EBOOK

Accelerate Your SAP® S/4HANA Journey with Automation

Get to S/4HANA faster, at lower cost, with less risk



The S/4HANA transition: A journey, not just a one-off project

The coming months and years will see SAP teams embarking on one of the biggest projects of their careers: the move to S/4HANA.

Some got started early, believing that the new platform will deliver tangible competitive advantage to early adopters, but mass uptake has been slow. In Q3 2019 SAP claimed 12,000 S/4HANA 'customers' — a fraction of all ECC users — and many estimates put the number of live implementations at less than half that figure. Despite this slow beginning, the shift to S/4HANA is sure to gain momentum as SAP's self-imposed 2025 cut-off date for ECC support approaches.

rush to S/4HANA



There will be a tsunami of S/4HANA doption between 2021 and 2023

Gartner

A long journey ahead

An unclear path to positive ROI and the complexity of the move have both been cited as holding firms back. S/4HANA is the biggest platform upgrade in the SAP world since the introduction of R/3 in the 1990s, and getting there is definitely not going to be easy or cheap.

The prospect of adding a major platform upgrade on top of the existing workload is an intimidating prospect for many, especially in complex, highly customized SAP landscapes where even routine upgrades and business-as-usual (BAU) changes can be painful to implement.

Amplifying these issues, an increasing number of SAP users are coming to understand that successful adoption of S/4HANA will look more like an extended journey than a one-off IT project, which means greater scope, cost and time before full value is realized.

Accelerate the S/4HANA journey with DevOps automation

Reducing the scale of the challenge — and the associated fear of getting started — is what this ebook is about. The S/4HANA journey is an ideal opportunity to adopt a new way of managing change in SAP: one that is faster, easier and less risky than the methods used by most teams today.

Over the coming pages we'll look at some key stages of the move to S/4HANA, and show how DevOps automation can help you make the journey faster, at lower cost, with lower risk.



The Automation Dividend

Automation can have a major impact on how fast you can be up and running on S/4HANA, and what the journey costs. Organizations using Basis Technologies' DevOps automation in their SAP systems have reported:

Lower costs		50%	reduction in the cost of delivering changes. Such a significant decrease represents a major saving in large, expensive programs.
Greater efficiency	0	95%	reduction in error-prone manual effort. Deployment of thousands of changes in a matter of hours means new systems can be developed at higher speed by fewer people.
Faster innovation		50x	faster delivery of new features. Promoting code as soon as it's ready accelerates projects through earlier testing and fast user feedback.
Lower risk	ب ب	70%	reduction in production system downtime. Automation eliminates technical errors and the wasted time and resources spent on remediation.

A major transformation initiative

The move to S/4HANA is a major transformation initiative, which for many organizations — particularly those with large and complex SAP landscapes — could take years to complete. For some, it will also be the catalyst to move their SAP estate to the cloud so that they can leverage the speed and innovation benefits that cloud hosting can bring.

Every organization's SAP landscape is different, with a combination of hardware, software, customization and processes that have been built over time to meet specific business needs. The scale, age and complexity of those systems will dictate what overall approach to take, but three basic options exist:



Greenfield: A from-scratch re-implementation of one or more SAP systems in S/4HANA, either configuring the software to the needs of the business or adopting a new, more standardized approach.

Brownfield: A 'lift and shift' that moves existing systems like ECC on to the S/4HANA platform, preserving pre-existing processes and customization.



Hybrid (transformation): A combination of the above approaches, where some existing systems are moved to S/4HANA 'as is', others are adapted to take advantage of the new technology and some are configured from scratch.

Basis Technologies' experience of working with our global network of SAP customers of all sizes suggests that most plan to take a hybrid approach. They'll rationalize some existing systems, move functionality that's business-critical, and start afresh in S/4HANA for new modules or functionality that supersedes what's available in ECC.



S/4HANA Implementation Methods

The three main S/4HANA implementation methods can have significantly different implications for business processes, custom code, data and how you carry out the cutover.

	GREENFIELD	HYBRID	BROWNFIELD
Overview	Re-implement in a new and empty system. Migrate master data and open items. Start with SAP best practices and justify deviations.	Copy existing system and drop all data to use as base for a conversion. Migrate businesses in phases or big bang.	Technically convert existing system. Retain all custom code and historical data. Probable Big Bang cutover.
Business Process Transformation	HIGH Likely to want to move "back to standard" and design new S/4-specific processes.	MEDIUM Retain some existing processes (as Brownfield), adapt some for maximum benefit.	MEDIUM-LOW Mandatory change only.
Historical Data	Unlikely to bring historical data given change to business processes and data model.	Option to bring portion of historical data (subset) by time and/or legal entity.	All unarchived historical data in the system will be converted / included.
Custom Code	Custom solutions that need to be retained will need to be brought in.	All existing custom solutions are retained. Clean-up easier than brownfield.	All existing custom solutions retained. Clean-up possible.
Downtime	Time taken to migrate open item data and validate.	Time taken to migrate transactional and open item data and validate.	Time taken for system conversion and validation.

The cutover conundrum

After deciding what your S/4HANA systems are going to look like, another key choice awaits: how to make the cutover from one platform to another. One option is a 'big-bang' switchover, where new S/4HANA systems all go live at the same time and legacy systems are deactivated. Though clearly decisive, this approach carries a considerable amount of business risk and requires significant up-front resources, so many companies are opting for a safer, more gradual transition in multiple phases.

There are a variety of ways to structure a staged approach. Phases might be based around lines of business, geography, or SAP functionality (so that, for example, Finance goes live on S/4HANA before Supply Chain). Whichever route you choose, the trade-off for practicality and safety will be the challenge of maintaining legacy and S/4HANA systems side-by-side for months, or perhaps even years. This appears to be the most likely scenario for many businesses.

An automation toolkit

Software automation will be an essential component of the most efficient and successful S/4HANA transitions. But it's important to note that no single tool can automate every aspect of the work to be done. SAP systems are complex and there will be many elements to consider, so you'll need a software automation toolkit to get you to your goal at the highest possible speed. Describing every way in which automation can accelerate the S/4HANA transition is beyond the scope of one ebook. Here we will focus on a key area that applies throughout the journey: change management, and how DevOps and test automation solutions can make it faster, easier and less risky.



Accelerating the Journey to S/4HANA

The S/4HANA journey is an ideal opportunity to adopt a new way of managing change in SAP. Over the next few pages we'll look at four key stages of the journey to S/4HANA and where DevOps and test automation can play a part.

Accelerate Your SAP® S/4HANA Journey with Automation | www.basistechnologies.com



The journey to S/4HANA isn't just about the process of building and migrating to new systems. The action you take to prepare for the migration will be critical to a smooth transition and to the long-term business value of the new platform. That could mean system consolidation, remediating custom code or cleansing master data, for example. For organizations taking a brownfield or hybrid approach, one of the toughest tasks in this first stage may be the upgrade of their current SAP systems.

If you want to take existing customization and processes with you to S/4HANA, the closer you are before you start the transition, the less work you're likely to have to do in order to get things up and running successfully. SAP recommend that organizations planning a 'system conversion' to S/4HANA should be running at least ECC 6.0 before they start. Unicode is also required.

Conversely, if the architecture and operation of the systems you're running today is too different from S/4HANA a greenfield approach may look attractive, but comes with the penalty of losing the custom functionality that differentiates your business and keeps it running — functionality you may have spent years developing.

Behind the Times

Customers said 'we're dying; we cannot permanently update the system ... run the risk ... for what advantage?' ... The answer is we update the [SAP] system twice a year, once a year ... I don't know what the average is but I guess the average customer is 6 years back ... probably more.

Hasso Plattner, Chairman of the Supervisory Board, SAP SAPPHIRE NOW 2019



An enhancement marathon

The problem for firms looking at brownfield or hybrid options is that many of them are a long way from the latest version of ECC, so getting ready for the move to S/4 could mean applying years' worth of enhancement packs in a short time. That's a huge amount of change to deploy across a large number of systems, and comes with significant risk. Plus, SAP still needs to support the business during the upgrades, which probably means running <u>multi-track development</u>.

It takes a huge amount of planning and orchestration to ensure that all changes are deployed safely and at the right time during a multi-track upgrade project. Managing such complexity manually via spreadsheets, change request tickets and emails is a costly, high-risk option that slows down project delivery and makes the transition to S/4HANA recede into the distance, along with the competitive advantage it's due to deliver.

Accelerate upgrades with automation

With the right DevOps automation, upgrades can be safely planned, managed, tested and deployed alongside BAU changes, without the need for spreadsheets. Automation acts as the 'single source of truth' for all the changes happening across the entire system, allowing for effective release planning and delivery. Quality is 'shifted left' to earlier in the development lifecycle, where problems — in particular 'technical' issues like dependencies, overtakes and sequencing — are identified quickly through automated analysis. The outcome is less rework, shorter cycle times and faster, safer automatic deployment of upgrades, even across different SAP systems.

All this is especially useful in multi-track (N+N) environments, where conflicts and confusion are more likely. In fact, the best automation tools manage multi-track merge and contention automatically.

Automation also comes to the fore in an area critical for upgrades, but often neglected due to the scale of the task: regression testing. During an upgrade you're making changes you've been told to, not changes you've specifically decided upon. That can make it difficult to know what processes will be affected. Comprehensive automated regression testing, which can test everything, every time, without relying on test scripts, provides massive benefits and helps to further accelerate the process.

Automation acts as the 'single source of truth' needed to gain a holistic view of all the changes happening across the entire system, and how they might impact each other.



Automating multi-track (N+N) development

Ensuring the safe delivery of code and configuration changes within an N+N landscape can be one of the toughest tasks that SAP teams face. Keeping track of every change is hard enough, but the bigger problem is safely merging (or retrofitting) them between development tracks.

DevOps automation from Basis Technologies takes the pain away. It constantly monitors development systems to highlight conflicts, and automatically merges changes between tracks according to the process you've defined. Manual rekeying is massively reduced, along with associated delays, errors and missed manual steps. Often, over 90% of changes can be automatically merged, making any multi-track project, including ECC enhancement packs, much faster, safer and less resource-intensive.

Support for project cut-over including "reverse merge" and conflict testing DEV TST Regression Production (BAU) (BAU) 2-wav conflict detection at time of **BAU** merae change process into Project path with conflict detection DV1 TS1 (Project) (Project) DV2 Project merge process into 2nd Project Project 2) (if applicable) with conflict detection

Multi-track development: Best practice example

Ericsson, a global telecommunications provider, use ActiveControl from Basis Technologies to manage delivery of change across an N+10 SAP landscape. A Senior Solution Architect at Ericsson explains: "When developers are manually inputting the same code into multiple tracks, you can never expect that it will be 100% perfect ... By automating our deployment methodology and the code merge process, we have helped to reduce all these issues. Developer effort in navigating different code branches has been reduced by 60% at least, which converts into a lot of time and cost savings."



Hyperscale cloud hosting and service providers like Amazon Web Services, Microsoft Azure and even SAP's HANA Enterprise Cloud offer far greater elasticity, scalability and responsiveness than traditional on-premise data centers. This can translate into tangible business benefits like cost reduction and faster disaster recovery, which is why migrating SAP to the cloud is already on the technology roadmap for most enterprises.

SAP also continue to increase their focus on all things cloud-related — stating that SAP Cloud Platform will become 'the integration layer of all of our applications', for example — so the pressure to move SAP to the cloud is only likely to increase.

But an effective cloud migration project can be complicated: while 'lift and shift' of today's systems is a common option, it's not the route to maximum ROI. Also, many organizations retain a 'safety-first' mentality when it comes to SAP and aren't yet ready to hand control of business-critical production systems to a third-party provider.

Until recently there has simply been no compelling event persuasive enough to force firms to overcome these barriers. The impending move to S/4HANA is just such a catalyst, providing justification for the effort and resources needed to do the job properly.

Rapid Growth

According to recent Gartner surveys, more than a third of organizations see cloud investments as a top three investing priority ... Through 2022, Gartner projects the market size and growth of the cloud services industry at nearly three times the growth rate of overall IT services.

Press release, Gartner Forecasts Worldwide Public Cloud Revenue to Grow 17.5 Percent in 2019



A complex challenge

Some firms will make the leap to both S/4HANA and the cloud at the same time by adopting cloud-hosted S/4HANA systems. For many though, a move to the cloud will come first as it's typically considered a lower-risk endeavor. Either way, efficient setup of new systems in the cloud requires a multi-track (N+N) project environment to avoid business disruption, with on-premise systems supplemented by dedicated new cloud-based equivalents. 'Hybrid' multi-track environments are often more complex than typical N+N projects, since every on-premise system may have a cloud-based twin prior to cutover. All of the project tracks must be kept in sync, taking into account the many dependencies between them — a bewildering task when managed via a spreadsheet. And then as always there's BAU change to consider, which doesn't stop when projects are in progress.

Accelerate SAP cloud migration with automation

DevOps automation tools make the job of building SAP systems in the cloud and managing them alongside on-premise systems much easier, which means a faster, cheaper transition and less disruption after go-live. Automated change management makes infrastructure transparent — users simply don't need to worry about what is hosted where — and the dynamic nature of cloud-based environments, where systems can easily be added or removed, is accommodated without increasing complexity or risk. Many of the automation features that assist ECC upgrades also assist cloud migrations. Shifting quality left accelerates delivery and increases efficiency, while automated deployment eliminates the manual drudgery of release planning. Multi-track development becomes incomparably easier as automation keeps changes in sync across cloud and on-premise environments.

Regression testing is a big issue here, too. Even though certain parts of your system may be optimized to take advantage of the cloud, there will be a huge amount of unchanged functionality that just needs to keep working as it did before. The right kind of automated, script-free regression test automation — like that provided by Testimony, from Basis Technologies — ensures that you can be confident your move to the cloud won't have unexpected consequences.

Not If But When

Enterprises are moving to the cloud at a record and accelerating pace. When I asked our customers why they were migrating to the cloud and shuttering their data centers ... they said they were hoping to achieve cost reductions, improved system performance, and access to innovation.

Stefan Hoechbauer, SAP global president of Digital Core and Global Customer Organization

More than an 'agile project'

Every S/4HANA transition project will be different, so the idea of a templated 'one size fits all' project management approach is optimistic at best. Many elements might be common but an old-fashioned milestone-based approach to delivery, especially when combined with rigid, hierarchical data structures and processes, will simply limit the speed and flexibility of your transition.

Flexible automation = Optimization

There are many S/4HANA transition scenarios in which flexible, versatile automation solutions like ActiveControl and Testimony from Basis Technologies can prove advantageous:

- Continuous Delivery: Plans often need to be adjusted as technical understanding grows, resource availability changes and requirements evolve. The most innovative S/4HANA adopters choose automation solutions that can promote any given change through a track with confidence as soon as it is ready. With a truly agile approach, testing happens more quickly and defects are found earlier, to accelerate implementation and remove cost and risk.
- Complex landscapes: SAP environments are often configured in unorthodox ways that turnkey solutions can struggle to deal with. For example, one Basis Technologies customer has a number of one-to-many landscapes where change is delivered selectively from individual development boxes to multiple global production systems.
- Dynamic landscapes: A benefit of the cloud is the ease with which systems can be created and retired as development and testing needs evolve. Change management and test automation solutions must be able to cope easily with landscape configuration and transport paths that can change on a daily basis.
- Extreme BAU: It's common for very high volumes of BAU change to be required, often at short notice. One Basis Technologies customer moved 2,500 transports to production at the end of a single 2-week development 'sprint', for example. The ability for automation to cope seamlessly with high volumes of on-going change alongside the transition project, with minimal manual intervention, is critical.



Case study: A smooth journey to the cloud for a North American financial institution

A large North American financial institution is among the SAP customers that have utilized DevOps automation to accelerate their move to cloud-based systems.

Operating in a highly competitive sector, the company realized it needed to accelerate the delivery of innovation across its IT estate, including SAP, in order to stay ahead of both digital disruptors and established competition. As part of this drive for greater efficiency and customer satisfaction, on-premises ECC and BA systems were replaced with new S/4HANA systems hosted on Google Cloud Platform. ActiveControl, Basis Technologies' DevOps automation tool, was adopted to replace spreadsheet-based change management across a complex SAP landscape consisting of over two hundred individual systems.

As the new cloud-based systems were built, ActiveControl enabled the company to selectively deploy transports to existing on-premise systems, new S/4HANA systems, or both, with built-in analyzers helping to keep them all safe by ensuring that the right changes were delivered at the right time. Now, the company can deliver change in SAP at the pace the business demands, without the risk of production errors and business disruption.

.

ActiveControl gives you great flexibility of changing the systems on the fly if needed. For a rollout rehearsal I was able to add a new [cloud-based] Sandbox system into our maintenance path and set up their production workflow in two hours. If you've ever used any other tools, that is not possible.

SAP team member, North American financial institution





Once your existing systems have been upgraded and — if required — moved into the cloud, you'll be ready to begin the transition to S/4HANA when the time is right.

But transforming legacy systems from where they are today into a new S/4HANA implementation will not be an overnight process. Most businesses we work with assume it will take months (at least). Those with more complex landscapes may even have a multi-year transition plan.

First, the build phase must be dealt with. How can you ensure that live legacy systems and new systems don't diverge during this period? A change moratorium is possible, but a total brake on innovation — maybe for months — will probably have an unacceptable business impact. Then those who don't transition everything to S/4HANA immediately in a 'big bang' also have to consider the post-transition phase. How can two parallel technology platforms be changed safely and effectively when the business relies on both? Once again, DevOps automation helps to answer these questions.

Dual track and dual maintenance

Whatever strategy you choose for your S/4HANA implementation — greenfield, brownfield or a hybrid — the challenge of keeping ECC and S/4HANA in sync as you build and run the new landscape will be significant.

Multi-track development becomes mandatory as you execute your S/4HANA transition. With two different technology platforms involved it simply isn't possible to operate in one track. Multi-track enables project development to be carried out in separate systems so it doesn't disrupt the daily business while BAU development continues in current systems. This is the same as during upgrades and cloud migrations, but in an S/4 transition the risk and complexity increase even further if the process is managed manually.



The fact that the separate tracks are running on different SAP platforms introduces further complication. Although the underlying architecture may be similar, there will be both functional and technical differences between them, some fundamental. Intelligent, selective deployment of change will be essential if legacy and new S/4HANA systems are to automatically kept in sync. That's where the concept of <u>automated dual maintenance</u> comes in, delivering changes to both ECC and S/4HANA during the transition.



An S/4HANA transition project is likely to include a number of different phases in which both ECC and S/4 systems must be maintained and updated. This diagram shows a simplified example of what the process might look like.



While a huge amount of planning may have been required for ECC upgrades, even more is going to be needed to create and migrate to a brand new S/4HANA environment. This makes the case for moving away from inefficient manual development and delivery processes even stronger.

Accelerate the transition with automation

It's hard to overstate the benefits of DevOps automation in managing the move from ECC to S/4HANA. The complexity — and potential for error — is almost entirely removed from the process of multi-track development thanks to automatic conflict detection and automated cross-track merge (or retrofit). This process is platform-agnostic at a technical level, delivering changes seamlessly to S/4HANA or legacy systems as required.

Perhaps even more importantly, dual maintenance — a massive challenge that requires a huge amount of effort and attention — becomes far more practical. Automated dual maintenance combines with automated multi-track management to enable effective change management across not just two or more different development tracks, but across two technology platforms. It eliminates manual effort and error by analyzing what should be delivered where, and allows selective application of changes to each landscape, automated synchronization of deployments across landscapes, and control of where changes can originate.

Naturally, the 'typical' benefits of DevOps automation also apply. Complete visibility of all changes makes planning easier and more efficient. Quality is shifted left, eliminating technical defects, and change deployment can be orchestrated across multiple systems. The most complete automation solutions even provide the means to back out changes quickly and easily if something unexpected does happen in a production system.

Without automation there's a high risk of costly mistakes and issues during the transition to S/4HANA. Changes take even longer than usual to deploy. S/4HANA and legacy landscapes may slip out of sync. Visibility is poor, and huge manual effort is needed. Automation on the other hand, delivers faster, safer, more cost-effective execution of your transition, with far less business disruption.

Experience: Financial Services

"We have to keep up with new technologies to make sure our customers have the latest tools that make the banking experience what they want today. You can only go as fast as your best tools. We're delivering a lot faster than we did before, with no more spreadsheets. We couldn't have done [our cloud-based S/4HANA migration] without the aid of ActiveControl from Basis Technologies."

Senior Manager, SAP Cloud Services

ECC / S/4HANA dual maintenance

When legacy and S/4HANA systems need to run in parallel — a period that could last years — changes will continue to be made in both environments. Automated dual maintenance allows the landscapes to be kept in sync without the huge amount of manual effort — and associated errors — that would otherwise be involved.

Basis Technologies' DevOps automation software, ActiveControl, provides functionality to help you decide what to move and when, how to do it safely, and which version then becomes the master. Transports are automatically analyzed at an object level, determining whether they can safely be deployed in both ECC and S/4HANA. Objects are identified as suitable for both platforms, or as applicable only where they originate (the latter must be separated out). Further analysis then determines whether transports that originate in ECC will require reconfiguration for S/4HANA.

It might be also necessary to ensure that changes deployed to both platforms progress through them from Dev to Production at the same time. ActiveControl takes care of this synchronized deployment, preventing one landscape from getting ahead of the other.

ActiveControl also controls where changes can be mastered as the S/4 transition progresses. If the same configuration is changed in both ECC and S/4, for example, it could lead to a deviation in core template elements like the Legal Entity Model. Changes are automatically merged from the master system to others as appropriate. Finally, a powerful Rules Engine allows creation of precise bespoke approval workflows that can suit any environment, however unique or complex.



- Automatic capture management and reporting of Dual Maintenance transports
- 2 Automatically synchronize deployments
- Maintain & Protect Template

Case study: Dual maintenance at a global CPG brand

Moving from ECC to S/4HANA is difficult for any organization, but for a global consumer packaged goods company with thousands of employees around the world, engaging in an S/4HANA transition was a significant challenge.

Change in the company's ECC landscape was initiated in a single development system but could then be selectively moved to any of twelve different global production instances. This complicated scenario became even more difficult to manage with the addition of two parallel S/4HANA landscapes — one for finance and one for supply chain. The company needed to synchronize change across these three landscapes as the new S/4HANA systems were developed while still maintaining the 'one to many' ECC configuration.

ActiveControl, from Basis Technologies, was the solution chosen to help the company manage the transition safely and efficiently by enabling automated dual maintenance across both ECC and S/4HANA.



Experience: Consumer Goods

"Our ECC world is not stopping [while we move to S/4HANA]. We continue to run projects, we do divestitures, we create new legal entities, tax code situations change. We need to ensure that all the changes done in ECC are appropriately reflected into the new S/4HANA templates."

ActiveControl Manager, Global CPG company

ActiveControl automatically merges relevant changes between ERP Supply Chain, S/4HANA Supply Chain and S/4HANA Finance.



Once you're up and running on S/4HANA you might feel like the project is over, but in fact that's far from the case. Now you've got to keep those systems operational, and make sure they're optimized for your future business needs. Just like any SAP system, in fact.

That means there's a final stage in the journey: running your new S/4HANA environments. Maintenance and change work will continue on an ongoing basis, with activities including bug fixes, BAU changes and the implementation of new upgrade packages. You might even still be working through your phased transition plan while it's all happening.

Macro-simple; micro-complex

In all but the most brownfield scenarios the new S/4HANA environment, once up and running, will be more streamlined than the architecture it replaces. On the one hand that's because it's an opportunity and justification for businesses to consolidate and simplify. On the other, S/4HANA's technical capabilities mean that separate systems like B/W, Fiori and EWM may no longer be required.

On an individual system basis though, this transformation could make safe, efficient delivery of change more complex and challenging. A bigger team of developers and basis team members may need to work concurrently on the same objects, transports or configuration — a recipe for greater confusion and more conflicts. At the same time, the volume of transports in the S/4HANA system — whether due to consolidation, technical convergence, or both — is likely to be greater than in individual legacy systems, raising the associated level of effort, risk of errors and burden of testing.



Even more upgrades

In addition, updates to S/4HANA that enhance the capability of the platform are released by SAP on a regular basis. Organizations will be keen to avoid repeating their experience in ECC, when such upgrades were often deprioritized in favor of delivering new business functionality. After all, nobody actively wants to end up back in the situation where SAP is years behind where it could be. A way to implement those upgrades in a safe, timely fashion is needed, so multi-track projects are once again the order of the day. And just as in ECC today, the business can't stop during an upgrade project. BAU changes need to be planned, coded, tested and deployed at the same time without conflicting with project development — and they need to happen as swiftly and efficiently as possible.

Accelerate the new environment with automation

As we've seen throughout this ebook, DevOps automation can vastly accelerate and de-risk delivery of both upgrades and BAU changes in an SAP environment — a need that remains after the move to S/4HANA. Automation allows changes to be tracked, checked, approved, tested and deployed automatically, and provides the means for SAP to be integrated into cross-application delivery pipelines. Management of multi-track projects become far simpler and safer, even across different technology platforms, while support for dual maintenance minimizes the chance of negative business impact after S/4 go-live during a phased transition plan.

Comprehensive automated regression testing that doesn't need test scripts also continues to deliver value in S/4HANA. Just as in ECC, it keeps the business safe when upgrades are applied by allowing you to test much more than a traditional risk-based approach that relies on test scripts.

All in all, the use of automation helps you to run your new S/4HANA systems more safely, more efficiently, and with far less risk. Software increases in quality and is delivered faster, with complete visibility and auditability. That means you can get the most out of your S/4HANA systems, helping to keep the business ahead of customer expectations and your competitors.

Experience: Global CPG brand

"We went from a single-track to a dual-track landscape [for our 1709 functional upgrade], took that through all the phases, and after six months we moved back in a quite transparent way to a linear landscape. And we'll have to repeat, now, every 12 months. So, I'm six months in dual track, six months in single track, and that will repeat itself."

Manager, ActiveControl Manager, Global CPG company

Case study: Automating change in S/4HANA at Kingspan

Kingspan, a global leader in production of high-performance insulation and building envelope solutions, needed a new local SAP landscape to support manufacturing operations in Eastern Europe. A greenfield implementation of S/4HANA made sense, resulting in the company becoming an early adopter of the new platform on release 1511.

Initially, the company used outsourced developers and a manual, spreadsheet-based approach to deploy BAU changes and implement an upgrade to release 1709. It was a slow, painful process, meaning the company wasn't able to take early advantage of new functionality.

With new releases of S/4HANA appearing regularly, and BAU changes needing to be made, the company decided to invest in automation tools for change orchestration and unit testing.

With ActiveControl from Basis Technologies in place Kingspan was able to safely introduce multiple development tracks, allowing maintenance packs and new functionality to be deployed much faster without risk of breaking anything.

We can now get changes to production twice as fast. I can say with 100% confidence that automation has improved the state of our overall S/4HANA landscape.

SAP Basis Team Lead, Kingspan



Master regression testing with Robotic Test Automation

Comprehensive regression testing of SAP systems has traditionally been complex, time-consuming, and expensive. Many SAP teams have had to settle for the manual testing processes that time and resources allow, regardless of the risk this poses, rather than executing the comprehensive testing they know they should.

<u>Robotic Test Automation (RTA)</u> — a unique approach pioneered by Basis Technologies in the company's Testimony product — reinvents traditional SAP regression testing by removing the need for test script creation and maintenance. It eliminates the excessive cost, effort, and complexity of traditional testing methods, allowing you to significantly accelerate major projects and run a regression test before every S/4HANA release.

To meet the increasing pace of business change, SAP teams can also use RTA to shift testing left to support a DevOps approach. RTA eliminates the challenge of test data management and provides the means for developers to run regression before their code even reaches QA, saving both time and money by avoiding cycles of rework.

RTA is a server-based technology, capturing everything that happens in a live production system to effectively replicate a day in the life of your business during a regression test. That means far greater test coverage, including technical interactions beyond the UI, and validation of real-life workflows rather than idealized processes. Unlike traditional automated ERP testing, RTA also allows you to test more quickly and more often, reducing the cost of change and minimizing business risk.





How does Robotic Test Automation work?

Testimony's Robotic Test Automation technology monitors SAP at a code-and-system level, discovering deep technical interactions and execution paths. It automatically observes and records exactly how users interact with live systems, using this information to create a comprehensive regression test library. The observed behavior is automatically replicated in an updated SAP system where changes have been applied, highlighting any unexpected or divergent outcomes. Traditional test scripts are not required.



DevOps: A faster route to innovation

Starting afresh with a new technology platform is an opportunity to review how SAP is managed across the business. It's an ideal catalyst for evaluation of software best practices and best-in-class tooling.

DevOps is an approach that has been adopted by many IT teams outside SAP as way to make IT more responsive to business needs by delivering software changes more quickly and safely. A DevOps approach can help to make the journey to S/4HANA, and life afterwards, faster and more efficient.

DevOps relies heavily on automation, often employing open-source tools. Unfortunately, those tools can't be used in SAP. This, alongside cultural resistance and entrenched methodologies, has stopped many SAP teams from experiencing the benefits of DevOps.

But this situation is starting to change. IT leaders are asking why DevOps can't be used for SAP as well as for other applications. SAP-specific change and test automation tools, like ActiveControl and Testimony from Basis Technologies, can now integrate with wider Continuous Integration/Continuous Delivery (CI/CD) pipelines to bring SAP into line with the pace of software change across the rest of the business.

Learn more about DevOps for SAP

You can discover much more about DevOps for SAP in our other ebooks:

- The Foundations of DevOps for SAP
- A Practical Guide to DevOps for SAP
- How to Get Started with DevOps for SAP

What is DevOps?

DevOps is an agile approach to software delivery, using a set of 'continuous' processes:

Continuous integration: Automation of unit tests, code checks, build sequence, dependency checks and environment provisioning to improve quality and reduce risk

Continuous testing: Automation of testing to accelerate releases, improve confidence and reduce risk

Continuous delivery: Automation of approvals, testing and delivery for more frequent and safer software releases

Continuous deployment: Automation of the release and deployment of changes across both SAP and non-SAP systems

Get to S/4HANA faster, at lower cost, with less risk

Migrating to S/4HANA will allow companies to finally take advantage of all the opportunities offered by the latest SAP technology, to keep pace with their competitors, and to introduce new best practice approaches to development and delivery.

But changing any foundational part of your technology stack is a massive undertaking, and migrating from SAP ECC to S/4HANA is no different. The process of preparing for the move, executing the transition, and running the new SAP environment in tandem with the old one is fraught with risk and complexity. A manual, spreadsheet-based approach is likely to slow an already years-long transition to a crawl, as well as introducing potentially unacceptable levels of business risk. You need a way to minimize both cost and business risk throughout your journey to the new platform, and beyond.

Automation technology for SAP is key to a smooth S/4HANA transition. Organizations embarking on the move can greatly accelerate and de-risk the journey by introducing DevOps automation tools and processes, which will them to run without interruption during development and after go-live.

The DevOps and Test Automation Platform



ActiveControl provides the automation technology needed to safely manage a transition from legacy systems to S/4HANA. It can identify and analyze changes made on either platform, understands dependencies across all systems, and deploys transports appropriately to keep both landscapes in sync. Once your S/4HANA systems are up and running you can continue to use ActiveControl as a powerful tool for delivery of SAP development. It accelerates change — including S/4HANA upgrades — without sacrificing quality or putting your production systems at risk.



Testimony is a fully automated, next-generation testing tool which uses Robotic Test Automation to automatically create a comprehensive regression test library and eliminates the need for test script creation and maintenance. It accelerates both your preparation for the move to S/4HANA, and maintenance and improvement of systems after go-live, helping you to make sure you're always able to make the most of what S/4HANA has to offer.

SAP[®] Certified Integration with SAP S/4HANA[®] SAP[®] Certified Powered by SAP NetWeaver[®] At Basis Technologies, we develop automation technology that massively reduces the time and effort needed to execute SAP change and testing. We are committed to driving business agility and transformation through agile development, DevOps and continuous delivery.

Our software — the only complete DevOps and testing platform engineered specifically for SAP — enables companies to accelerate innovation, ensure continuous quality and delivery, and lower risk across even the most complex SAP landscapes.

Since 1997, we have helped enterprises become more agile, innovative, and competitive. Our platform is SAP Certified for use on both S/4HANA and ECC systems, which is why many of the world's leading companies trust our subscription software to help them succeed in the digital age.

Contact us to find out how we can help your business adopt DevOps for SAP



www.basistechnologies.com