



**Expedite SAP S/4HANA
Migrations and Maintain Business
Continuity with Automation**

ASUG

WORKSOFT®

Move Faster with Less Risk

Legend has it that Thomas Edison ran 1,000 to 3,000 experiments that failed to produce the monofilament lightbulb he envisioned. His struggles as an inventor led to his famous quote, “Genius is 1% inspiration and 99% perspiration.” This idea captures the common belief that if we work hard enough at anything, we can succeed at our goals.

The Modern Enterprise Can’t Afford to Risk Failure

Although it’s fantastic inventor’s lore, this Victorian-era thinking is as old as the lightbulb that it labored to produce. Today, business and innovation move at a speed that no longer allows for thousands of unsuccessful manual tests to arrive at a solution. Employees empowered to make decisions must do so quickly and implement them at an even faster pace. A company must continually be on the lookout for ways to innovate in all aspects of its business so customer-facing business functions have what they need to satisfy the buyer.

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A Win for Innovation: Welcome to SAP S/4HANA

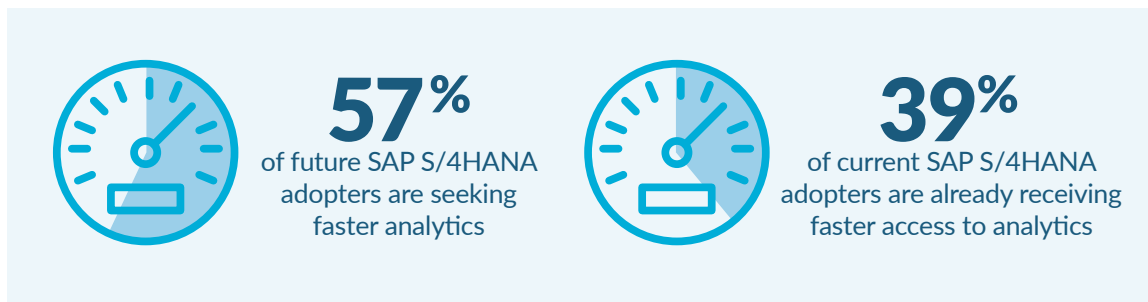
An ASUG member who is a VP of a life sciences company said, “I don’t have a single business process that begins or ends in SAP. But every single business process I have transverses SAP.” This is a reality for many SAP customers, particularly those who have invested their core ERP with SAP and are looking for new ways to drive innovation and growth. Many companies see a conversion from their traditional ERP (say, SAP ECC) to SAP S/4HANA as a way to bring agile decision-making to life.

Time and again, we’ve heard about how SAP HANA’s in-memory computing delivers benefits like faster processing and real-time analytics. These benefits are likely enticing because of their potential to empower data-driven decision-making. According to ASUG research conducted in early 2019, 57% of ASUG members see faster access to analytics as a key driver for their future SAP S/4HANA implementations. Among those ASUG members who already have made the transition, 39% already are seeing a measurable level of success in this area (Figure 1). Given that many implementations are still in their earliest phases, this type of ROI is definitely appealing to those getting ready to make the move.

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- ASUG member, life sciences company

Figure 1: SAP S/4HANA Delivers on Faster Analytics



Source: ASUG research, February 2019

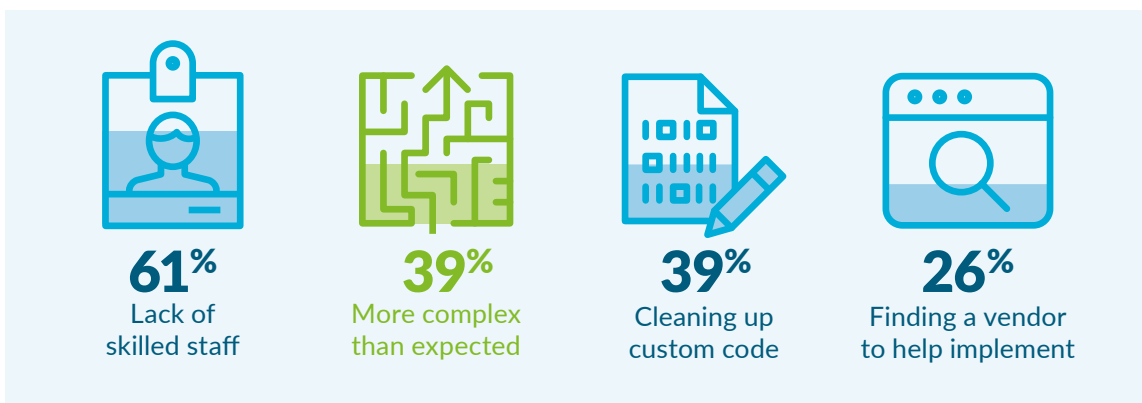
Know Your Processes and Plans

It’s important to note that companies that have completed successful SAP S/4HANA implementations have meticulously planned for the transition. Some ASUG members who have done a simple lift and shift of their systems—without preparing their master data or understanding the ramifications of their built-in customizations—have set themselves back. Organizations that fail to fully understand how processes work in their legacy environments will struggle to assess the complete scope of an SAP S/4HANA migration. It’s critical to know your current configurations and understand how the business processes work across your company.

You will need to evaluate and optimize your business processes on a continuous basis throughout a transformation of this magnitude if you want the implementation to not just succeed but thrive. A significant segment of the SAP customer base is concerned because they may not have a coherent

plan for how to implement and maintain SAP S/4HANA. In fact, ASUG research confirmed that 39% of SAP S/4HANA customers underestimated the complexity of their migration, which was a major challenge—second only to a lack of skilled staff (Figure 2).

Figure 2: Top Challenges Faced During SAP S/4HANA Transitions



Source: ASUG research, February 2019

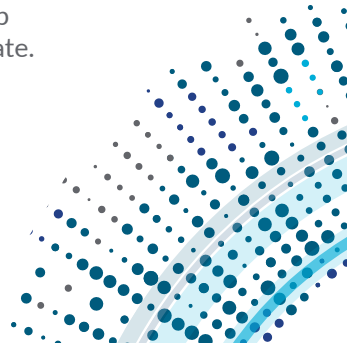
If you haven't made this transition, don't worry. There are things you can do to prepare before your journey. One important step is to complete a deep data cleanse and code audit. It's an absolute necessity that you have clean information to put into your new system, which will process it faster and distribute it throughout all corners of your organization. A move to SAP S/4HANA shouldn't just transform your systems—it is an opportunity to transform your business processes. Understanding how those processes fit together today and might need to adapt for the future is another critical piece of the puzzle.

Transformation Through Fast Adaptation

Companies can and should plan for how a transformation to SAP S/4HANA will affect their organizations. Even the best plans, however, will encounter challenges because of how quickly businesses evolve. That is why the Agile project management methodology is a strong approach to a transformation of this importance. The Agile framework exists to help teams respond to change rather than adhere to a rigid plan. This sets up an organization to prioritize working software over detailed documentation or other ancillary needs, which is critical to completing projects as large or complex as implementing core ERP systems. To take full advantage of the Scaled Agile Framework (SAFe), you must also be able to automate at scale.

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Automation can help drive digital transformation projects. Examples of where it can inject simplicity into projects include business process discovery, compliance reporting, and disaster recovery validation tests. Automation also is a great way to engage business users in the transformation, as it's no longer solely IT's responsibility. Functional departments can help identify which business processes should remain intact and which ones to alter or automate.



By empowering business users to automate discovery for business process identification, companies can avoid missing critical functionalities that should carry over to the new system. Automation tools that generate documentation of business processes and their validation also can streamline efforts for compliance and disaster recovery validation.

This gives the transformation visibility across an entire company, democratizes the automation process so that everyone is building and sharing, and helps your organization adopt and embrace the Agile approach within each area of the business.

The Promise of Automated Testing

Most SAP customers who influence the purchase and implementation of technology like SAP S/4HANA know that these new systems bring change management implications across an organization. Teams might be able to isolate specific tasks down to the functional level, but overall system transformation will likely affect every single department within a company. This makes understanding change management as an end-to-end process one of the most critical operations in these transitions. That is where testing the new system helps paint a picture of what is to come when changes go live. As your application service library grows, so does the need for ongoing testing across all involved services and processes.

This is not new information, but many might not recognize how involved this testing process is or how to do it optimally. Some SAP S/4HANA projects might require spending as much as 80% of the project's time and resources on testing—not quite the 99% Thomas Edison referred to, but still a significant number. Because this testing is designed to help uncover potentially critical breakdowns, hundreds of scenarios are needed to accurately measure and validate the interdependencies of each potential piece of the implementation.

Changes made by one team can have unintended consequences for other teams. Consider how deploying a standardized version of SAP S/4HANA will affect the scripts finance needs to process payroll and run SAP SuccessFactors. You also should ask: If I streamline my customizations, will my logistics team still be able to accurately assess inventory and distribution schedules? These are just some of the things you can discover through continuous testing.

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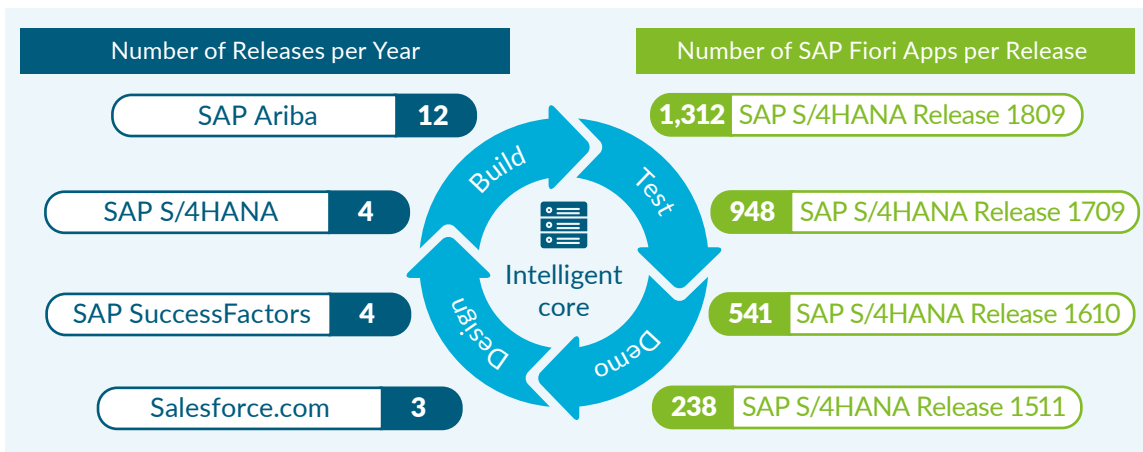
Tracking Your Stack Isn't Easy

Figure 3 helps to paint a picture of how many systems are at play when doing a full-scale ERP implementation or upgrade like the move to SAP S/4HANA. Depending on which version of each system you're on, the nuances of integrations and interactions between user interfaces will vary. And if you are running more than two or three of these different products (as many ASUG members do), the complexity involved in testing these connections can become overwhelming, especially if you have committed teams to test them manually. An SAP S/4HANA implementation is not the end of a transformation; rather, it is the end of the beginning of a transformation.



Outside of the intelligent core, other systems are constantly updating at different release cycles, which can make regular testing hard to plan for or scale. The number of SAP Fiori apps that you might need to update as you move from version to version of SAP S/4HANA also adds complexity and bandwidth your IT team might not have. Your technology stack most likely includes some non-SAP applications that you also need to test as part of your transition and update strategy.

Figure 3: Potential Complexity Within SAP S/4HANA Implementation and Update Cycles



Source: Worksoft

Although it's important that some testing remains manual—for example, tests that leverage optical character recognition (OCR) when visual verification is needed—there are plenty of opportunities to automate pieces of the testing process to make it significantly more efficient. This is a much simpler, repeatable, and potentially cost-effective method than trying to outsource this work to external parties.

The Dollars and Cents of Automated Testing

Automated tests run at least five times faster than manual tests, on average. They can go beyond the easy-to-find critical defects to find more subtle defects that often go undetected in a manual test.¹ Automating testing allows for higher test coverage because you can execute more tests per application. That coverage could expand for future updates or release cycles over time as the automation becomes embedded in each process.

True ROI from automated testing also can be measured in dollars and cents, which is much easier to sell to executive leadership as part of a business case. One example from Paul Grossman's white paper, "Automated Testing ROI: Fact or Fiction," suggests that switching from completely manual testing to automation could prepare a company to run as many as four to five times the number of tests in an average month and drive down the hourly cost associated with the testing by as much as 75%–80%.¹

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Real-Life Testing ROI

One real-life example of these benefits is from Honda's R&D department in the Americas. By introducing automated testing during its SAP HANA migration to reduce risk and verify system functionality, Honda was able to automate almost 5,500 steps in the process. As a result, the company achieved 70% coverage in five weeks using just one team member, saving 680 hours per test run compared with manual testing.

A January 2019 article in TEST magazine gives some more helpful ROI numbers across those organizations that do automated testing: a \$3.55 million increase in revenue per year, per organization, 23% faster completion of major migrations/projects, and 61% less staff time and testing scripts.² There are numerous other benefits, but these figures should provide the reasoning for why automated testing should become part of your company's software update strategy.

How to Do Automation Testing Right

Now that you understand the power of testing automation, the key will be to make sure you can adapt it for your organization to maximize the cost and time savings you can achieve. These tips will help you achieve your testing goals:

Deploy testing early, ideally in the development cycle. If you start this process early, retesting during the next cycle of updates will be easier to repeat and will require less effort. This will allow you to organically build more coverage of the testing steps needed as your technology stack evolves around your digital core transition.

Consider how you can break your deployment into smaller pieces. This could allow you to experiment with new methodologies like team sprints or a SAFe for your projects. These methodologies create the opportunity to build "quality gates" that make sure the functional modules work and no regressions or breaks occur in other parts of the business, meaning a much smoother path to a live production run. Test automation also fits well within the scope of these project management processes.

Account for how your delivery will evolve with your company. Modern processes, while streamlined, create more pathways and options than ever before. With transferable automation, you can create reusable building blocks that support scale, so your test automation is capable of evolving with your business without relying on a vendor's staff to rebuild every test.

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Look for ways to get your business units involved. As mentioned earlier, automation and testing should not be an IT-only operation. Solutions exist that help business users with little to no knowledge about testing to document business processes for the testing team so that they can automate the correct steps. This takes the guesswork out of the process because testers will be automating to meet actual needs rather than making assumptions about what the needs are.



Passing the Test for Your Customers

Business today requires even more testing than Thomas Edison did to get things right. The good news for SAP customers is that you don't have to go through it alone. As you look to what's next to help your business adopt new technology, this quote from 19th-century visionary John Ruskin may ring even more true: "Quality is never an accident; it is always the result of intelligent effort." Hopefully you now feel more confident in your understanding about the importance of automation as a piece of your digital transformation and implementations of core systems like SAP S/4HANA. The proof points we've mentioned here can help you develop a business case for external support. This is one test for your organization that can and should become easier to pass.

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- John Ruskin



About ASUG

Founded in 1991, Americas' SAP Users' Group (ASUG) is the world's largest SAP user group, serving 2,300-plus businesses via company-wide memberships. ASUG's mission is to help people and organizations get the most value from their investments in SAP technology. The Chicago-based organization accomplishes this by connecting and educating people through in-person and virtual events, delivering customer feedback to SAP, and advocating for its members. Find additional information at <https://www.asug.com/about>



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