



Building an **Intelligent, Modern, Sustainable** Enterprise

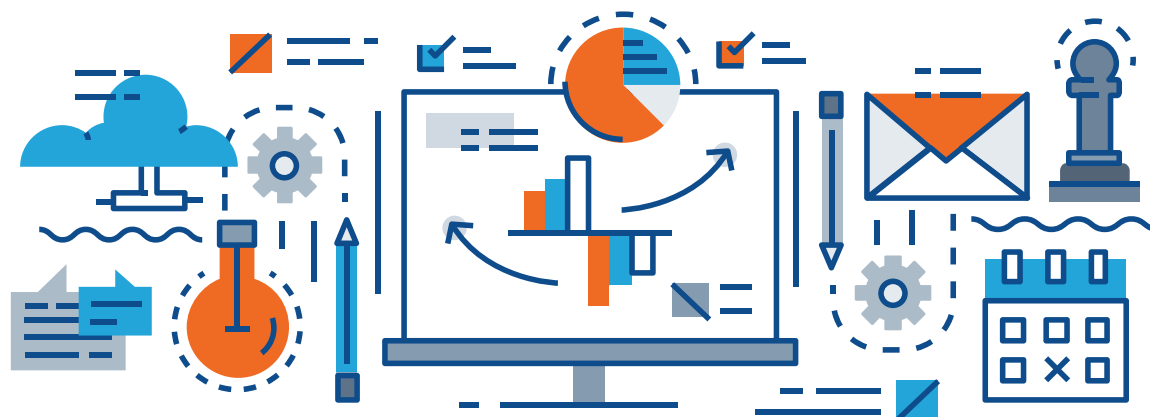
Accelerate Your SAP Transformation with IBM and AWS

FROST & SULLIVAN VBOOK



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Introduction

Prevailing macroeconomic conditions, fluctuating demand and supply dynamics in the post-pandemic world, and disruptive business models have intensified the business-critical need for an agile, digitally resilient enterprise. Frost & Sullivan research shows that enterprises believe cloud to be the top technology that will be instrumental in getting them to the future state they envision, positioning them to survive and thrive despite commotion and competition.

Migrating an organization's most important business operations to the cloud is a crucial step in the modernization journey, and no digital transformation is complete in the absence of a strong, future-proof enterprise resource planning (ERP) foundation. SAP is the nerve center of business operations for companies around the world. In fact, 77% of the world's transactional revenue touches an SAP system, and 92% of the Forbes Global 2000 companies use SAP.

SAP typically runs the six core business processes in an enterprise: finance, accounting, HR, supply chain, sales, and manufacturing. The myriad benefits of having these essential operations in the cloud is driving many companies to accelerate their move to cloud-based SAP S/4HANA before support is halted for premises-based SAP business suites.

However, transformations are complex, with many moving parts. It is not sufficient to simply lift and shift SAP applications to the cloud. Businesses must ensure that they can leverage new data-centric technologies such as machine learning (ML), generative artificial intelligence (AI), and the Internet of Things (IoT) while avoiding business interruptions that can cause huge losses.

With so much at stake, many businesses rely on partners to assist with their transformations. The choice of partners is among the most strategic decisions that IT leaders will make today. It is crucial to choose

- ▶ The right advisory, implementation, and managed services partner to guide your journey, as well as
- ▶ The right cloud infrastructure partner to provide the compute, storage, network, and management tools necessary to run SAP S/4HANA in the cloud.

In this visual whitepaper, Frost & Sullivan looks at the optimal way to modernize, mitigate, build, and manage SAP in the cloud, using Amazon Web Services (AWS) and IBM Consulting.



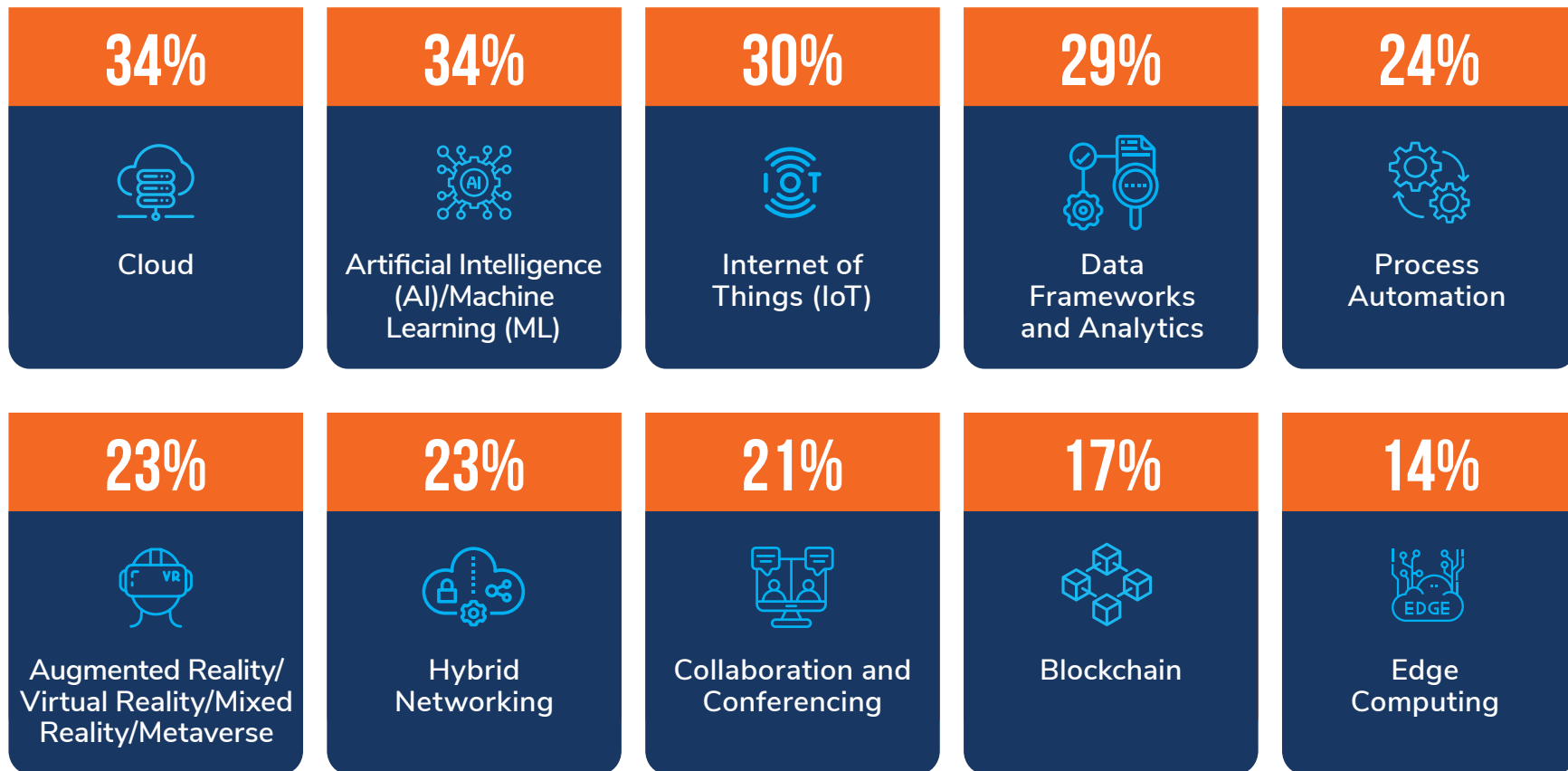


Top Business Priorities for Enterprises





What Technologies Companies Plan to Invest the Most in Over 2023



(F&S 2022 Cloud User Survey)



Why SAP S/4HANA in the Cloud?

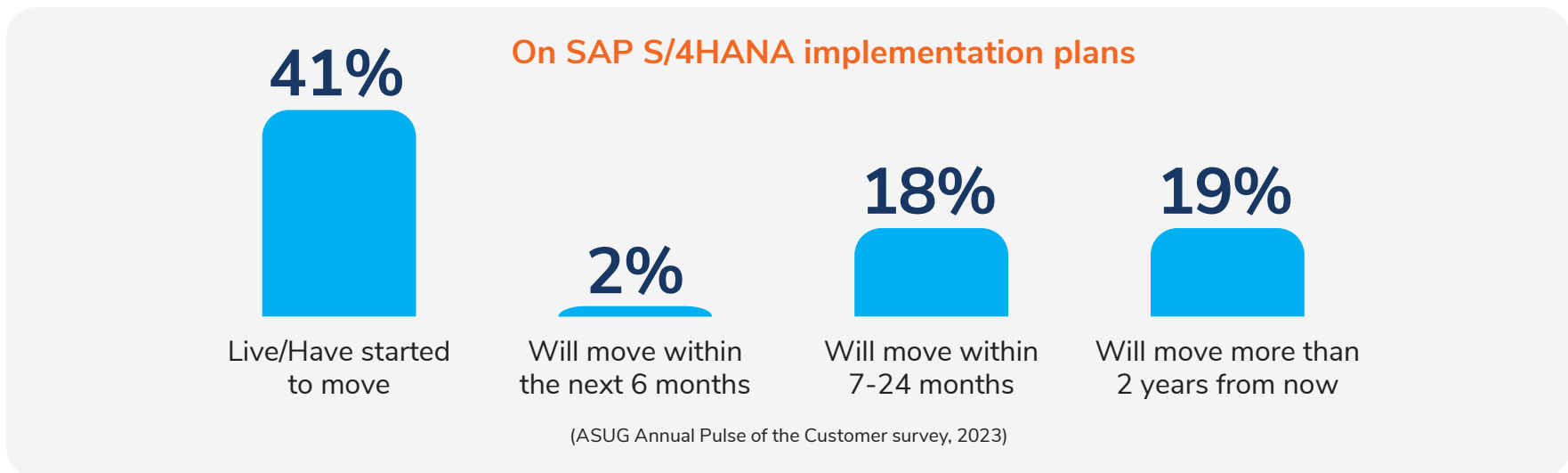
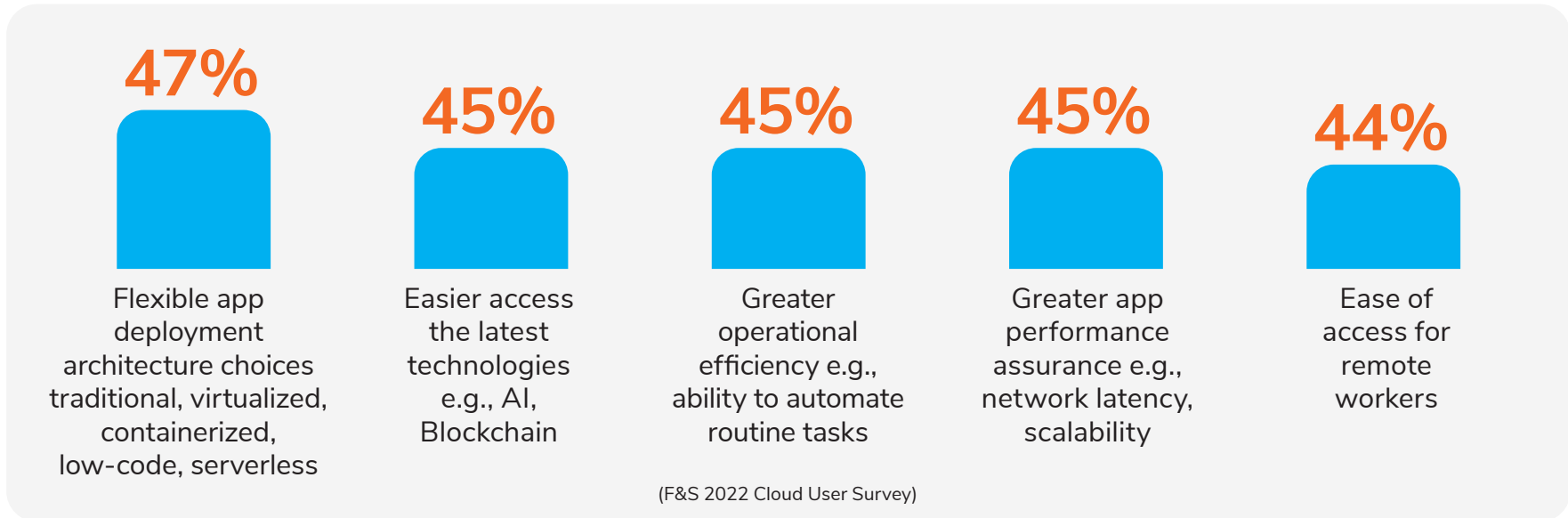
With SAP S/4HANA in the cloud, your enterprise can leverage all the benefits of a scalable ERP system that can grow with you. SaaS-based SAP S/4HANA can be deployed on public and private clouds without the need for large IT departments or investments in hardware or software. SAP handles everything in a cloud-based SAP S/4HANA deployment, freeing up your organization's time to focus on tasks that drive competitive advantages for your core business.

SAP S/4HANA's simplified architecture, focused on a clean core, utilizes SAP best practices to arrive at predefined system configurations. This enables rapid deployments, faster realization of ROI, and business efficiencies across the board.

The platform is infused with advanced technologies such as ML, AI, and process automation that multiply efficiencies and enable customers to innovate better for internal and external stakeholders. SAP S/4HANA allows customers to tap into the latest innovation with its schedule of quarterly upgrades and by extending the platform through APIs and extensions.



Top Reasons to Deploy Critical Workloads to the Cloud





Getting Started: Selecting the Proper Path to Enterprise Application Landscape Priorities

Digital transformation accelerates the strategic priorities of an organization—today, these are growth, cost reduction, regulatory compliance with a focus on continuous innovation, sustainability, and digital resilience. Because each organization is at a different place in its transformation journey, one approach does not meet all needs. SAP offers two broad ways in which companies can approach an SAP S/4HANA transformation:



Infrastructure modernization is a brownfield, “lift and shift” approach chosen by businesses that want to quickly move to AWS. This approach allows them to offload responsibility for purchasing, maintaining, and scaling infrastructure while introducing simplified automation and visibility tools.



IBM Rapid Move delivers an infrastructure modernization and selective transformation, helping clients leverage existing investments while enabling redesign and standardization of high-impact business processes.

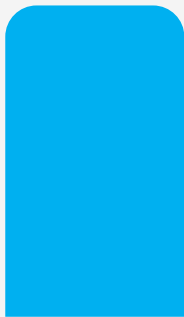


Next-generation digital transformation goes deeper and is used by businesses that are ready to build on their AWS for SAP foundation to leverage next-generation technology such as AI and ML. Next-gen transformation allows enterprises to easily utilize best-in-breed innovations from technology leaders including SAP, AWS, and IBM to build a competitive edge, execute on their sustainability goals, and better leverage automation and data to transform into an intelligent, sustainable business.



Organizations Use a Range of Approaches To Modernize Their Legacy Applications

44%



Move our virtualized apps to a public cloud virtualized option (e.g., VMware on AWS)

40%



Replace the app with a cloud-native application

40%



Use a Custom or ISV-provided APIs to deploy legacy apps on modern cloud platforms (e.g., SAP S4/HANA)

38%



Containerize these apps to move them to a cloud environment

37%



Re-factor/re-engineer to make the legacy apps cloud-native

(F&S 2022 Cloud User Survey)



All Clouds Are Not Alike: Why AWS for SAP?

AWS is the proven cloud to innovate with any SAP workload for an increasing number of enterprises. Benefits include:



The TCO advantage. A major driver for enterprises to move their SAP to AWS is their confidence that AWS will provide a lower total cost of ownership (TCO) to maintain technology landscape on its infrastructure. AWS leads public cloud providers in terms of price reductions. Since it was launched in 2006, AWS has offered 129 price reductions while also making continuous improvements to AWS's global infrastructure.



Data and AI leadership. AWS designs its architecture to be future-proof, tapping the latest advancements in technology. AWS architects and prototypes agile, cloud-native solutions, and this proof-of-concept work drives home the value proposition of innovative initiatives in the space. AWS is a leader in data and AI technologies, offering 200-plus services for data lakes, AI, ML, IoT, image recognition, and chatbots.



The Amazon experience. AWS powers its parent company, Amazon—a huge source of its competitive advantage. AWS has a deep understanding of eCommerce and supply chain workflows. Enterprise customers that work with AWS benefit from the same tools that are developed for Amazon.com to improve customer experience and logistics.

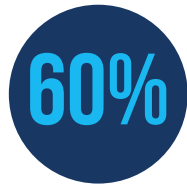


Superior infrastructure. AWS's extensive global infrastructure provides the low-latency, high-availability throughput needed for data-intensive workloads. The provider has launched 31 regions, 102 availability zones, and more than 450 points of presence with 400-plus edge locations and 13 regional edge caches.

(F&S 2022 Cloud User Survey)



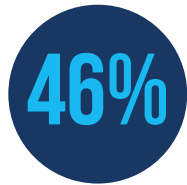
Top 5 Reasons AWS Customers Choose AWS for Critical Workloads



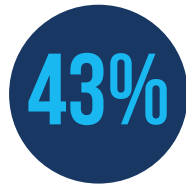
Good customer service



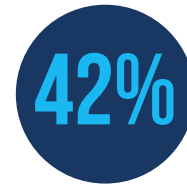
Competitive cost



Strong company reputation/ image



Broad Partner Ecosystem



Product and feature set

AWS reports that it is the first cloud provider to



Support SAP as a customer



Purpose build infrastructure for HANA



Automate SAP on cloud deployment



Build dedicated partner and professional services programs for SAP



Certify infrastructure for SAP

(Source: AWS Migrations, 2021)



The Challenges of a DIY Approach

Most businesses struggle with the complexity and urgency of their digital transformation initiatives. The stakes are exponentially higher when trying to move mission-critical SAP workloads to the cloud. SAP modernization projects are time-consuming and resource-intensive, and when they go wrong the consequences of business interruption and revenue loss can be devastating.

Already facing a worldwide shortage in skilled line-of-business and technical resources, organizations attempting a do-it-yourself (DIY) approach to SAP transformation struggle to recruit, manage, and maintain teams with the necessary technical skills and business process expertise. The teams face the daunting task of continuously keeping track of changes and innovation in this space to effectively leverage the latest from SAP and other technology leaders to benefit their business.

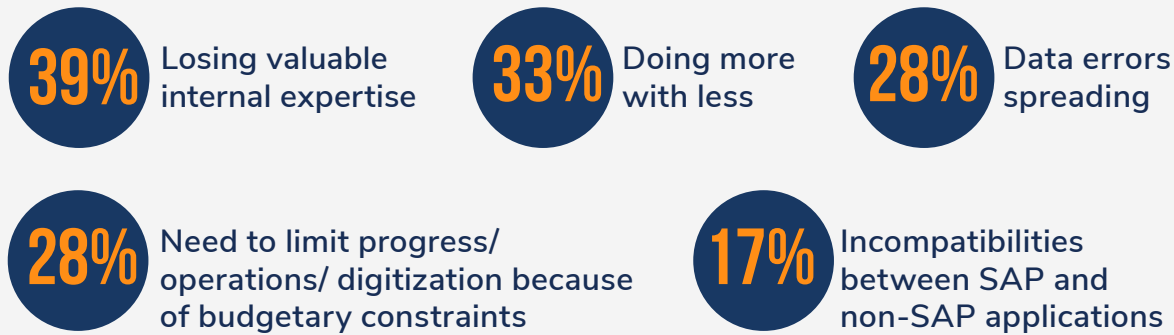
85% of businesses that have not moved their ERP workloads to the cloud said lack of expertise hindered or stopped the migration.

(F&S 2021 ERP Decision Maker Survey)



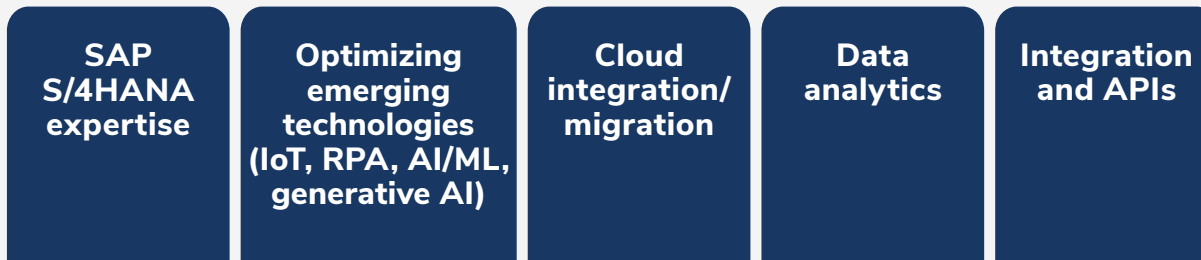
Challenges with SAP Migrations

Top issues among SAP customers include maintaining knowledgeable staff/turnover, budget challenges, and integration issues



(ASUG Annual Pulse of the Customer survey, 2023)

Top skill set gaps at organizations

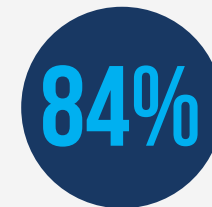


(ASUG Annual Pulse of the Customer survey, 2023)

Major challenges that companies face as they try to move ERP to the cloud



Ensuring security



Ensuring regulatory compliance SAP S/4HANA

(F&S 2021 ERP Decision Maker Survey)



Transformation Complexity Drives Businesses to Choose an Expert Partner

Not surprisingly,

72%
of businesses turn to a third party for assistance.

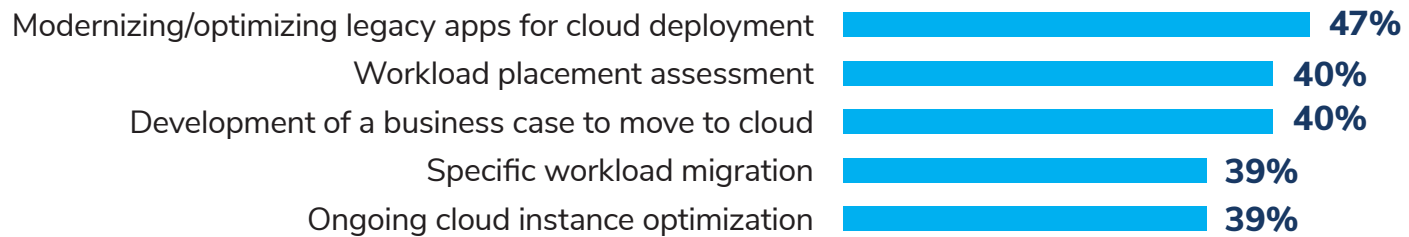
Expert partners with deep technical and industry-specific experience and a history of successful ERP implementations can help organizations achieve faster time to value, a lower TCO, and the ability to refocus internal staff on high-value activities pertinent to their core business.



Top Digitalization Services Procured via a Third-Party Expert Partner

(F&S 2022 Cloud User Survey)

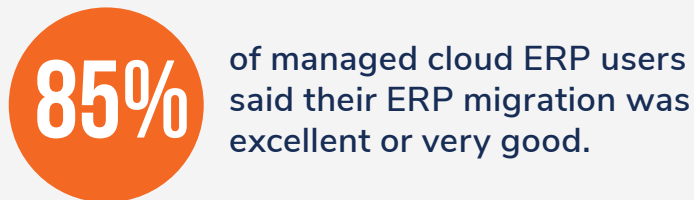
Most used third-party services, 2022



Top benefits experienced by managed cloud ERP users:



(F&S 2021 ERP Decision Maker Survey)



(F&S 2021 ERP Decision Maker Survey)





Choosing the Right Partner: IBM Knows SAP and AWS

IBM has a rich history of deep partnership with both SAP and AWS, enabling the company to significantly amplify and accelerate enterprises clients' SAP on AWS journey.

- ▶ **IBM's partnership with SAP spans 51 years.** During this time, IBM has delivered more than 6,500 SAP projects, signed 750-plus SAP S/4HANA programs, and has been the recipient of 37 Pinnacle awards. IBM employs more than 40,000 SAP consultants globally, with four times the number of SAP S/4HANA consultants than any other partner. IBM brings with it the ability to deliver a foundational SAP transformation that can then extend to a next-gen transformation for clients. IBM is a leading provider that enterprises approach for help with understanding and implementing RISE with SAP. Most recently, in May 2023, IBM announced plans to integrate IBM Watson technology with its SAP suite to drive data-based decision-making, automation, and innovation. IBM's digital assistant SAP Start will be powered by Watson's predictive insights and natural language capabilities.
- ▶ **AWS is another critical strategic partner for IBM.** With 17 service validations and 16 AWS competencies, IBM is a Premier Tier Consulting Partner. The SAP platform on AWS infrastructure forms a powerful foundation on top of which IBM's guidance enables companies to tap into all the innovation that IBM co-creates with AWS and continuously unlock myriad next-gen benefits for their business processes and operations. SAP customers use AWS to lift and shift their existing systems, expedite SAP S/4HANA transformations with RISE with SAP, and modernize business processes with next-gen AWS services.



RISE with SAP Business Benefits

Launched by SAP in January 2021, RISE is a business transformation as a service that makes it easier for companies to port to SAP S/4HANA. SAP, together with its partner networks, meets customers where they are in their transformation and accompanies them in a guided journey to the cloud. The introduction of RISE has signaled how SAP as a company has pivoted strategically to bring SAP S/4HANA to the forefront.

As key partners to SAP, IBM Consulting and AWS are certified to administer and deploy the RISE with SAP program to help organizations accelerate their transformation. IBM consultants together with AWS amplify the program's compelling benefits:



Quicker and more seamless transformation for enterprises



Simplification of what SAP as a company can do for customers in terms of contracts and operations, rather than customers having to do all the exploratory work



The best of what SAP has to offer (a focus on its core ERP) while SIs and hyperscalers are roped in to play to their key strengths



A continuous SAP transformation process with ongoing support from SAP's infrastructure and implementation partners

Hundreds of clients choose the RISE program with IBM Consulting and AWS as partners to simplify their journey to the cloud. SAP Business Technology Platform (BTP) services built on AWS and combined with the 300-plus fully featured native cloud services, AI, ML, and data lake offerings lay a solid and future-proof infrastructure foundation. Together with IBM's expertise, businesses can then simplify operations, accelerate business process transformation, manage costs, and add layers of industry-specific functionality.



Why IBM and AWS for SAP? Next-Generation Innovation

Organizations seeking to transform not only SAP but the entire enterprise would do well to consider IBM Consulting and AWS. This partnership enables enterprise clients to tap into IBM's intellectual capital as well as—through AWS—the best and latest in cloud innovation. The two technology leaders are collaborating in various ways to address vertical- and microvertical-specific priorities that enterprises and their lines of business face.

Industry-specific solutions: IBM Impact leverages its rich history of expertise with specific industries to bring best practices that clients can apply in their business processes for SAP transformations. Impact runs on the AWS cloud and is the foundation that IBM uses to build and extend its 16 industry offerings. It enables clients to launch on day one of the program with a working, live SAP S/4HANA solution based on SAP and IBM best practices and enriched with industry insights. IBM Impact reduces the inherent lag between process validation and design with an integrated business process hierarchy and predefined process models and process definition documents. It also accelerates the full duration of the program with prebuilt assets loaded into the tools themselves, allowing clients to shift their mindset from “creating” to “editing existing.”

Sustainability: The ability to balance sustainability and profitability goals is becoming a priority for enterprises. IBM is working with AWS and SAP to enable clients to analyze their sustainability data and carbon footprint across their supply chain workflows to comply with regulations, make better business decisions, and increase profitability.

Data-driven decision-making: IBM and AWS are infusing intelligence into SAP's business processes with a generative AI platform, AI/ML, and IoT unlocking real-time insights and data-driven intelligence. That said, for an enterprise, the trustworthiness of the models, energy efficiency, performance, portability, and ability to leverage enterprise data effectively and securely are paramount. The benefits of AI are irrelevant if enterprises cannot have confidence in the predictions and content generated by the models.

Premium supplier partnership: In the works is a commercial partnership that offers the SAP ERP on AWS IaaS and PaaS guided by IBM technical services. The subscription fee for clients will cover software, support, infrastructure, and technical and managed services. Enterprises that sign on benefit from one service-level agreement, industry-leading reference architectures, and end-to-end security.



Client Examples

Japan Airlines optimizes operational efficiency with SAP S/4HANA on AWS

In the midst of the pandemic—a challenging time for the airline industry, Japan Airlines (JAL) took the risky decision of pushing forward on its digital transformation journey, migrating SAP to SAP S/4HANA. With IBM's guidance, JAL chose to deploy SAP S/4HANA on a hybrid cloud platform named CIEL/S based on AWS infrastructure.

- ▶ In a 100% remote deployment, **IBM ensured a smooth rollout within the planned project schedule**, while AWS provided consistently high availability and performance and stellar service.
- ▶ JAL reported that its SAP environment was **significantly simplified with a 60% reduction** in customizations, improving operational agility and enabling accelerated innovation.

Holi Pharma migrates to SAP S/4HANA with IBM and AWS

Indonesia-based pharmaceutical company Holi Pharma leveraged IBM's expertise and AWS infrastructure through RISE with SAP to modernize its SAP landscape and move mission-critical ERP workloads to the cloud. The migration effort for core business processes took only four months to complete. After the migration, thanks to the SAP S/4HANA foundation, Holi Pharma leverages the strong, integrated data fabric to increase production capacity and employs next-generation analytics to accelerate response time to problems in the business.



Galp Energia accelerates B2B and B2C operations with SAP S/4HANA transformation

Portuguese energy giant Galp previously used a heavily customized version of the SAP ERP for its end-to-end operations. Galp embarked on its SAP S/4HANA transformation with the goal of reducing huge maintenance costs and bringing greater agility to the business. The company chose IBM as its services partner for its deep technical expertise with SAP and familiarity and experience with the oil and gas industry. IBM helped move SAP S/4HANA and SAP B/W4HANA in the AWS cloud to create the foundation for timely, data-driven decision-making. Manual workflows were replaced with digital, resulting in a 75% increase in straight-through processing for invoices. Some 76% of employees rated the SAP S/4HANA transformation a success. To accelerate operations across gas stations and convenience stores, SAP Fiori mobile apps were connected to the SAP S/4HANA platform for employees to place orders for inventory and raise maintenance tickets. Real-time point-of-sale data was used to have inventory reflect customer behaviors and preferences. Expedited upgrades are an added benefit, with the upgrade to the latest version of SAP S/4HANA taking just 10 weeks.

S/4 HANA in the AWS Cloud drives cost-efficient growth for Phillips Carbon Black

For Phillips Carbon Black, India's largest carbon black producer and exporter, migrating to SAP S/4HANA was a major step on the way to build an agile business that could scale to meet growing demand. AWS Cloud and solutions offered economies of scale and accelerated deployment while enabling the orchestration of best-in-class, end-to-end business processes on one integrated platform. Thanks to the strong, collaborative IBM-AWS partnership, PCBL reported that its SAP S/4HANA transformation was completed without any negative impact on business users, while ensuring that:

- ▶ **85% of the data conversion process** was automated during the SAP solution upgrade
- ▶ Business users experienced **30% faster application response time**



The Last Word

Moving your ERP to the cloud is a complex, time-consuming, and resource-intensive endeavor. More SAP customers embark on this journey to cloud every day in the hopes of transforming into intelligent, sustainable, digitally resilient enterprises. For IT leaders in these organizations, the choice of advisory and infrastructure partners is among the most strategic decisions to be made. IBM's deep partnership with both SAP and AWS and its track record of successful, on-time SAP S/4HANA projects make it the right choice to deliver success to clients.

The growing collaboration between IBM and AWS is yielding exciting innovation around industry, sustainability, analytics, supply chain, and financial transformations that organizations can leverage to stay relevant and competitive in the long term.



GROWTH IS A JOURNEY. WE ARE YOUR GUIDE.

For over six decades, Frost & Sullivan has provided actionable insights to corporations, governments and investors, resulting in a stream of innovative growth opportunities that allow them to maximize their economic potential, navigate emerging Mega Trends and shape a future based on sustainable growth.

Contact us: [Start the discussion](#) →