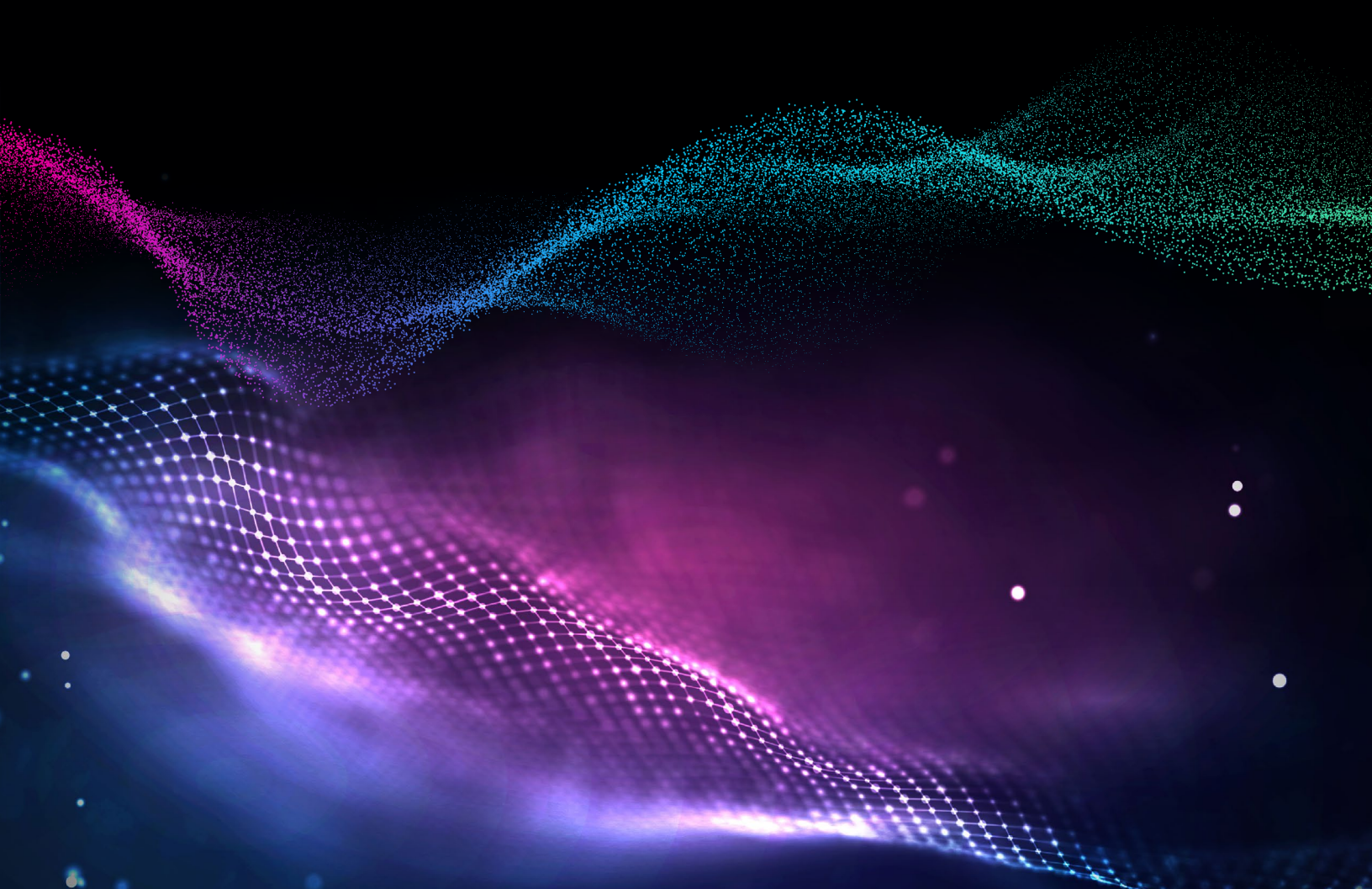




# THE NEXT EVOLUTION OF DIGITAL EXPERIENCE MANAGEMENT

USING CONNECTIVE AUTOMATION TO  
OPTIMIZE BUSINESS OUTCOMES

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## Executive Summary

As Agile development practices continue to expand and DevOps principles drive the cadence for digital transformation, organizations now seek to optimize how digital investments are delivered and focused. And while the passion for providing optimal business outcomes and customer experience has not wavered, the lens in which these are measured needs to be reassessed.

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**The ability to rapidly aggregate observations and translate them into action is the driver behind the next great inflection point for business and IT collaboration.**

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We are observing the next swing of the “influence pendulum,” which constantly moves between IT influence and business influence. Over the past decade, the pendulum has swung in the direction of IT – giving Agile and DevOps teams a significant level of control over the prioritization of digital initiatives. We are at the top of the IT influence pendulum swing, and we now need to seek a new symmetry between business and IT.

We are entering into an era where data accessibility and availability is king. The opportunity to uncover and utilize new data sources provides the chance to look for and pay real attention to digital experiences and processes that are non-optimal.

Now, we can balance decisions more proactively with the aggregation of observations and derived insight throughout the end-to-end digital experience. This ability to rapidly aggregate observations and translate them into action is the driver behind the next great inflection point for business and IT collaboration.

Fortifying the connection between the business promise and IT delivery will deliver significant benefits. It will accelerate decision making, optimize resource allocation, provide clarity of purpose, and align timelines. This enhanced level of collaboration will enable teams to measure the impact of change consistently and in context of the digital experience.

A Connective Automation Platform delivers the visibility and capability necessary to align business objectives and IT initiatives by clearly identifying and automating process and experience optimization opportunities in a common language that everybody understands.

Could this be the last swing of the pendulum as business and IT find the balance they need to deliver that optimal digital experience?

# The Next Evolution of Digital Experience

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## Aligning Islands of Automation

Our ultimate goal is to align the organization's critical business processes with the end-to-end customer experience. This requires a fabric to observe and assess process data allowing the business and IT to collaborate on how to best deploy resources across optimization opportunities.

As an industry we have tried hard to segment the definition of our applications:

- Systems of Record versus Systems of Engagement
- Bi-Modal
- Front-end versus Backend
- Transactional versus Relational

Process cadence mismatch is a result of not having alignment around business objectives and a clear definition of the expected end-user experience.

Even the simple segmentation of application types creates a divergence (and potentially an excuse) for handling automation differently. This is distinctly apparent when it comes to evolving applications - this outdated approach needs to change! This issue has become known as process cadence mismatch. It is typically described as an issue with enterprise applications being unable to change fast enough to keep pace with more modern applications. While it may be true that the evolution of modern applications could be faster than a complex enterprise application, no technology is immune to the rapid pace of change in today's IT environments. What is the solution? If both application owners were prioritizing activities predicated on common business objectives, then process cadence mismatch would not be an issue. Process cadence mismatch is a result of not having alignment around business objectives and a clear definition of the expected end-user experience.

### Who Owns "The Experience"?

With expectations and competition higher than ever, the end-user experience has become a critical delivery outcome for organizations across every industry. Inevitably, that experience is delivered through a series of technology applications and ongoing innovations. So who owns that experience? Business or IT?

Let's take a look at the evolution of how we view that related software development over the past 10 years.

- We have moved away from the definition of software development lifecycle to Software Delivery
- We have augmented Agile with DevOps
- We have focused on moving artifacts through an automated chain
- We have the intent to shift-left activities towards development

The influence pendulum has been swinging away from the business in the past 10 years. The pendulum swing is not a bad thing – it’s healthy – but now it is time re-balance. Re-balancing business with IT is the next major inflection point in the evolution of software development. The last era was defined by creating systems that collected and managed data about our process of developing software. This new era will be about leveraging that data to optimize the value to our end-users and the business.

### Agile



### DevOps



### Alignment



Who owns the experience? Let’s put this question to rest. The business owns the definition of the experience and prioritizes the initiatives which will assist the organization to achieve it. But in reality, the business would be careless to believe that any initiative would be successful without a tight collaboration with the development and operations teams. On the surface this seems like a reasonable notion but in practice, this understanding is harder than it seems. The business expects software to “just work” while not appreciating the complexity of the technical endeavor. Meanwhile, IT feels underfunded and underappreciated given their significant and essential contribution.

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The proof in the disconnect between the business and IT is evident in the fact that a majority of digital transformation projects fail. Across all research on why digital transformation projects fail there is one consistent theme, the lack of alignment among teams. The lack of alignment is usually compounded by a siloed culture that disconnects teams from reality and sends teams sprinting into diverging directions. In retrospect, the need to rebalance the influence pendulum becomes clear.

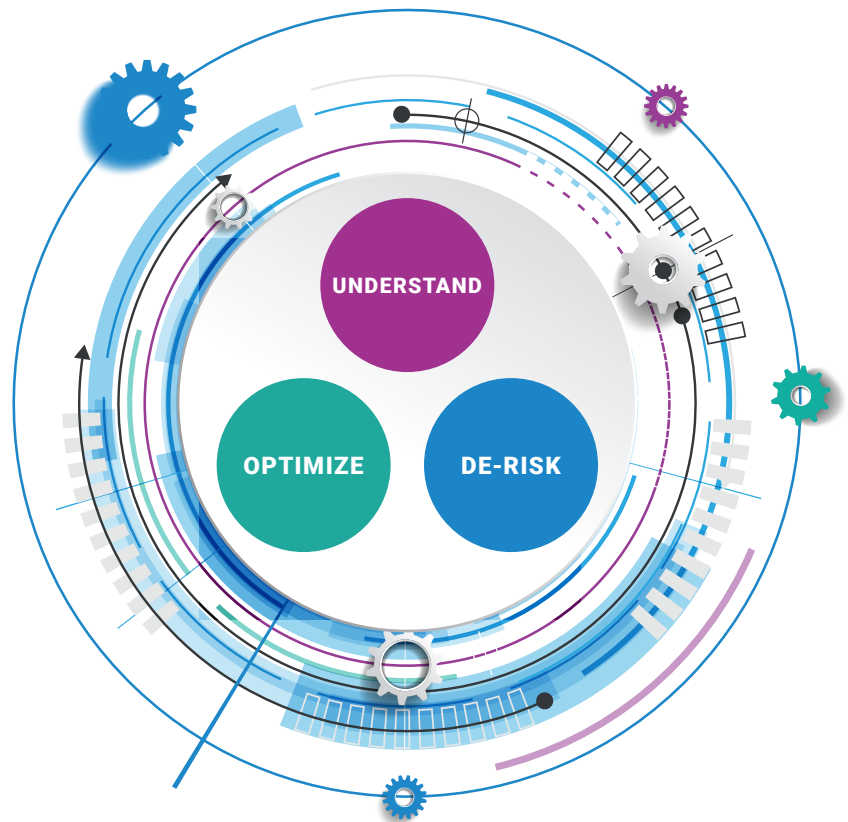
## Enabling Business & IT Alignment

A Connective Automation Platform assesses your business processes and end-user interactions providing a real-time roadmap for continuous process improvement. It is important to point out that the scope of Connective Automation is the end-to-end system inclusive of individual applications. Without the ability to assess the end-to-end experience across applications, silos will continue to be enforced. Assessing the end-to-end experience requires the ability to analyze and validate the entire customer journey across every application it touches.

With Connective Automation you can provide a common context for IT and business to collaborate and prioritize, with the ability to:

- Understand the “as-is” state of any given business process
- De-risk changes to the end-user experience
- Optimize processes across applications.

### Business Experience Management with Connective Automation





## Understand | Leverage 360° Business Insights

A Connective Automation Platform gives you a clear understanding of how users are using the system today. The system shows what is happening today and highlights where there are deviations from what is expected.

### What am I doing?

Our best intentions have been captured in requirements, however the evolution of our applications over time, plus human ingenuity, shows that the reality of usage is far different than what might be expected. The basis for any successful change program is to gain a clear understanding of what is happening today and why the current process has been adopted. A Connective Automation Platform helps the organization to automatically expose the answers to the following questions:

- Where is the documentation for the current system?
- What is the actual behavior in an application?
- Where is the waste in the process?

### What should I be doing?

Business processes must evolve to equip the organization to fulfill business obligations both internally and externally. In many cases we find that application usage has diverged from the original requirements. A Connective Automation Platform helps the organization to understand:

- Is there divergence from the system requirement?
- Have the business requirements changed to a point that an essential activity is not represented in the system?
- Have the business requirements changed to a point that the system detracts from the process goal?
- Are there backlog items that are not being appropriately prioritized?
- Is there a better way of accomplishing a task that is not represented in the system today?

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While the “test what we can” approach is sometimes preferred from a business efficiency perspective, these teams have significantly higher numbers of incidents of defects in production.

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## De-Risk | Ensure Delivery Quality

Change is constant. Organizations must understand the impact of change as it relates to the end-user experience. The ability to de-risk change must be a combination of assessing the impact of change within an application (vertical) and across applications (horizontal). Far too often continuous testing is defined by activities that assess a granular component of a single application. Although there are scenarios in which this granular level of testing is sufficient, understanding how the confluence of changes impacts the overarching business experience is an imperative.

### Is it working?

This might seem like the most basic question. Most organizations describe their testing in one of two ways: “we test what we can” or “we test everything.” Unfortunately, the lack of data to automatically drive test execution priority and remediation makes the “we test everything” approach costly and ineffective. We usually find these organizations saddled with a bloated test suite and a significantly

higher false positive rate which has eroded the team's confidence in the test results. While the "test what we can" approach is sometimes preferred from a business efficiency perspective, these teams have significantly higher numbers of incidents of defects in production.



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**The maturity of a software testing organization is based on their ability to rapidly assess risk for a complete end-user experience that spans multiple applications.**

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A Connective Automation Platform helps the organization to automatically expose the answers to the following questions:

- Is the application working as expected?
- To what degree has my system been tested?

**Is there an acceptable level of risk?**

The maturity of a software testing organization is predicated on the team's understanding of risk. It is based on their ability to rapidly assess risk in a single application, as well as to support an end-user experience that spans multiple applications. Maturity is also predicated on quantifying the level of risk which is acceptable to the business. This quantification is a much harder task.

Software teams need to be able to automate release decisions based on a quantifiable assessment of risk. The most critical question to answer are:

- What are my applications' risks?
- What are my risks to the end-user experience?
- Does the release have an acceptable level risk to the business?

**Optimize | Drive Tangible Outcomes**

Having a system that highlights opportunities to optimize your business processes and end-user experience is imperative for driving successful Digital Transformation initiatives. But awareness of an optimization opportunity is not enough. Teams must be able to capture the value of reduced cycle times, lower costs or diminished risk by rapidly closing the automation gaps with Connective Automation.

**Can I make it better?**

The intersection of software testing and process analysis provides an immensely valuable view to the business. The data yielded from these historically disparate, automated assessment techniques delivers a focal point for both business process and end-user experience optimization.

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We are often in the position where we are asked to analyze the ROI for an optimization opportunity. What if we could invert this process and have the data show us where the most productive optimization opportunities exist? A Connective Automation Platform automatically surfaces the answers to the following questions:

- What user scenarios are at risk in the current system?
- Where do the defined business expectations fail?
- What points in the current process produce delays?
- At what points in the current process are errors most likely introduced?
- At what points do manual tasks interrupt business objectives?
- Where can we rapidly apply automation for quick wins?
- Where can we apply automation for business process optimization?

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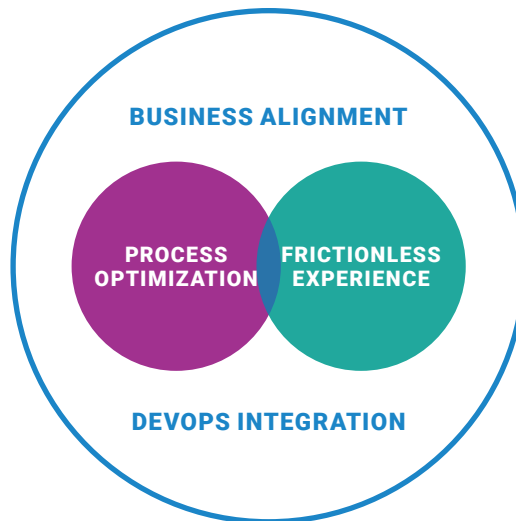
The Connective Automation Platform empowers organizations to objectively assess business alignment across the enterprise by synthesizing continuous testing, process discovery and RPA.

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## Worksoft Connective Automation

### Business & IT Alignment



Connective Automation facilitates alignment. It is about taking a step back and assessing how business objectives are presented and prioritized by development teams. Just as Agile assisted in cross-development team collaboration and DevOps expanded the collaboration of development teams with operations, the objective of Connective Automation is to formally reconnect the business to IT. As with any alignment initiative, we are going to have to understand that culture is critical. Yet organizations will find that making the case for change is significantly easier when armed with data.

The fastest way to achieve this alignment is through a common view of objective observations delivered by an automated assessment of current processes. The Connective Automation Platform synthesizes continuous testing, which validates the functionality of our applications under the lens of expectations (or requirements), and process discovery, which exposes actual system usage, and robotic process automation, which orchestrates processes in production. This synthesis gives us the ability to objectively assess business alignment across the enterprise. And the convergence of the data yielded by these analysis techniques establishes a common understanding across teams.

### The Demand for Process Optimization

Global 2000 organizations have pent-up demand for process optimization projects. The meteoric rise of Robotic Process Automation (RPA) is a case in point. Nearly every RPA flow implemented is a process optimization opportunity that was backlogged. When RPA surfaced a method for the business to advance their process optimization projects by leveraging an intuitive automation interface, organizations were quick to embrace this new technology with integration projects, optimization projects and manual task automation opportunities.

As an industry we have also taken note that the automation that RPA initially delivered was brittle and failure rates for RPA initiatives are high. Without tight collaboration with IT, RPA projects deliver only temporary benefits. RPA is a great case study for the path towards Connective Automation. It exposed significant demand for process optimization initiatives, while highlighting that isolated islands of automation do not work well in practice.

RPA offers organizations the ability to rapidly eliminate bottlenecks in a process. If an organization can leverage the same technology used to assess alignment to improve a process via automation, then teams can capture value rapidly. Connective Automation is this bridge between the assessment of “as-is” processes and the automation of the “to-be” process via RPA. Connective Automation collapses the time between discovering an optimization opportunity and realizing business process benefits.

### Creating a Frictionless Experience

User experience is king. End users generally do not care about the maturity or immaturity of an organization’s technical architecture if they receive the experience that they expect. They care that their interaction is secure, complete and in line with quality of service and features that they expect.

As we mentioned in the section Aligning Islands of Automation, over the past decade we have segmented the management of systems of engagement from systems of record. Although these applications are interdependent for delivering the end-user experience, planning and prioritization of new requirements have diverged from being guided by common business goals.

With a common framework to assess process and end-user experience we can objectively move the business forward. We have data to assess if changing business objectives are being achieved and data to highlight the contribution of IT.

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Any gaps exposed within a process or in the end-user experience are considered common ground as the aligned business objectives drive priority.

To achieve this desired level of alignment we must also make sure that we can assess the complexity of the interconnected applications that make up the end-user experience. This will require the ability to effectively measure a single application (the vertical experience) in context of the end-to-end transaction (the horizontal experience).

### **Ensuring the Vertical Experience**

Testing consultant and author Paul Gerrard's outlines the need for cross-application testing of complex business processes in the white paper "Enterprise Business Process Assurance," Gerrard writes:

*"From a technical perspective, integration represents the connection between the various layers of a technical architecture. Integration testing for developers mostly consists of checks that data accepted through the user interface in an update transaction is successfully stored in the database, wherever it is hosted. In the other direction, the data held is checked that it can be accurately presented in the user interface when requested. The connections and paths through the technical architecture can be viewed as vertical paths or vertical integration tests."*

We need to understand the integrity of all applications in the business portfolio. The richness of the test suite associated with each application assists us to better understand the intent of functionality, and if the application is behaving as expected. The greater the confidence in the test suite the greater the confidence we have when leveraging the data to make business optimization decisions. As we leverage the data from continuous testing to assess business optimization opportunities, the integrity of test logic becomes essential.

### **Optimizing the Horizontal Experience**

Gerrard says:

*"End users don't see the technical architecture and all its complexity. They view the system as a series of features, exercised by different users in what might be called a user journey. These journeys trace paths in the users' business processes and access different systems and features at each step in the path using the user interface."*

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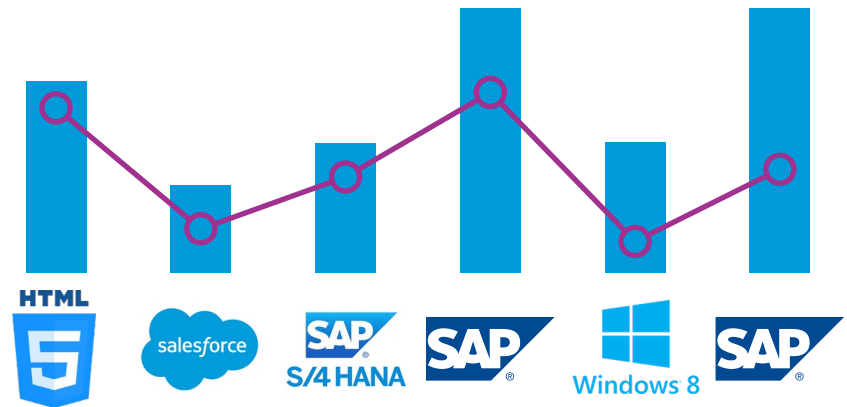
**The tester of the future will have a different profile than the tester of the past.**

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*User journeys naturally cover the business process and the system features in combination. In this way, horizontal tests exercise the integration between the systems and the business process. Vertical integration testing adopts a more technical perspective; horizontal testing adopts a user or business process perspective."*

The underlying technical architecture might not be exposed but the root for process optimization usually resides "between" these applications. Augmenting integrations with logic, extending the integration value with additional systems, or eliminating manual verifications of data all fall within the scope of business optimization opportunities that can only be exposed by executing a horizontal test.

Connective Automation provides a platform to test complex processes that span multiple applications.



Connective Automation provides a platform to test complex processes that span multiple applications. A central platform is essential to align islands of automation as it fortifies the observations from end-to-end processes that flow through packaged applications, web and mobile apps. Software testing is distinctly marked by the usage of siloed tools, in order to achieve business alignment these silos need to be address as well.

### Enabling DevOps

DevOps is an innovative concept for orchestrating the delivery of quality software. With nearly three-quarters of organizations adopting DevOps in some form, the request for advanced automation and deeper process integration grows. The promise of DevOps is that it can make people more productive because systems operate more efficiently. It should be evident by now that the observations that a Connective Automation Platform provides is essential to expansion of DevOps as well as the health of the business.

The Worksoft Connective Automation Platform is essential for the continued expansion of DevOps. It provides:

- Common understanding of business priorities which assist teams to optimize sprints
- The orchestration of continuous testing through the DevOps cycle
- The integration of test results into the DevOps tool chain
- The management and auto-generation of documentation in conjunction with release

DevOps has taught us to move fast. To achieve speed, mature DevOps organizations have done a good job of formalizing how to manage repositories of critical artifacts. Our next big opportunity is to combine process optimization into our CI/CD workflows giving us automated continuous process improvement. Incorporating Connective Automation into CI/CD workflows not only harmonizes observations across the application architecture, but also enables rapid automation of the exposed process optimization opportunities.

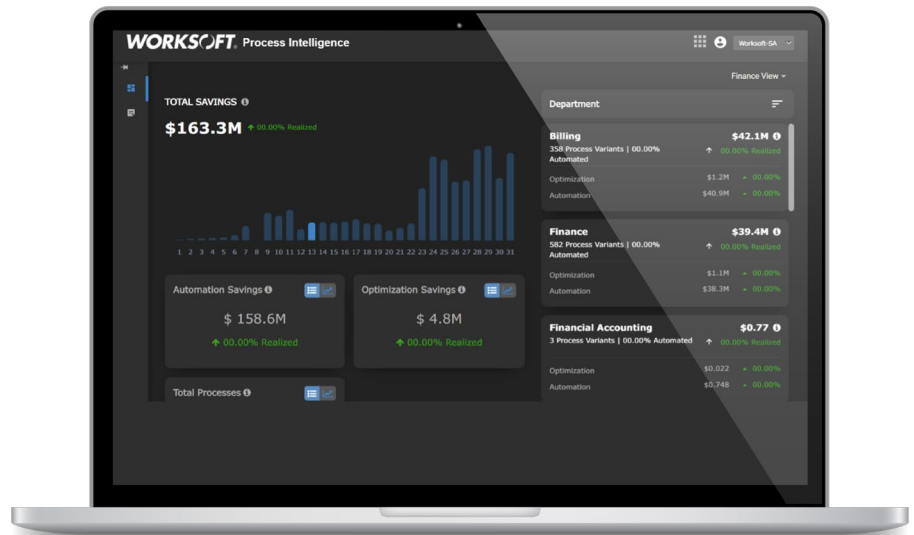
## Dynamic Enterprise Visibility

Alignment cannot happen without a common understanding of opportunities that are available to the organization. A relative assessment of all the opportunities assists in transparency and ultimately trust.

**Quite simply, alignment requires a single source of the truth and this undeniable truth must be analyzed continuously as change happens and as new opportunities emerge.**

This is where a Connective Automation Platform provides a dynamic view of automation opportunities that exist across the organization.

There are two critical observations that are assessed continuously. The first is a quality assessment which is anchored into the DevOps lifecycle and driven by continuous testing principles. The second is the return on investment (ROI) from process automation initiatives. It is essential for the organization to view these measurements together to provide a common understanding of the state of automation.



The outcome of the quality assessment (or continuous testing) lets the business know that process is working as expected while the assessment of ROI lets the organization know if productivity gains are achieving the desired value.

With this essential information available the line of business and IT have common ground to make better prioritization decisions. A dynamic view of process automation across the enterprise (please see the Worksoft Process Intelligence example above), also provides a real-time assessment of the:

- Total scope of automation deployed
- Total realized automation gains
- Percent of processes covered by continuous tests
- Processes that need test coverage by risk
- Total opportunities for automation
- Prioritized opportunities by ROI or risk
- Available working hours freed by automation

Visibility of both the scope of automation and the quality of the automation deployed is essential in bridging islands of automation. A Connective Automation Platform provides the fabric to consolidate these business observations, providing a common understanding of the state of automation.

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## Conclusion

Case studies, business journals and news outlets are flush with stories of failed technical initiatives. These failed initiatives used to be measured in “millions” but it is not uncommon to read about failures now measured in “billions.” For every story documented, there are thousands of stories we do not hear about.

Surveying postmortems of project failures, it is not shocking that the single most common reason for failure is either lack of business alignment or the divergence of alignment over the course of the initiative. The ability to make consistent observations of application behavior in context of business requirements and in context of actual application usage gives organizations the opportunity to reverse the pattern of project failure.

Throughout this document we have highlighted how to combine observations from continuous testing (expected behavior) with the observations from process mining (actual behavior) to pinpoint areas to optimize or de-risk the process. Connective Automation collapses the cycle time from opportunity identification to realizing the business benefit via automation. More importantly, Connective Automation abstracts observations from the end-to-end process analysis giving the business and IT an objective perspective on automation opportunities and the basis for alignment.

A Connective Automation Platform is the next step in the evolution of the digital enterprise. Organizations that take advantage of Connective Automation to align, de-risk and optimize their business/IT initiatives will realize value faster, with lower costs and significantly lower risk. Connective Automation is within reach. Discover the Connective Automation Platform and how Worksoft has transformed automation for the digital enterprise.





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## About Worksoft

Worksoft provides the industry's only truly codeless platform connecting all three stages of automation across your enterprise application landscape—from process intelligence to testing to RPA. We provide Connective Automation for the world's largest companies, automating the full lifecycle of their business processes that span applications like SAP, Oracle, Salesforce, Workday<sup>®</sup>, SuccessFactors, ServiceNow, and beyond. Our change resilient, easy-to-use platform empowers global leaders to automate at scale, embracing digital transformation while delivering flawless applications faster and more efficiently. For more information, contact Worksoft at [info@worksoft.com](mailto:info@worksoft.com) or visit [www.worksoft.com](http://www.worksoft.com).