Driving Digital Transformation with UiPath and SAP® S/4HANA®

Helping SAP customers get the most from process automation, process mining, testing, and migration to SAP S/4HANA.
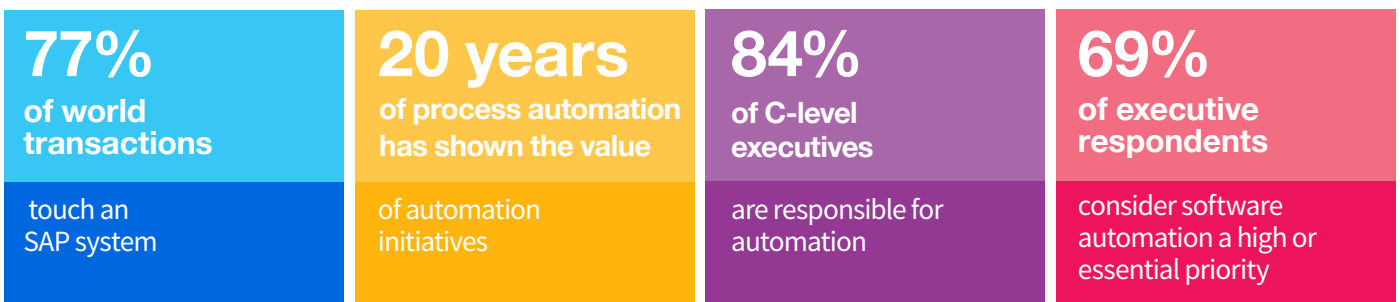
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Introduction

As much as 77% of the world's transactions touch an SAP system, and SAP continues to be one of the most enduring and long-lasting tools used by organizations. In today's increasingly remote work landscape, maximizing the business impact of your SAP systems through automation is more important than ever.

According to a recent SAP Insider's Report, organizations should aspire to, "Use automation to empower employees with increased capacity for higher-value activities. Every organization has limited resources – especially people – but to accelerate growth, companies need to minimize the time that employees spend on repetitive tasks so they can instead focus on operational execution or building long-term strategies."[1]

Successful agile companies are investing in process automation of their SAP workflows to become category leaders. The past 20 years of process automation have shown the value of automation initiatives, and Robotic Process Automation (RPA) represents a simpler, faster way to automate. The businesses that thrive are the organizations with leadership that understands that agility through automated processes are the most viable path to growth, especially during times of hardship and uncertainty.

A survey in The Economist found that the responsibility of automation falls to a C-level executive 84% of the time. A full 69% of the executive respondents considered software automation, such as Robotic Process Automation (RPA), a high or essential priority.[2] The need for process automation that can meet present business needs and look ahead to the future by efficiently integrating with third party processes will increase, not decrease.

This paper will provide an overview of how UiPath helps you get the most out of your SAP systems – from process mining, process automation, testing, and migration to SAP S/4HANA. It examines key issues and concerns for SAP customers and provides innovative solutions through leveraging the power of the UiPath platform. You will learn how UiPath automations allow your users to cut through the tangled weave of third-party apps, bring data to the forefront of your decision-making process, and provide an immediate positive impact on your business at any scale.

77% of world transactions	**20 years** of process automation has shown the value	**84%** of C-level executives	**69%** of executive respondents
touch an SAP system	of automation initiatives	are responsible for automation	consider software automation a high or essential priority

But first, let's dig deeper into RPA and how it provides the foundation for your modernization strategies with SAP.

Ever since RPA started revolutionizing the automation industry, UiPath has led the wave of innovation that transformed the automation space, introducing automation products ranging from AI and simple task automations to analytics and other industry-leading technologies.

The development of rapid automation capabilities enables the completion of tasks of far greater complexity and cognitive value as the world continues to march to the tune of digital transformation.

Hyperautomation leverages several components of process automation. It integrates technologies such as RPA — which serves as the core — artificial intelligence (AI), machine learning, process mining, data analytics, and other advanced automation tools. Each of these components are designed to enhance an organization's ability to automate processes and workflows. Working together, they take automation to a whole new level by systematizing higher-value tasks. This strategy, when applied end-to-end within an enterprise, can improve processes in ways that can have a much greater impact than traditional automation capabilities.

Modern RPA helps an organization cultivate 'citizen developers,' end users that are actively involved in the ideation and creation of automations. These power users learn to recognize and act on opportunities for automation, which puts the ability to transform and revolutionize your business in the hands of your employees. This democratization of data gets your processes away from being top-down or purely IT-driven solutions and gets your whole team involved, leading to stickier processes and opening the door for your team to refocus on higher-value tasks that drive the rest of your business.

Accelerate Your SAP Business Processes with RPA

The benefit of RPA within an SAP environment is the ability to put software robots to work on important but repetitive tasks. In the attempt to digitally transform enterprises, many organizational leaders believe they must replace existing systems and business applications, but with RPA, businesses can continue to use existing systems and applications and still accelerate digital transformation – without modifying or changing their SAP ecosystem.

Using software robots, RPA performs a wide variety of highly cognitive actions, such as logging into an SAP S/4HANA system, connecting through BAPI, automating user entries through SAP WinGUI, extracting data from documents such as invoices or sales orders, and processing the extracted data in the respective SAP system.

RPA is especially powerful because it can be implemented across all SAP systems and beyond, integrating any third-party application and even (outdated) legacy systems without APIs. For example, automation can be used to integrate data between CRM systems and internal ERP systems. It can also be used to forecast financial earnings or screen job applicant emails for HR. Bringing the power of automation to your entire organization is a central part of the unique, end-to-end UiPath automation model, which empowers you to implement unique process flows without costly customization projects or slow lead times.

If you are concerned that your organization doesn't have the infrastructure or budget to get started – we thought about that, too. That's why we built the UiPath Automation Cloud.

Get Started with UiPath Automation Cloud

With the UiPath Automation Cloud, you can focus on automation, not your infrastructure. It's the fastest, easiest, and most cost-effective way to get RPA. You can start instantly and, if needed, scale up to full enterprise capability, with comprehensive, secure, cloud-based management and immediate access to all the things you need to start building your own automations.

Once you see how easy and cost effective the UiPath Automation Cloud can be, you can start leveraging its capabilities for your SAP automation requirements.

> **Using UiPath RPA, a global energy company was able to manage unstructured data and automate over 60 processes, such as accounts payable and accounts receivable across various business units. This achieved six million dollars in savings, reduced manual efforts of the employees, and increased accuracy.**

UiPath Capabilities for SAP Automation

UiPath products provide automation capabilities for SAP user interface technologies such as SAP WinGUI, SAP Fiori®, and SAP Business Client. Modern cloud offerings such as SAP S/4HANA®, SAP SuccessFactors® solutions, SAP Customer Experience solutions, SAP Ariba® solutions, SAP Fieldglass® solutions, and SAP Concur® solutions can be easily automated through user interface (UI) automations and native integrations. In addition, UiPath automation can be used in any Citrix® or remote desktop environment.

UiPath Studio allows SAP customers to create reliable and stable automations for SAP WinGUI. They can get full control over their automations and harness the power of UiPath with advanced activities specifically designed for the most efficient way to automate your SAP processes and SAP test cases.

A typical example of how UiPath automation works is the end-to-end order-to-cash process. When a customer places an order and signs a contract, the deal is marked as "closed won" in the CRM system (such as Salesforce.com). With the UiPath connector for Salesforce and the BAPI integration, a robot will be triggered by the event of a closed and won opportunity and will automatically enter the respective data in SAP through our BAPI integration, creating a sales order and updating the information in Salesforce.

IT departments can also use RPA for rapid prototyping of integrations and customizations of their SAP system in order to fulfill IT requests from the business faster, ensuring they fully understand the problem and provide an adequate solution.

Providing automation with RPA as an intermediate solution has the following general benefits:

- **Automations can be implemented quickly**, providing the business with a fast turnaround on their requests

- **IT departments understand** exactly what the ultimate coded solution should look like

- **The line of business gets involved in the design of the automation and becomes more familiar** with the concept of automation, resulting in a companywide automation mindset.

- **Automating processes simplifies the handling of SAP systems.** As a result, new employees can be onboarded faster, as they don't need to know SAP inside out

- **Process flows can be simplified**, allowing the employee to focus on decision-making tasks rather than tasks that can be automated

Automate SAP user interfaces and modern cloud SAP applications

✓ SAP WinGUI®	✓ SAP ECC®	✓ SAP SuccessFactors®	✓ SAP BAPI®
✓ SAP WebGUI®	✓ SAP S/4HANA Cloud®	✓ SAP Ariba®	✓ SAP RFC®
✓ SAP Fiori®	✓ SAP S/4HANA®	✓ SAP Concur®	✓ SAP OData®
✓ SAB Business Client®	✓ SAP Hybris®	✓ SAP Fieldglass®	

SAP SuccessFactors Integration

UiPath offers a native integration for automations that are extremely robust and easy on the SuccessFactors system's performance and allow you to automate highly manual HR processes. A typical HR process that customers automate in SAP SuccessFactors is the recruiting process, which includes updating job requisitions, changing statuses of applicants and kicking-off the onboarding process. These tasks are time-consuming and can be easily automated. Even more time consuming is the onboarding process. Here UiPath helps you to automate most of the steps through its third-party integrations and its flexibility to easily create UI automations. With our numerous integrations with the most important enterprise applications such as ServiceNow, Jira, DocuSign, Microsoft Office, and others you can automate all the necessary tasks from signing the contract, disabling the job opening in the recruiting portal, entering employee data in SAP S/4HANA and SAP SuccessFactors, creating user IDs in various IT systems, and procuring the employee's hardware equipment.

Tips and Tricks for Your First SAP Automations

In order to allow Studio to interact with SAP WinGUI, make sure to enable scripting. This sets the default and recommended element detection framework in SAP for interactive selection.

We are often asked if security is negatively impacted – there is no cause for concern. The SAP server sees no difference between SAP WinGUI communication generated by a script and that generated by a user. The script has the same rights to run SAP transactions and enter data, just as a user would.

RPA is flexible, adaptable, and, when combined with SAP, can smooth gaps in your processes without a large investment of resources, time, or budget before seeing a positive impact.

When starting your RPA journey for SAP, make sure to check out our accelerators on the UiPath Marketplace. Accelerators are pre-built skills that help you rapidly automate key processes, right out of the box. UiPath has bundled over 200 out-of-the-box activities in the accelerators for SAP automations for Basis administration, sales, finance, manufacturing and procurement departments.

The accelerators help you get a jump-start with your automations without in-depth BAPI or ABAP knowledge.

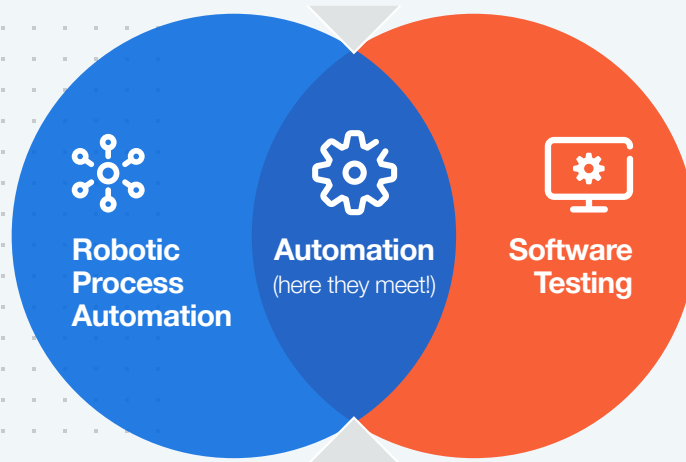**To access the UiPath Marketplace, please visit marketplace.uipath.com**

Core benefits that UiPath RPA offers to customers running SAP applications:

- **Boost productivity -** Eliminate errors, increase transparency, and reduce tedious work

- **Achieve rapid ROI -** See rapid results with a flexible, non-invasive platform that scales to meet your needs

- **Give the power of governance to IT**, but the process automation design to the business unit with the capabilities for rapid prototyping of automation and integration.

- **Enterprise level solution that can automate processes end-to-end -** from discovering to testing to measuring the processes

A large airline carrier solved the problem of highly repetitive daily activities that required two SAP systems and a web application by using UiPath Platform. They achieved 100% accuracy and an 80% reduction in processing time – from 20 minutes to 3 minutes.

Automate and Centralize SAP Testing

Create & Maintain Resilient Automation

Robotic Process Automation

Automation (here they meet!)

Software Testing

For companies to stay competitive in the marketplace, they must bring their ideas to the right market at the right time. Testing is necessary but also time consuming, as it's often limited by the pace of a traditional testing and release schedule for custom SAP changes. Instead of letting these testing blockers stand in the way of your rapid go-to-market strategy, automate your SAP testing to speed your application delivery and keep you competitive.

The UiPath Test Suite combines the world's leading RPA technology with cutting-edge testing capabilities to accelerate and sustain RPA at scale. You can deliver rapid, reliable, and innovative software by improving collaboration and automation across software development, IT Ops, and the business. With UiPath, you can rapidly automate the entire testing and validation process at scale and drive down costs without disrupting your teams or your customers.

First, let's level set on the process differences and similarities between RPA and SAP software testing.

RPA operates in stable production environments. Applications don't change often, and when they do, it's on an anticipated schedule. In contrast, software testing operates in dynamic development environments, where applications are changing at high frequencies.

It's easy to see that the maintenance effort required to test case automation is much higher than the maintenance effort required with RPA, from a pure change frequency perspective. Typical software testing projects contain anywhere from several hundred to many thousands of automated test cases. In contrast, RPA projects include between several tens and a few hundred automated business processes. This implies that the maintenance effort related to automated test cases is much higher than the maintenance effort related to automated business processes from a pure automation artifact quantity perspective. In short, the higher the change frequency, the higher the maintenance effort. The higher the artifact quantity, the higher the maintenance effort. Maintenance is a big challenge in RPA, but it is a more significant software testing challenge.

But there is a place where RPA and SAP software testing overlap: within automation.

SAP Testing and SAP RPA are confronted with the task of creating and maintaining agile and resilient automation. The good news is that our products at UiPath help to overcome these maintenance challenges through various approaches.

Manage Your Testing with UiPath Test Suite

The act of testing covers an extensive set of activities, including test case creation, test execution, reporting, requirements management, defect management, CI/CD integration, or exploratory testing, just to name a few.

The UiPath Test Suite is a tightly integrated bundle of tools that consolidates the testing process through integrations with your test management and Application Life Cycle Management (ALM) tools. Through its flexible connector architecture, it can be used to integrate any ALM.

UiPath Test Suite allows you to manage your testing process and covers the following functional areas:

- Linking automated test cases in UiPath Studio Pro to UiPath Test Manager
- Assigning test cases to requirements
- Reporting and dashboards to get a quick overview of your test results
- Manual testing
- Exploratory testing
- Creating defects
- Adding documentation to manual test cases

SAP Solution Manager® Integration

The UiPath integration with SAP Solution Manager enables customers to obtain maximum value from their investments in SAP software by serving as a hub for all test management activities and as the central information resource for all automation and testing processes. It offers seamless creation of automated test cases across the whole enterprise landscape, including SAP and non-SAP applications. It also provides SAP customers with the ability to execute test cases, exchange the complex test data, and ensure the functionality of Business Process Change Analyzer for automation projects. Accurate reporting with a consolidated view is also available.

Studio Pro: Automate Tests

Design automations quickly with an easy drag-and-drop editor and simply record your test cases. Test automation also allows you to:

- Skip error-prone manual programming
- Leverage pre-built automation activities to help you build automations easier
- Shareable and reusable components make you more collaborative—and productive

UiPath Orchestrator: Distribute Tests

UiPath Orchestrator is a web application that manages, controls and monitors UiPath Robots that run repetitive business processes. You can schedule, monitor, and distribute test executions and analyze detailed results through Orchestrator.

UiPath Robot: Execute Tests

UiPath Robots are the intelligent digital helpers that enable you to run processes developed in Studio. If you have multiple robots on different machines, you can run the same process on all of them in parallel. If your robots are unattended and connected to Orchestrator, you can Start/Schedule a Job on all of your robots simultaneously, saving time when testing SAP migration scenarios or performing pre-migration activities.

Skip error-prone manual programming

Leverage pre-built automation activities to help you build automations easier

Shareable and reusable components make you more collaborative—and productive

Support Your Move to SAP S/4HANA

Migrations can be daunting projects. You want the business agility delivered by SAP S/4HANA, yet you're hesitant to migrate from SAP ECC because you know it will take time, money, and specialized expertise to get it accomplished. It's fast becoming mission-critical work that needs to be part of your business strategy and transformation, but it can be hard to know where to start.

In a recent article on SAP S/4HANA migration trends, the top challenges of migration for customers included[3]:

- Lack of IT resources to do the job
- Inability to build a justifiable business case

Here's how the UiPath Enterprise Platform can help you achieve rapid time to value, high scalability, lower operational costs, and real digital transformation.

UiPath helps accelerate your SAP S/4HANA migration through automation. The UiPath Enterprise - Platform supports you with automations in each phase of the migration project by reducing the overall critical path and timeline of the entire migration. This saves you time and money and significantly reduces the risk of the gigantic project that you are facing.

As an example, the preparation phase is loaded with tedious manual or tool-supported tasks for data preparation and mapping of structures in the old systems versus planned structures in the new system.

UiPath can help here in three ways:

- UiPath Process Mining helps you detect the most important processes in your SAP system and supports your decisions in the testing phase. You will know which areas to focus on and how your users are using SAP process in real life.

- UiPath helps you run the preparation work instead of doing manual changes or writing new scripts for the required data preparation or data mapping.
- UiPath robots help you to quickly check whether your preparation work had the expected results and whether the results of your test runs for the migration are what you expected.

In the testing phase, our UiPath Test Suite helps you test your new SAP S/4HANA system in a very structured, error-minimizing, and reusable way.

The best part is, whichever test automation you created for testing your SAP S/4HANA processes, you can adapt these automations and transform your test cases in the process workflows to automate your day-to-day business process.
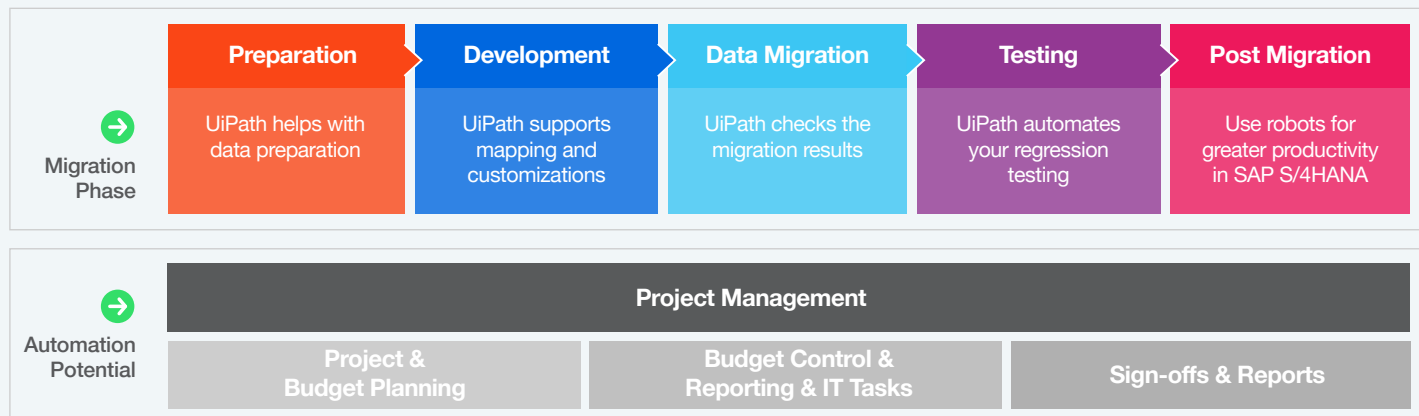
UiPath supports automated testing through any SAP user or API technical interface allowing you to:

- Create test cases and data sets dynamically, reducing test time
- Execute tests continuously end-to-end to improve test coverage
- Automate Regression and Acceptance testing to reduce cost and manual effort
- Visualize test progress and results in a PowerBI Dashboard

UiPath offers a trusted platform for secure automation and simplified compliance with the regulations that matter to you. You'll have defense-grade security and auditing, include Role Based Access Control (RBAC), encryption everywhere, and Veracode certified code. Our technology is trusted as secure by 50+ government agencies.

Now that we've given you an in-depth look at all that SAP and RPA can achieve together, you may be asking what you can do next.

Automation Potential for Your Move to SAP S/4HANA

Migration Phase	Preparation	Development	Data Migration	Testing	Post Migration
	UiPath helps with data preparation	UiPath supports mapping and customizations	UiPath checks the migration results	UiPath automates your regression testing	Use robots for greater productivity in SAP S/4HANA

Automation Potential	Project Management		
	Project & Budget Planning	Budget Control & Reporting & IT Tasks	Sign-offs & Reports

Discover Your Automation Potential with Process Mining

In traditional process discovery, people examine the processes that drive their everyday business through a consultative method. Stakeholders gather users around process consultants, who assist them in mapping processes by hand through several days of workshops. The outcome usually results in an idealized version of the process that often has little to do with the actual way the process is executed.

This is where process mining comes in as a scientific way to discover processes. UiPath Process Mining captures the digital footprints from SAP using a powerful data transformation layer (ETL), turning raw event data into intuitive process graphs and dashboards. The outcome is a process graph that is an objective account of the way process was executed.

Process mining lets the data do the talking – pinpointing process bottlenecks, rework, and variation that are ripe for optimization and automation. You can zero in on what should be automated first, how best to do it and estimate the return of your efforts.

After using robots to optimize the process, you can monitor them to ensure you're getting the performance lift you expected. Process mining adds valuable context to an automation strategy, as it helps you understand impact of automation on the end-to-end process.

What can Process Mining bring to your SAP Environment?

SAP Extraction
Process Mining can connect directly to an SAP application server. This allows you to access SAP tables straight from the Process Mining connector. This eliminates errors that happen when creating data dumps from SAP and loading them into the Process Mining connector.

The following versions are supported: SAP ECC and SAP S/4HANA

SAP Connectors for Specific Processes
Core business processes, like order to cash and purchase to pay, are complex and hard to pin down. They cross different departments, and for that reason are often analyzed in a fragmented way. Along with departmental silos, process-related decisions are often made based on gut feeling rather than looking at data. An inefficient process can negatively impact important business outcomes, like customer satisfaction, operational efficiency, and risk mitigation.

With UiPath Process Mining, you gain insight into the actual execution of the end-to-end process and detailed information to analyze the statuses of activities such as orders, the delivery of the goods, invoices, and payments.

SAP Connectors for process mining seamlessly convert SAP data to event logs, which are then transformed into an intuitive process graph, which chronicles the entire process, and all its variants, from start to finish.

By knowing where your process inefficiencies lie, customers can deploy a strategic combination of RPA and process reengineering to yield the best transformation result, for stronger and more resilient processes – and even provide strategic support for your move to SAP S/4HANA.

Getting Started with SAP Automation

This quick-start list should get you on the right path:

1. Join our community forum.uipath.com/

2. Identify the first department for automation
   a. Highest need
   b. Biggest potential
   c. Largest interest

3. Define a project leader

4. Identify the top-5 processes that are most suitable for automation
   a. Highly repetitive and standardized
   b. Large volumes so that you make significant savings

5. Decide whether you want support from a partner and pick a local or global partner

6. Pick a pack:
   a. Entry Pack
   b. Starter Pack
   c. Enablement Pack
   d. Scale-up Pack

7. Train your team in our free UiPath Academy trainings

8. Make sure to look at our pre-configured use cases for SAP automation.

9. Implement the first process

Our customers typically achieve their first live automations within 12 weeks, including design, training, development, testing, and go-live of their automations.

Why UiPath?

UiPath has been named a Leader in the 2020 Gartner Magic Quadrant for Robotic Process Automation and, for the second consecutive year, has placed highest in the Leaders' quadrant for ability to execute. According to Gartner, the greatest strengths UiPath offers to customers are our integration capabilities and our ecosystem.

The SAP and UiPath partnership begin with the unique UiPath understanding of SAP processes, applications, and the modern challenges that the SAP ecosystem solves for its customers. These modern challenges add complexity to automation that can pose problems for the SAP users, but are complexities UiPath is uniquely suited to overcome.

Our collaboration with SAP and the certifications we have obtained for integration with SAP applications includes:

- UiPath SAP WinGUI Automation for SAP ERP and SAP S/4HANA
- UiPath API Automation for SAP ERP and SAP S/4HANA
- UiPath Integration with SAP Solution Manager

UiPath and SAP are at the forefront of modern digital transformation. They work hand-in-hand to help clients and businesses across industries transform business processes, redefine the customer experience, and improve employee productivity.

Whether it's through pre-migration support, or testing and development, UiPath and SAP together can help accelerate your digital transformation initiatives through the core benefits we have identified throughout this paper. UiPath has been delivering innovations and real values to SAP customers through its end-to-end automation platform and will continue to do so through our commitment to innovation and shaping the future of process automation.

UiPath, the leading vendor of Robotic Process Automation (RPA) products, has remained the industry leader in helping businesses automate tasks and gain insights into the performance of their operations.

Learn more at uipath.com/sap

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