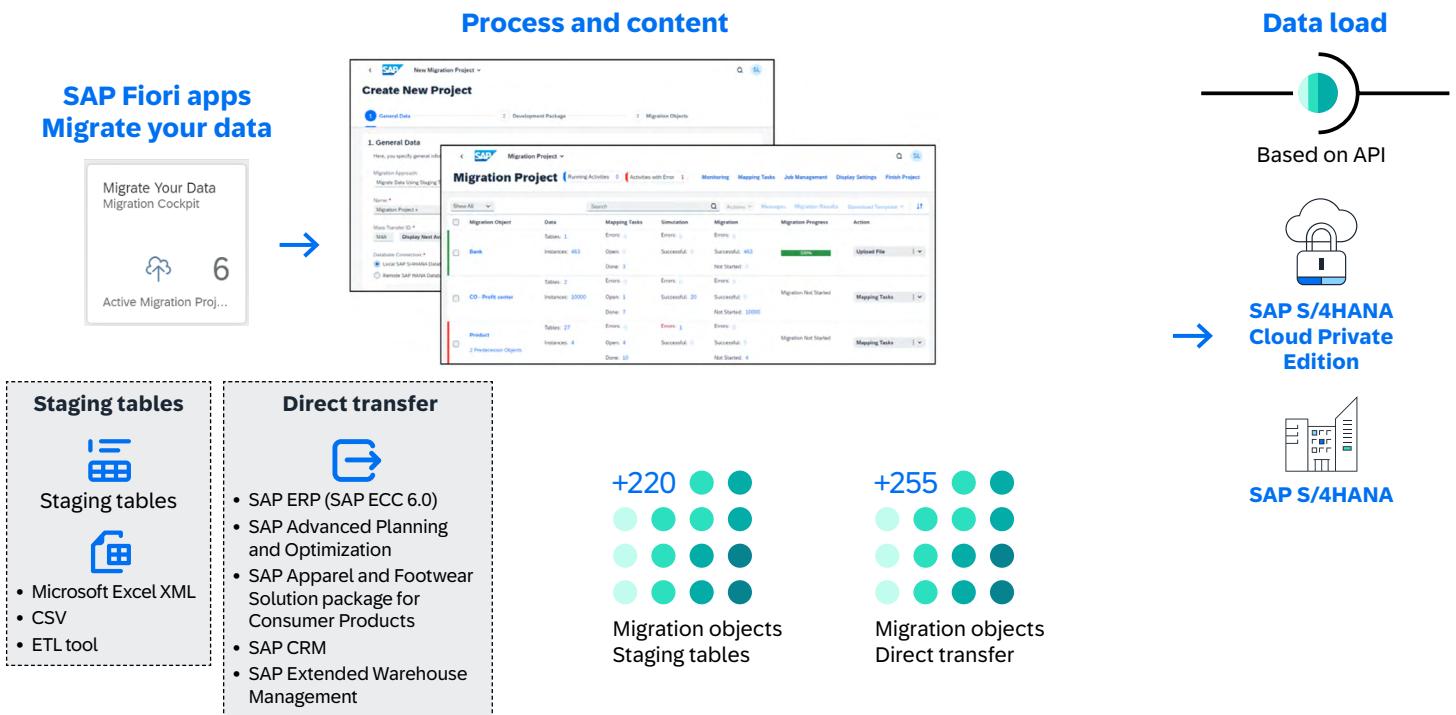


Figure 43: SAP S/4HANA migration cockpit in SAP S/4HANA Cloud Private Edition

To meet customer-specific requirements such as adding additional fields, changing rules, or creating custom migration objects, you can use the SAP S/4HANA migration object modeler in SAP S/4HANA. The following table displays the migration approaches that are supported by the SAP S/4HANA migration cockpit.

	Staging tables	Direct transfer
Source system	SAP or third-party system	<p>Source SAP system based on ABAP – supported migration scenarios:</p> <ul style="list-style-type: none"> • SAP ERP to SAP S/4HANA • SAP Apparel and Footwear Solution package for Consumer Products to SAP S/4HANA • SAP Extended Warehouse Management application (SAP EWM) into decentralized EWM • SAP CRM to SAP S/4HANA for customer management • SAP Advanced Planning and Optimization and SAP Service Parts Planning application to SAP S/4HANA Supply Chain for extended service parts planning <p>For more information, see these migration scenarios.</p>
Data provisioning	<ul style="list-style-type: none"> • Staging tables that are created automatically in SAP HANA (either locally or in a remote system) • Staging tables that can be populated with business data using: <ul style="list-style-type: none"> – XML template files – CSV template files – SAP or third-party ETL tools 	<ul style="list-style-type: none"> • Connect to the source system through a remote function call connection • Select data based on predefined selection criteria (for example, company code for ERP source system) and selected migration objects
Data cleansing	Up front in the source systems, in the files, or in the staging tables	Up front in the source system, with the ability to enhance standard selection options with the SAP S/4HANA migration object modeler

Working with the SAP S/4HANA migration cockpit is intuitive and does not require developer skills. These skills are needed only when you want to create your own migration objects or transformation rules.

With the above functions and features, the SAP S/4HANA migration cockpit has, in general, superseded the SAP Legacy System Migration Workbench tool. Use of the tool with SAP S/4HANA is neither supported nor recommended by SAP.

To learn more about the migration cockpit for SAP S/4HANA and SAP S/4HANA Cloud Private Edition, visit this [data migration landing page](#). For more information about the migration cockpit for SAP S/4HANA Cloud Public Edition, visit this [data migration landing page](#). For those who want to learn about the migration cockpit in depth, we recommend these openSAP courses:

- [Migrating Data to SAP S/4HANA Using the Migration Cockpit](#)
- [Migrating Data to SAP S/4HANA Cloud Public Edition](#)



SAP Business Transformation Center

SAP Business Transformation Center offers selective data transition for customers transforming from SAP ECC to SAP S/4HANA Cloud Private Edition.

After an initial system usage overview and subsequent scoping, the confirmed digital blueprint is delivered in a transformation model. The business entities in scope for migration are technically broken down into their technical objects and relationships. The subsequent migration cycle acts as a vehicle to execute runs to migrate the scoped business data from source to target.

A single cycle run consists of these execution steps:

- Cycle prevalidation to check the readiness of the target system
- Cycle preparation to generate the runtime objects for transformation in the source and target systems
- Cycle execution to execute the data migration
- Cycle postprocessing to execute technical postmigration data conversions

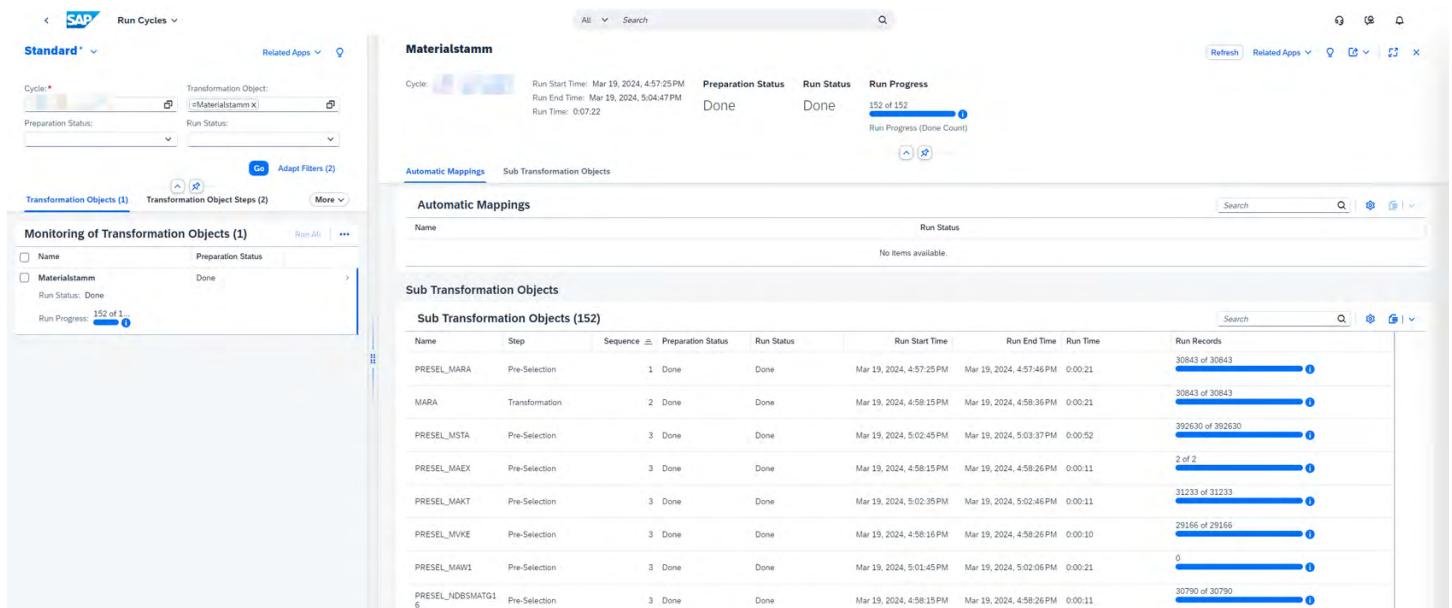


Figure 44: Example of the execution details of a single transformation object

CVI cockpit

In SAP S/4HANA, the business partner is the leading object and single entry point to maintain customer and supplier (formerly known as vendor) master data. It is, thereby, also a mandatory prerequisite for converting SAP ERP to SAP S/4HANA – to synchronize customer and vendor master data from system clients to business partners.

As the implementation of the business partner obviously shows a certain complexity, the CVI cockpit (transaction code CVI_COCKPIT) covers the best practices and guidance given by sources such as the [FAQ](#) and the [cookbook](#) on customer vendor integration to prepare a system conversion to SAP S/4HANA.

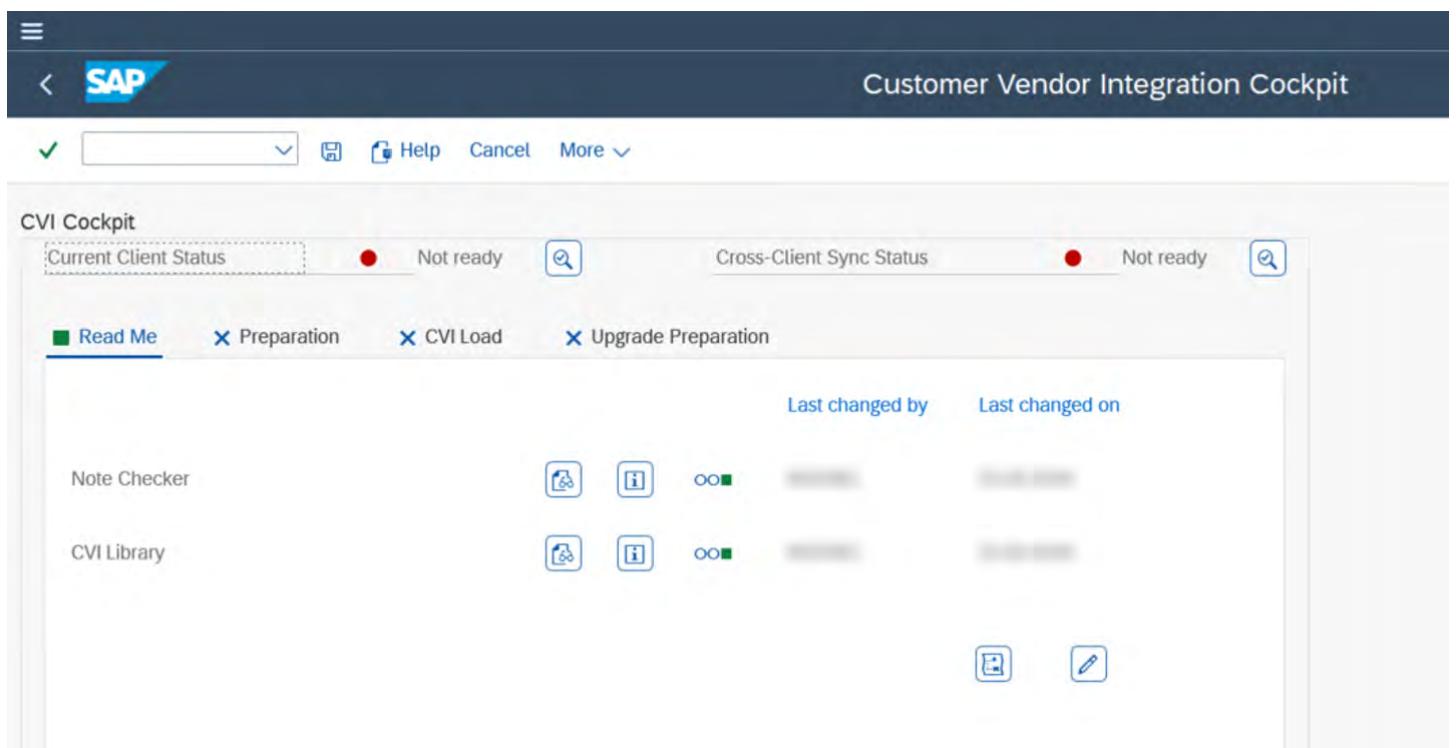


Figure 45: CVI cockpit

Whenever the cockpit is started, it presents updated and aggregated status information regarding customer vendor integration within the current client as well as across clients of the SAP ERP application. Four tabs offer additional information and include the three main phases to manage customer vendor integration. Status information can be collected, and once a phase is considered complete, the next phase can be executed:

- The tab “Read Me” is the starting point to gather additional information, and it refers to the transport-based correction instructions for customer vendor integration to apply the latest updates.
- The phase “Preparation” offers the most important steps to prepare the technical synchronization from customers, vendors, and their contact persons to business partners. Consistency of master data can be checked, and respective data cleansing can be triggered. Customizing checks are there to analyze the completeness

of the customizing and mapping information to entities of the business partner data model. A tool supports the linkage of a customer and a vendor representing the same legal entity to the same business partner by harmonizing certain common data sets (address, bank details, tax numbers).

- The phase “CVI Load” provides the steps and tools to execute the technical synchronization of customer and vendor records to business partners. The load itself is supported, as well as pre- and postload activities to help ensure completeness and consistency. This phase manages the business downtime recommended for the execution of the synchronization cockpit (MDS_LOAD_COCKPIT).
- The phase “Upgrade Preparation” supports the time from after the successful activation of customer vendor integration until the conversion of the system to SAP S/4HANA.



SAP Data Services and SAP Data Intelligence

Customers migrating to SAP S/4HANA from multiple legacy systems from different third-party vendors will face an increased level of complexity in data migration. The goal of data migration should not only be to simply move and transform the data, but it should also be to improve data quality so that you can go live with clean, valid, trusted data. SAP's flagship ETL software for profiling, extracting, transforming, and improving data quality is SAP Data Services. This software can play an important role in a data migration project.

Employing SAP Data Services in your migration project gives you the ability to:

- Profile the source system data to discover data-quality problems within those systems – from simple technical profiling (such as how many records miss a certain attribute) to complex cross-table checks (such as how many vendors have no corresponding orders)

- Extract source system data efficiently and transform it into the target format and structure of SAP S/4HANA
- Apply data cleansing jobs based on detailed profiling results from [SAP Information Steward software](#)
- Implement data validations against the target system configuration to help ensure technical alignment of the transformation logic
- Deliver the data in the correct format (staging tables or files) to the SAP S/4HANA migration cockpit to reduce the amount of work needed to be done there.

Find out more about SAP Data Services [online](#).



Confirming correctness

Once data has been loaded, it is critical to ensure that business processes can run correctly the first time. The provision of system-supported validations – such as completeness (Are all records migrated?), correctness (Are all records in the right fields with the right values?), consistency (Is the data consistent in the target system?), and business continuity (Are the processes working?) of the migrated data in the target system – verifies the outcome and helps ensure a handover to business operations. Sign-off by different roles, such as business users or auditors, documents the process for later proof.

In the SAP Activate methodology, the “Confirm Correctness” step is largely within the “Deploy” phase. Although initial validations are often performed during data loading, the intended activities from a data transition perspective take place after loading. Involving users for validation and knowledge transfer is key to enabling your organization to reap the benefits of its investment.



Data transition validation

The data transition validation tool allows you to compare business data before and after a system conversion from SAP ECC to SAP S/4HANA. The tool uses business reports or transactions as instruments of comparison, and use of customer reports (with ABAP list viewer output) is supported as well. The tool can be used by customers and partners, and no additional license or certification is required.

The data transition validation tool is delivered as part of the “SAP_BASIS” software component; thus, the tool is part of the system to be converted, so no additional system is required. Transport-based correction instructions may have to be implemented, depending on the support package level of your system.

For more information, check SAP Note [3117879](#) and the documentation on the [SAP Help Portal](#) site.

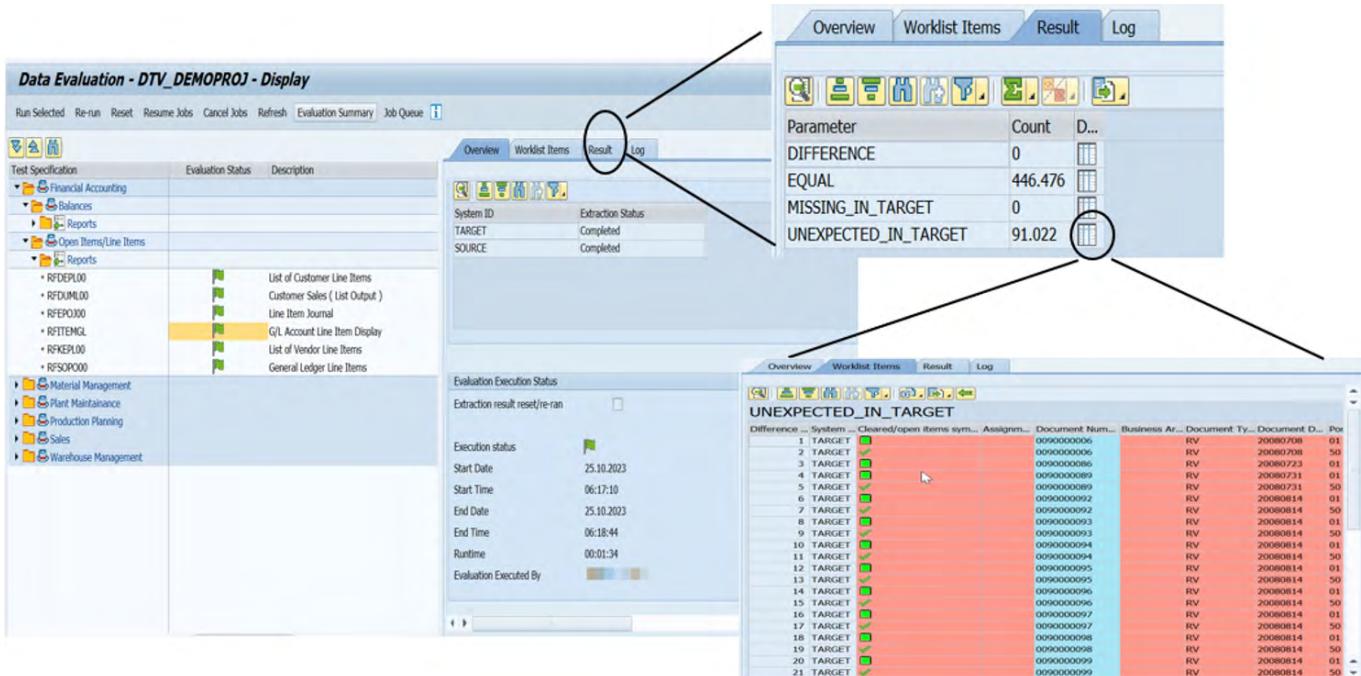


Figure 46: Overview of the user interface of data transition validation

Figure 45 shows the general layout of the data transition validation tool and provides the evaluation result of report RFITEMGL. The “Result” tab is categorized in four different KPIs:

- **DIFFERENCE:** Number of records not matched in source and target – as the value is 0, all records in source and target system were matched
- **EQUAL:** Number of records found exactly matching in source and target – 446,476 records were found that are matching in source and target system
- **MISSING_IN_TARGET:** Number of records present in source but missing in target – as the value is 0, no records were found in source that are not in target as well
- **UNEXPECTED_IN_TARGET:** Number of records found in target but are missing in source – 91,022 records were found in target that are not in the source system; **this discrepancy may indicate an error during the last data load**

ABAP development tools for Eclipse and quick fixes

With SAP S/4HANA, ABAP development tools for Eclipse enable automated adaptation of custom code with only a few clicks through quick fixes (see Figure 47). These can resolve the most frequent findings that don't necessarily require deep functional knowledge, such as ORDER BY issues, MATNR issues, and issues related to data model

changes, such as database access to tables KONV, VBFA, VBUK, VBUP, BSEG, and others. You can expect an automation rate of up to 60% in most systems for typical simplification use cases in SAP S/4HANA. The above features are part of SAP S/4HANA and do not require a separate license.

Project Explorer ATC Problems			
S4HANA_DEV > S4HANA_READINESS_OF > Package: Z_CCM_EX_08 (CCM: Exercises Package for Group 08)			
Description	Check	Object Name	Object Type
Findings: 14 Errors, 2 Warnings, 5 Infos			
Prerequisites for the test (1 Errors)	Prerequisites for the test	Z_CCM_SALES_DOC_COUNTER_08 PROG	
Syntax error in Z_CCM_SALES_DOC_COUNTER_08.		Z_CCM_CHK_MATERIAL_EXISTS_08 PROG	
S/4HANA: Field length extensions (2 Warnings, 5 Infos)		Z_CCM_LIST_MARA_RECORDS_08 PROG	
Structure-Component MATERIAL (DOMA MATNR, Note: 0002215424) type conflict C(18) -> C(40)	S/4HANA: Field length extensions	Z_CCM_CHK_MATERIAL_EXISTS_08 PROG	
Structure-Component MATNR (DOMA MATNR, Note: 0002215424) type conflict C(40) -> C(18)	S/4HANA: Field length extensions	Z_CCM_CHK_MATERIAL_EXISTS_08 PROG	
Type DOMA CLAR10 is related to DOMA MATNR, Note: 0002215424. Strong: 1 times. Weak: 0 times	S/4HANA: Field length extensions	Z_CCM_CHK_MATERIAL_EXISTS_08 PROG	
Type DOMA CLAR10 is strongly related to DOMA MATNR, Note: 0002215424	S/4HANA: Field length extensions	Z_CCM_CHK_MATERIAL_EXISTS_08 PROG	
type type WSKIO, Note: 0002610650 -> Generic Parameter I_TABLE of Class CL_SALV_TABLE, Method FAC1	S/4HANA: Field length extensions	Z_CCM_BSEG_DATA_CHECK_08 PROG	
Type DOMA MATNR, Note: 0002215424 -> Generic Parameter T_TABLE of Class CL_SALV_TABLE, Method FA	S/4HANA: Field length extensions	Z_CCM_LIST_COMPL_SLS_ORDRS_08 PROG	
Type DOMA MATNR, Note: 0002215424 -> Generic Parameter T_TABLE of Class CL_SALV_TABLE, Method FA	S/4HANA: Field length extensions	Z_CCM_LIST_MARC_RECORDS_08 PROG	
S/4HANA: Search for S/4 related syntax errors (5 Errors)		Z_CCM_SALES_DOC_COUNTER_08 PROG	
Field "VBTP_AUFR" is unknown. Possible Note(s): 0	Copy Ctrl + C	Z_CCM_SALES_DOC_COUNTER_08 PROG	
Field "VBTP_ANF" is unknown. Possible Note(s): 0	Recommended Quick Fixes...	Z_CCM_SALES_DOC_COUNTER_08 PROG	
Field "VBTP_GANF" is unknown. Possible Note(s): 0	Recheck	Z_CCM_SALES_DOC_COUNTER_08 PROG	
Field "VBTP_PANGT" is unknown. Possible Note(s): 0	Group By	Z_CCM_SALES_DOC_COUNTER_08 PROG	
Field "VB1YP_REL0" is unknown. Possible Note(s): 0	Configure Columns	Z_CCM_SALES_DOC_COUNTER_08 PROG	
S/4HANA: Search for database operations (4 Errors)		Z_CCM_ADJUST_CURRENCY_CODI PROG	
DB Operation SELECT found (KONV, see Note(s):0002220005)	S/4HANA: Search for database operations	Z_CCM_BSEG_DATA_CHECK_08 PROG	
DB Operation SELECT found (BSEG, see Note(s):0002431747)	S/4HANA: Search for database operations	Z_CCM_LIST_COMPL_SLS_ORDRS_08 PROG	
DB Operation SELECT found (VBUK, see Note(s):0002198647)	S/4HANA: Search for database operations	Z_CCM_ADJUST_CURRENCY_CODI PROG	
DB Operation UPDATE found (KONV, see Note(s):0002220005)	S/4HANA: Search for database operations	Z_CCM_DASHB_TRANSACTIONS_I PROG	
S/4HANA: Search for usages of simplified objects (3 Errors)		Z_CCM_DASHB_TRANSACTIONS_I PROG	
Functionality not available: functional equivalent available (TRAN MB11, see Note(s): 0001804012)	S/4HANA: Search for usages of simplified objects	Z_CCM_DASHB_TRANSACTIONS_I PROG	
Functionality not available: functional equivalent available (IRAN MATGRP02, see Note(s): 0002368680)	S/4HANA: Search for usages of simplified objects	Z_CCM_DASHB_TRANSACTIONS_I PROG	
Syntactically incompatible change of existing functionality (DTEL VBTP, see Note(s): 0002198647)	S/4HANA: Search for usages of simplified objects	Z_CCM_SHOW_SALES_DOCUMENT PROG	
READ - BINARY SEARCH for result of statement at Include_Z_CCM_CHK_MATERIAL_EXISTS_08 line 38	Search problematic statements for result of SELECT/OPEN CURSOR without ORDER BY (1 Errors)	Z_CCM_SHOW_SALES_DOCUMENT PROG	

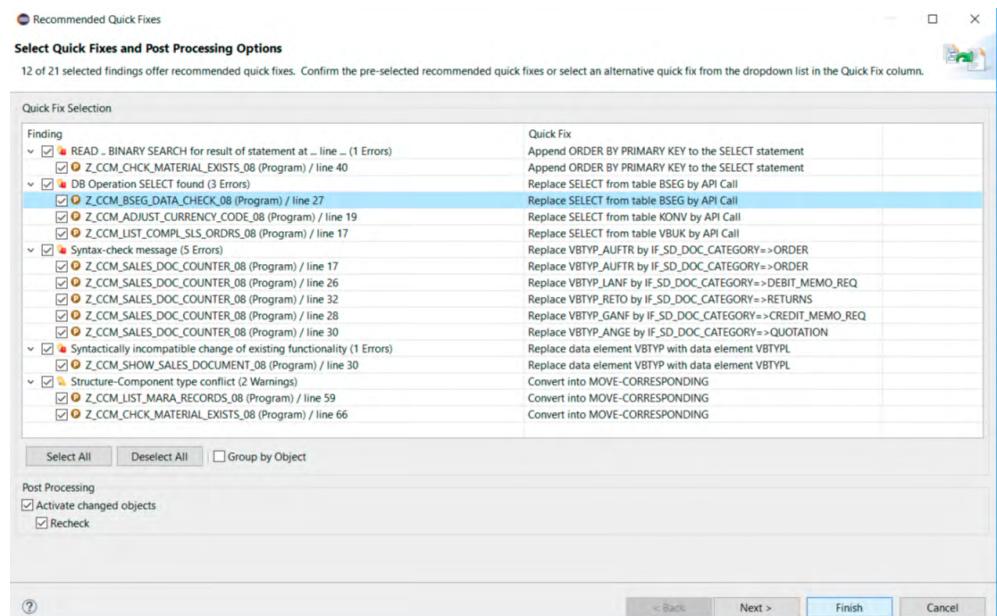


Figure 47: Quick fixes in ABAP development tools for Eclipse

SQL monitor

The ABAP test cockpit offers performance checks to identify poorly performing ABAP code. However, optimizing the entire body of custom code is usually impractical because of the associated effort. Instead, you can achieve considerable performance improvements with only a fraction of the effort by using the SQL monitor tool, which

analyzes all database queries in the production system. SQL monitor identifies expensive SQL statements and the corresponding ABAP objects. You can use performance checks from ABAP test cockpit to analyze these objects and get hints on performance optimization. Learn more about tools from ABAP [online](#).



Governance and run

Constant visibility of the end-to-end transition process is critical for effective project management, risk mitigation, and a successful go-live. By providing central transparency for each transition step, such as monitoring data to be loaded based on the selected scope, status quo reporting becomes a nonevent. Transition summaries, such as a final statement, form an end point within the overall process.

In the SAP Activate methodology, this final step corresponds to the “Run” phase. It involves the transition to ongoing support and maintenance of the SAP solution, including monitoring, optimization, and continuous improvement.



Application lifecycle management

It is important for us at SAP that you, as a customer, can manage your SAP solution efficiently throughout its entire lifecycle. Therefore, we include application lifecycle management (ALM) tools in cloud service subscriptions and on-premise maintenance agreements free of charge. These tools help you and your implementation partner design your business processes on SAP S/4HANA, build the required configuration, test the process flow, and deploy the solution to production. After go-live, you can use the ALM tools for detecting and fixing disruptions as well as receiving support services from SAP.

SAP Cloud ALM

SAP Cloud ALM is the go-to ALM solution for customers using SAP S/4HANA Cloud. Take advantage of its powerful capabilities for configuring, deploying, and managing your business processes. In addition, this cloud solution offers standardized ALM functions focusing on operational efficiency.

SAP Cloud ALM for implementation

You and your system integrator will benefit from managing your conversion to or new implementation of SAP S/4HANA Cloud with SAP Cloud ALM by using these key capabilities:

- Manage the tasks of your implementation or conversion project. The tasks are derived from the SAP Activate methodology, results from SAP Readiness Check for SAP S/4HANA, Cloud Integration Automation service workflows, or partner-defined task lists. Using the working environment, you can assign tasks to team members, maintain task statuses, execute progress reporting, and more (see [Figure 48](#)).
- Derive requirements from SAP Best Practices packages in fit-to-standard workshops with your lines of business. After approval, the requirements serve as the foundation for the implementation.

- Provide solution documentation by enabling the assignment of documents and links to the business processes that are in scope for your project (see [Figure 49](#)). The documentation will be relevant not only during the project but also later, for example, for user onboarding or support.
- As it is essential to prepare, plan, and execute testing to check configuration quality, SAP Cloud ALM supports both manual and automatic testing. The latter is done by integrating test automation tools such as the test automation tool for SAP S/4HANA Cloud and the SAP Test Automation solution by Tricentis.
- Another key project task is to manage the deployment of changes to the production tenant of SAP S/4HANA Cloud. SAP Cloud ALM supports the change and transport system for code and configuration changes of SAP S/4HANA Cloud Private Edition and SAP S/4HANA, the SAP Cloud Transport Management service for changes on cloud tenants in SAP BTP, and the adaptation transport organizer for SAP S/4HANA Cloud Public Edition. Supporting multiple transport technologies is especially important if you follow a clean core strategy. This safeguards the handling of dependencies between SAP standard content and your enhancements built on SAP BTP by synchronizing the deployment of related changes.

SAP Cloud ALM serves as a central solution to manage different yet related project elements such as tasks, requirements, specifications, test cases, and transports. In this role, SAP Cloud ALM provides transparency for the project and clearly displays the status. It applies not only for SAP S/4HANA Cloud as an individual solution but also for integrated solutions such as SAP BTP, SAP SuccessFactors, and SAP Ariba. In addition, SAP Cloud ALM provides various APIs for integrating other ALM tools.

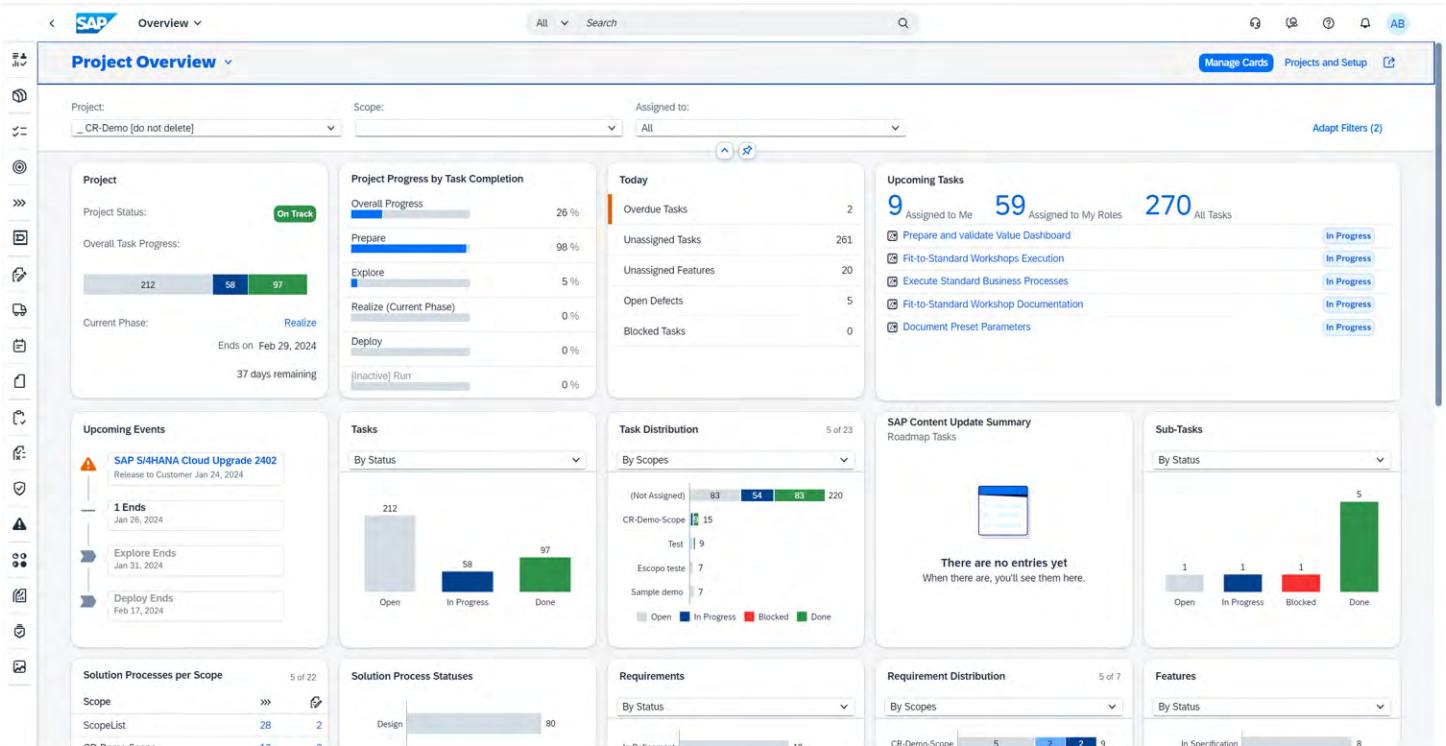


Figure 48: Project overview in SAP Cloud ALM

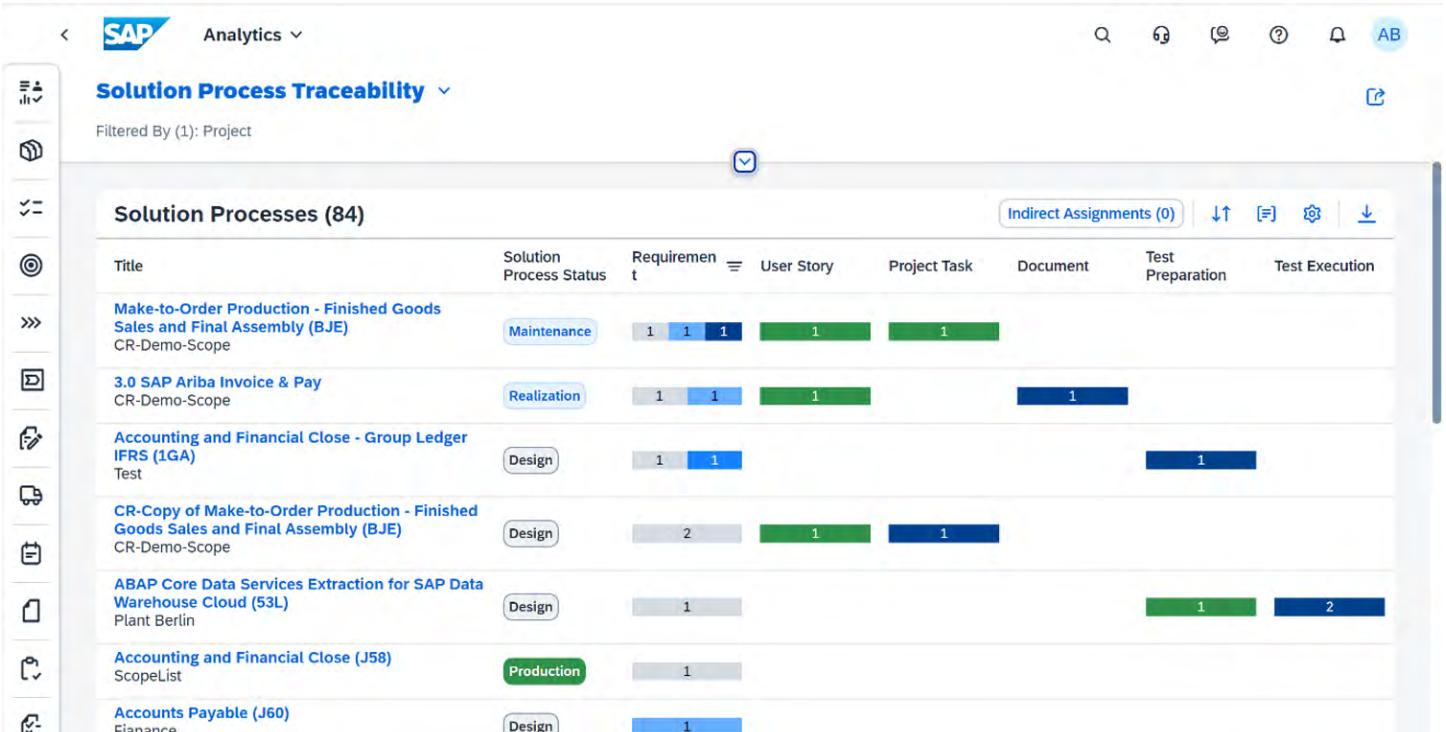


Figure 49: Solution process traceability in SAP Cloud ALM

SAP Cloud ALM for operations and SAP Cloud ALM for service

After going live, you want to ensure that SAP S/4HANA Cloud and integrated systems or cloud services run without disruption.

SAP Cloud ALM helps you monitor your landscape including cloud services, on-premise systems, and extensions for SAP BTP. It detects anomalies and alerts administrators immediately through multiple communication channels, if needed. Triggering corrections – which can be automated – accelerates problem resolution and improves business continuity.

Multiple use cases are supported for diverse types of disruption:

- Business process monitoring helps monitor business process health alongside processes, based on predelivered KPIs, to be alerted immediately when there are operational issues, including the option to trigger measures and gain insights based on business documents with respective filtering options (see [Figure 50](#)).
- Integration monitoring offers many capabilities for customers with cloud ERP, allowing users to monitor data flows and processes between different services, systems, and applications. This helps ensure the smooth operation of the integrated systems and provides real-time

visibility into the performance of the integrations. Users can track data exchanges, identify any errors or bottlenecks in integration processes, and take proactive measures to resolve issues before they impact business operations. Monitoring capabilities also enable users to set up alerts and notifications for specific events or thresholds, allowing them to respond to potential issues promptly. This enables you to help ensure the smooth flow of data and processes across your integrated systems – enhancing operational efficiency and promoting a more agile and responsive business environment (see [Figure 51](#)).

- User and performance monitoring allows you to check availability and the performance of your systems and services.
- Job and automation monitoring helps you watch back-end processes and be informed immediately when anomalies are detected.
- Configuration and security analysis lets you check configuration items and software levels automatically and regularly.
- Health monitoring enables you to visualize the health of cloud services and systems.

In addition, SAP Cloud ALM serves as a tool to help streamline the delivery of support services from SAP, especially premium support services.

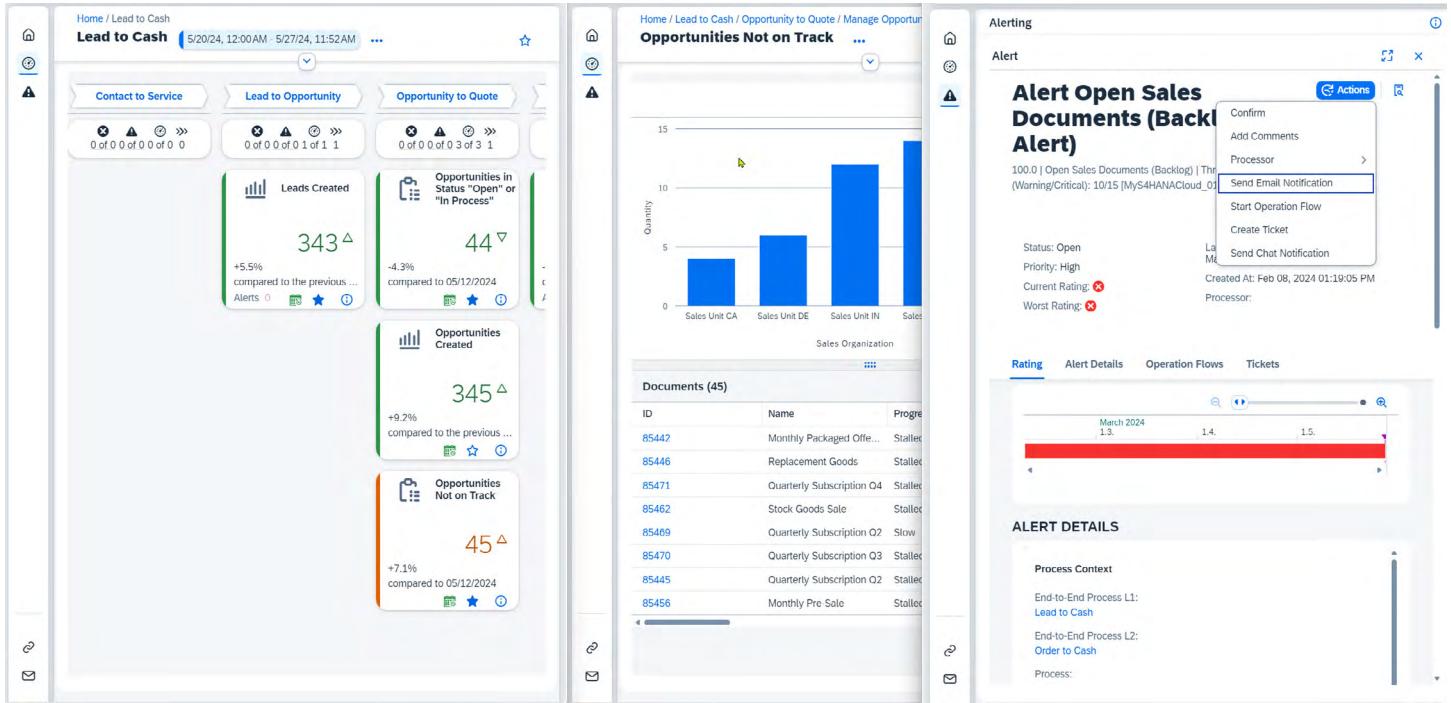


Figure 50: Business process monitoring in SAP Cloud ALM

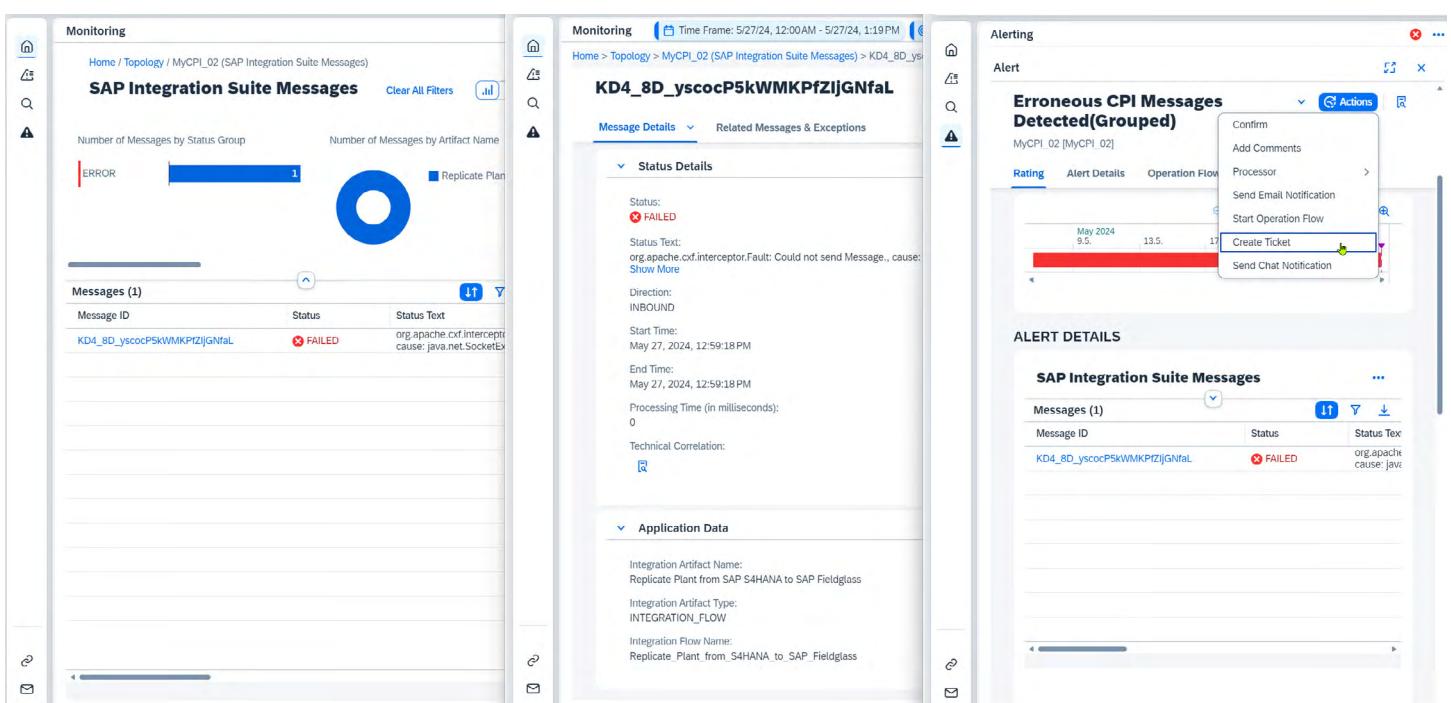


Figure 51: Integration monitoring in SAP Cloud ALM

SAP Solution Manager

The standardized ALM functions of SAP Cloud ALM are not sufficient for all customers yet (as of 2024). Some customers have specific requirements, as they work in regulated environments, have more complex system landscapes, or wish for stricter control of the implementation process. SAP plans to include such functionality in SAP Cloud ALM in the future.

SAP Solution Manager is an alternative ALM solution that already supports such specific requirements today:

- Customers in regulated industries must follow good manufacturing practices and other rules set by relevant agencies, such as segregation of duties, versioning, PDF and archiving support, and special standard attributes. SAP Solution Manager supports these requirements and can be used for validation.
- SAP Solution Manager eases the support of complex system landscapes. For example, if you want to run upgrade projects on another system in parallel to maintenance, you must transfer maintenance changes to the upgrade systems as well (retrofit). SAP Solution Manager can help you automate most of the required activities. For more information, visit [SAP Help Portal](#).

- The Focused Build solution for SAP Solution Manager provides predefined best-practice ALM processes with strict process control. Such strict process governance is not yet available in SAP Cloud ALM.

SAP Solution Manager covers a wider functional scope, but it generates higher costs than SAP Cloud ALM. Even though it is included in on-premise maintenance agreements from SAP, you must finance and subscribe to the infrastructure and hardware. You must run the system, maintain agents, and deploy SAP Notes and support packages regularly. In addition, the configuration for SAP Solution Manager is more complex than for SAP Cloud ALM.

Usage rights for SAP Solution Manager are available only for customers with on-premise SAP products. Cloud-only customers do not have usage rights unless they subscribe to SAP Solution Manager offered by SAP Enterprise Cloud Services. You can decide which ALM solution fits better for your company's situation.

On a final note, even if you decide to use SAP Solution Manager for supporting your implementation project, SAP recommends using SAP Cloud ALM in parallel for operations and service deliveries.

Link compendium

Part one – Strategic choices

SAP Note 2269324 – Compatibility Packs	Standard add-on installation tool – documentation
Compatibility scope after 2025/2023	Maintenance for SAP Business Suite 7 software including SAP NetWeaver
SAP S/4HANA Cloud Private Edition – documentation	Central finance FAQ
SAP S/4HANA Cloud – documentation	Homogeneous option for DMO
SAP S/4HANA Cloud Private Edition – Integration Monitoring Setup	SAP Note 3351047 – SAP S/4HANA 2023 Feature Package Stack
Modernizing with SAP Business Warehouse	SAP Note 2887318 – Handle G/L Inconsistencies in SAP ECC Prior to SAP S/4HANA Conversion
SAP Business Warehouse – Statement of Direction	SAP Note 2896400 – Reconciliation of Asset Accounting Inconsistencies in SAP ECC Prior to SAP S/4HANA Conversion
SAP Human Capital Management	SAP Note 2714344 – Financial Data Migration to SAP S/4HANA: Most Frequent Error Messages – Information and Recommendations
SAP Note 3091160 – SAP HCM for S/4HANA – General Approach and Strategy	SAP Cloud Appliance Library
SAP Road Map Explorer	SAP Note 3018442 – Selective Data Transition and Selective Data Transition Engagement
SAP S/4HANA Cloud Private Edition – product overview	Selective data transition on SAP Support Portal

Part two – Ingredients for project success

SAP Learning	SAP-qualified partner-packaged solutions for SAP S/4HANA Cloud Public Edition
SAP Learning Journeys	SAP-qualified partner-packaged solutions for SAP S/4HANA Cloud Private Edition
SAP Companion – embedded learning	SAP Fiori deployment options
SAP Enable Now	SAP Fiori integration with SAP Business Client
SAP Learning group	SAP Fiori integration with SAP Business Client
RISE with SAP Migration and Modernization program	SAP Fiori apps reference library
Principles of SAP Activate	ABAP RESTful application programming model
SAP Preferred Success	ABAP development tools for Eclipse
Enterprise Management Layer for SAP S/4HANA – What's New – Release 2023	CDS View Performance Best Practices blog series
SAP ecosystem and partners	SAP Note 2713963 – CVI FAQ
Competency Framework	CVI cookbook
SAP Partner Finder	CVI cockpit
SAP-qualified partner-packaged solutions for conversion to SAP S/4HANA Cloud	Deployment Recommendations for SAP Master Data Governance

Part three – Essential tools from SAP

SAP Readiness Check	Using Technical Downtime Optimization
SAP Readiness Check on SAP Community	SAP Note 693168 – Minimized Downtime Service
Custom Code Analysis for SAP S/4HANA	SAP S/4HANA migration cockpit – available migration objects
ABAP Call Monitor – analyze code usage	SAP Information Steward
Custom code migration mission	SAP Data Services
SAP Business Transformation Center – Digital Blueprint	Overview of data transition validation tool
SAP Business Transformation Center on SAP Support Portal	SAP Note 3117879 – Data Transition Validation Tool
Automated deployment on Microsoft Azure	Testing and Analysis of ABAP
SAP Signavio Process Insights, discovery edition	SAP Solution Manager – Dual Landscape Synchronization (retrofit)
Technical Downtime Optimization	

Conclusion

We hope that this guide helps you find your way to a new digital core and shape your strategy by:

- Identifying the strategic choices and understanding the trade-offs
- Knowing the right questions to ask your project teams
- Understanding the essential tools that SAP provides – and continuously improves – for conversions, new implementations, and selective data transition scenarios

As we continue to update and enhance this guide, we welcome your ideas and suggestions. While we have highlighted the pivotal elements of your journey to a new digital core, we certainly haven't covered all of them. You can send your feedback to our [central e-mail address](#).

For those who want to learn more about SAP S/4HANA Cloud Public Edition and its functional capabilities, the ultimate source is the [product page](#).

For customers who have yet to make their case, we recommend the [SAP Customer Evolution Kit](#), which is available without any additional fee to customers with a valid support agreement. This program consists of preparation and five days of virtual classes. At the end of the program, you will have built your first implementation plan for your transition to SAP S/4HANA Cloud, including a business process analysis, value assessment, and transition strategy.

Last but not least, we would like to direct you to check out the page for [RISE with SAP](#), which offers plenty of resources, including customer stories and an overview of the RISE with SAP Migration and Modernization program.



Acknowledgments

We would like to thank Christine Grimm from DSAG and Geoff Scott from ASUG for their contributions, which helped us to combine SAP's point of view as a software vendor with the collective experience of customers to focus on the right subjects. We would also like to thank all of the contributors of the initial guide, as it served as the foundation for the new

"Mapping your journey to SAP S/4HANA Cloud Private Edition: A practical guide for senior IT leadership."

Finally, we would like to thank all of our coworkers at SAP and others, listed below, who specifically contributed to this new version.

Ildar Akhmerov	Michael Haas	Dirk Rebmann
Yasmin Awad	Nadine Haesner	Stephan Reichart
Thomas Bamberger	Rudolf Hois	Alexander Roebel
Kathrin Baumann	Susanne Janssen	Heidi Rosenau-Sinel
Stefan Berndt	Kattia Jordan-Philipp	Boris Rubarth
Reik Boettner	Aleksandr Kirov	Karsten Ruf
Bjoern Braemer	Stephan Klein	Matthias Schilka
Richard Bremer	Milena Koenn	Arne Schmidthals
Diego Cabrera	Panos Kollias-Pityrigkas	Sebastian Schmitt
Rene Cedat	Sven Krueppel-Berndt	Markus Schunter
Greg Clavier	Navneet Kumar Mishra	Nicole Schwalm
Jocelyn Dart	Sybille Lackermeier	Robert Schweisthal
Peter Datsichin	George LeBron	Thomas Spandl
Olga Dolinskaja	Marton Luptak	Thorsten Spihlmann
Thomas Fiedler	Juergen Mahnke	Gerald Stricker
Markus Goebel	Susanne Mondzech	Gunther Stuhec
Uwe Grigoleit	Cay Rademann	Astrid Tschense
Juergen Grimmeisen	Ulrike Raidl	Niclas Weidner