



INSTITUTE FOR
ROBOTIC PROCESS
AUTOMATION

Smart Process Automation: The Why, What, How and Who of the Next Quantum Leap in Enterprise Productivity

Created by the Institute for Robotic Process Automation in association with WorkFusion



Robotics, aka Robotic Process Automation, is a buzzword in every Fortune 1000 boardroom and a headline at every conference. But just like that “new” actor you suddenly see in every movie, it’s been around for over a decade, and it’s already showing signs of age. Regulatory compliance, competition to deliver the best customer experience and the relentless drive for shareholder value have made automation a mandate. Now, the enterprise needs a more powerful lever than pure desktop robotics to achieve operational transformation and business breakthroughs. Enter smart process automation.

Why is the time right for Smart Process Automation?

The focus of every successful business is efficiency, profitability and innovation, and the force behind this focus a workforce. Key to effectively unleashing a workforce is the business process. Three major innovation waves of business process optimization have risen and are beginning to fall: labor arbitrage, IT projects and tactical, task-centric, rules-based robotic automation.

Labor arbitrage in the form of Business Process Outsourcing (BPO) was an effective play for decades, moving highly manual tasks such as those found in procurement, settlements, claims processing and accounting to offshore workforce locations where labor rates were lower. These services succeeded in providing a less expensive workforce, but didn’t necessarily improve productivity or reduce errors.

Innovative organizations began coding custom automation for some of the more repetitive, structured tasks, because as Deloitte points out, the overall cost savings of automating processes can be as much as threefold over outsourcing.¹ Management consulting firm A.T. Kearney has said that automation “represents a third wave of back-office arbitrage that is in rapid

*According to A.T. Kearney
“automation, combined with
business-process-as-a-
service (BPaaS) has the
potential to be an even more
powerful force for
disruptive change.”*

development.” Kearney added that “automation, combined with business-process-as-a-service (BPaaS) has the potential to be an even more powerful force for disruptive change.”²

The first wave of automation included rudimentary tools such as scripts, run books, schedulers and data digitization tools such as optical character recognition (OCR) and web scraping. These are all fairly tactical solutions because they focus on one area within a larger process and exclusively drive cost reduction

¹ “The Robots are Coming,” Deloitte, June 2015

² “On the Eve of Destruction,” A.T. Kearney, January 2016

rather than digital transformation. Early automation efforts helped, but end users quickly encountered limitations in the context of complex, end-to-end business processes and recognized the burden on IT teams due to maintenance. IT found it harder and harder to keep up, even with the best rules-based automation tools at their disposal.

Robotic automation (sometimes referred to as Robotic Process Automation or RPA) changed the dynamic by turning rules-based automation into a service for operating the desktop user interfaces (UIs) of enterprise applications and the movement of structured data. Robotics provided incremental savings by reducing the IT burden of writing code and making it faster and more modular to deploy classic rules-based automation. These robots are used for a variety of tasks, such as opening and closing applications, copying data from spreadsheets into enterprise applications and comparing structured report data.

With desktop robotics, IT departments discovered a new burden: exceptions management. Because robotics-as-a-service excludes a human “checker” for the work created by bots, when processes or formats change, the bot requires retraining, which turns into either internal or vendor maintenance. Rules-driven bots are also incapable of processing unstructured data, which excludes the most labor-intensive components of an average end-to-end enterprise business process.

Business processes have become increasingly complex and dynamic, filled with unstructured data and driven by rapid technological change. Intense business competition, 24/7 delivery, heightened customer demands and increasing regulatory burdens add fuel to the fire. Enterprises have realized that solely removing headcount wasn't the only or best way to increase efficiency. Human workers need to be

relieved of the burden of repetitive, routine work in order to focus on true problem solving, customer service tasks and handling exceptions. Labor arbitrage, scripting and robotics simply do not provide the caliber of capability that end users need to meet business objectives. Human workers need to work smarter, and automation needs to be smarter.

Smart process automation (SPA) integrates the best of robotics, adds cognitive automation and ties them both together with sophisticated process and workforce management capabilities.

What is Smart Process Automation?

Smart process automation (SPA) integrates the best of robotics, adds cognitive automation and ties them both together with sophisticated process and workforce management capabilities. Rather than just moving structured data from one application to another, smart process automation:

- Breaks down complex processes into discrete tasks
- Identifies tasks that can be immediately automated through rules-based robotics

- Integrates, qualifies and task-manages human workers (FTEs or vendor workforces) through tasks that require judgment
- Assures the accuracy of both machine and human worker output through statistical quality control (SQC)
- Applies the quality pattern data generated by people to a variety of machine learning algorithms
- Selects the best-performing algorithm
- Deploys the algorithm into production with human-in-the-loop exceptions management, which creates new rules for automation

SPA is the transformational powerhouse that enterprise operations and IT leaders wanted RPA to be when the term was coined. SPA takes users from automating at the UI level to the true complex and variable depths of an enterprise business process. This higher level of service delivery automation is quickly being adopted across a wide range of industries, led by financial services and insurance, healthcare and high-tech.³

One of the biggest benefits of smart automation is its ability to free knowledge workers from routine, lower-value, repetitive tasks within complex processes, and redeploy what are usually well-educated and well-paid professionals to focus on higher-value customer service activities and innovation. According to

³ “Clever Machines at Your Service,” Everest Group, 2016

research from McKinsey Global Institute, cognitive automation is going to perform the work of between 110 million and 140 million knowledge workers globally over the next 10 years.⁴

How is SPA being used?

SPA is a game changer for users because of its cognitive abilities, handling a great variety and far more complex tasks than pure robotics. Alec Ross, author of “Industries of the Future,” observes that cognitive automation represents a huge breakthrough for organizations comprised largely of knowledge workers. “Cognitive automation has made machine learning and

powerful AI a much more accessible commodity than we would have imagined five years ago,” he writes. “And what this means is that they’ll increasingly get into the work of knowledge workers.”⁵

This means that enterprise users now have the ability to elevate the application of

their human workforce by automating the work that should be beneath it.

Research firm Gartner stresses the importance of using the technology for higher-level analysis or more sophisticated decision-making. “Such capabilities go beyond typical business rule-

⁴ “Cognitive Robotic Process Automation Poised to Disrupt Knowledge Worker Market,” SearchCIO.com, June 2015

⁵ “Alec Ross On How Cognitive Robots Will Change the World,” SearchCIO.com, January 2016

processing capability, offering predictive analytics in real time,” writes Gartner analyst Bruce Robertson.⁶

There are a vast number of applications for SPA within large, data-intensive operations. Common to successful use cases are high-volume, repetitive tasks filled with unstructured data. In addition to the typical desktop UIs and structured data, these use cases include lower level “head work” that does not require significant subject matter expertise, such as categorizing and extracting unstructured data from multiple sources.

High-profile, common examples of ideal use cases for SPA include:

- Anti-Money Laundering (AML)
- Know Your Customer (KYC)
- Settlements
- Reconciliations
- Claims processing
- Marketing compliance
- Drug coding
- Regulatory compliance
- Inventory/logistics management
- Customer experience management

These use cases all benefit from the elimination of siloed, point solutions for data ingestion and transformation and the replacement of human workers for classification, prioritization, extraction and validation.

⁶ “What Does it Mean To Digitalize Work?” Gartner Inc., May 2015

WorkFusion’s SPA Capabilities and Tools

One supplier with an established track record for successful SPA solutions is WorkFusion. The company serves enterprise customers seeking to achieve aggressive operational goals that neither labor arbitrage nor robotics alone can deliver. While some vendors provide one of the three key levers, WorkFusion integrates all three, providing workforce orchestration, robotics and cognitive automation into one end-to-end solution for business users.

What do these capabilities mean in practical terms?

Workforce orchestration: The ability to programmatically manage and quality-control any size workforce in any language on any continent to improve process transparency, increase human productivity and generate quality data to train machine learning models.

Robotic automation: Rules-based automation for eliminating the human effort required for operating desktop applications to manipulate and transport structured data.

Cognitive automation: Automation that learns rules on the fly by watching human workers categorize and extract unstructured data through graphical user interfaces (GUIs) during the course of normal work.

Two capabilities that differentiate WorkFusion’s architecture from those of other automation solutions are **human-in-the-loop** and **server-level deployment**.

Why is a human-in-the-loop to automation essential for success?

Automation is never 100% accurate. Even cognitive automation will encounter exceptions that it cannot process. Rather than breaking the process, WorkFusion automatically identifies a machine exception and escalates the task (e.g., a new format of PDF or a character that OCR cannot read) to a human worker within a customer's workforce to perform the task. This handling of the exception becomes a new rule, which makes WorkFusion's cognitive capabilities incrementally smarter.

Why is a server-based approach superior to desktop?

Whereas traditional robotics or RPA vendors rely on basic robotic automation at the desktop level to perform application interface operations and structured data tasks, WorkFusion operates at the server level to:

- Automate actions between applications without desktop exposure, improving security and speed.
- Generate pattern data from the actions of human workers to incrementally train machine learning algorithms to automate far more complex processes.
- Eliminate the need to change legacy technology and eliminate the disruption of automation functionality in the event of legacy modernization.

BPM, OCR and web scraping: Integrate or replace?

Most enterprises have adopted business process management from well-known providers such as Appian, IBM Blueworks and Pega Systems, as well as point solutions for ingesting and digitizing data. These are powerful applications with robust functionality, but are often under-leveraged given their complexity and range of features. WorkFusion has built into its platform the most common and useful capabilities found within enterprise BPM suites, letting customers quickly design, deploy and track business processes. Recognizing the investment that many businesses have made into dedicated BPM products, the software can also integrate with leading solutions.

WorkFusion also provides data ingestion capabilities such as OCR and web scraping, significantly improving the typically poor accuracy of these tools through human-in-the-loop for handling exceptions and errors. The platform also has native extract-transform-load (ETL), which allows organizations to reduce the number of tools required for the last mile of a process. Equally important to customers is the ability to integrate and interoperate with legacy technology, from ERPs to data lakes, which further enhances WorkFusion's operational agility and utility to customers.

What kind of processes are right for WorkFusion?

Customers achieve significant ROI with processes defined by:

- Large amounts of unstructured data (PDFs, docs, email messages, news feeds, etc.)
- Large human headcount for processing unstructured data
- Defined method of work

What results can WorkFusion deliver?

Based on customer cases within multiple industries, this approach generates average efficiency gains of approximately 70% for customers that have not leveraged offshoring, and between 50% and 60% for customers moving from offshoring to SPA.

Customers are able to achieve these results thanks to a process-centric approach: breaking down processes into the simplest task (referred to as “microtasking”), qualifying, quality controlling and orchestrating workers, and utilizing machine learning to extract high-quality data to train algorithms.

Why WorkFusion?

As in any category of enterprise software, buyers have many choices for automation. Customers choose WorkFusion because of its solutions’ unique ability to deliver all three capabilities necessary for true process transformation and durable ROI.

Conclusion

Just as the original iPhone was a communications breakthrough over feature phones, the iPhone 6S has shattered the records of its predecessor. Such is the case with RPA in contrast to the far more advanced SPA. Similar to the way scripts and scheduling tools gave way to RPA, RPA is now giving way to SPA in order to overcome technological, regulatory, operational and competitive challenges.

An important macro trend is for technology to become increasingly human-like with each successive version. Where robotics is linear and rigid and inherently machine-like – just as the word “robotic” suggests --cognitive automation is exponential and fluid, quickly adapting to process changes, content variability and elastic volumes, similar to human workers. As a result of this natural evolution, IT and business executives are migrating from robotics-only automation approaches to SPA. In fact, SPA is already helping a wide variety of leading-edge enterprise businesses become more agile, efficient and innovative, and is rapidly expanding as a staple capability in every enterprise operations playbook.

For more information on smart automation and how WorkFusion can help your organization leverage this important industry trend, please visit www.workfusion.com.

Credits:

Created by the Institute for Robotic Process Automation in association with WorkFusion's Vice President and head of Marketing, Adam Devine.



About IRPA

The Institute for Robotic Process Automation (IRPA) is an independent professional association and global network for the buyers, sellers and influencers in the robotic process automation/autonomics arena. We are considered to be the go to/independent source for market trends, best practices, case studies, events, assessment services and channel opportunities. To learn more and opt into our free global community visit www.irpanetwork.com.



About WorkFusion

WorkFusion is the leading smart process automation solution for enterprise business. Fortune 1,000 companies use WorkFusion to automate high-volume, data-intensive business processes through a combination of workforce orchestration, robotics, and machine learning powered cognitive automation. These capabilities enable customers to improve service delivery, increase operational agility, and reduce costs. WorkFusion is headquartered in New York City with offices in London and Eastern Europe. For more information, please visit www.workfusion.com.