



# ENTERPRISE AUTOMATION

Taxonomy | Current State | Key Use cases | Emerging Companies

December 2020

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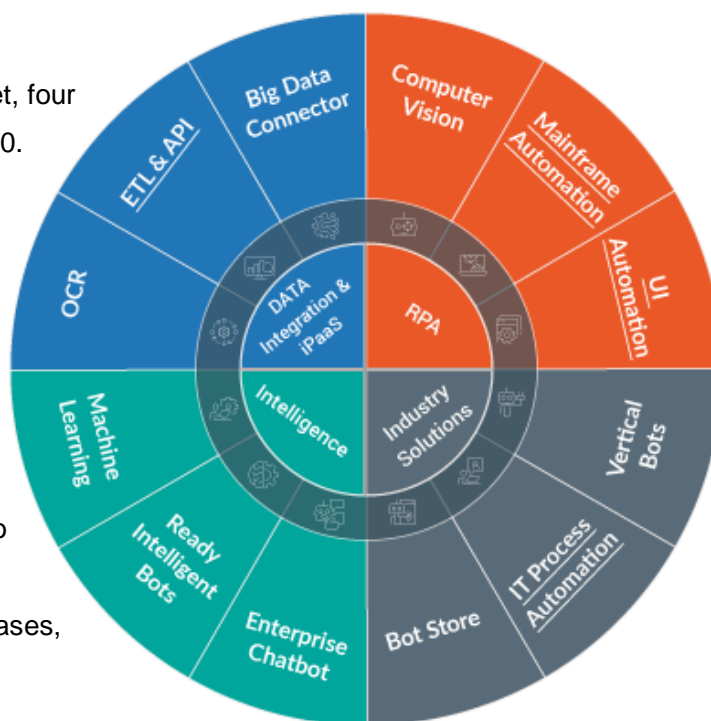
## Beyond Hyper Automation, the Taxonomy of Enterprise Automation

In the last three years RPA has seen tremendous amount of investment in the tune of approximately \$4.4bn, generating about 15k customer, 900mn in revenue amongst the 103 companies in this space and valuations that total \$21bn.

Seven acquisitions have occurred in this market, four of them occurring in the first few months of 2020.

Despite the wide awareness and excitement around the technology, 80% of the customer base still has less than 5 to 10 robots in production, with an average bot utilization rate of 60%.

This paper highlights the everchanging enterprise automation taxonomy then dives into the current state of the RPA market with emphasis on the Insurance industry, key use cases, interesting emerging trends and key emerging companies.



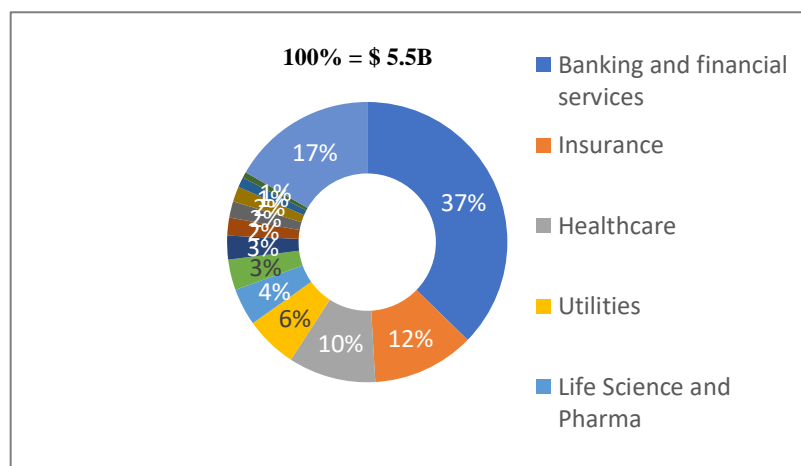
Every organization has various business functions, and each function is having a set of processes, some of these processes have repetitive and rule-based tasks which are time consuming and can be error prone if performed by humans. Automating such repetitive data processes, like processing transactions, collating data, triggering responses, and integrating various disparate data systems, requires a set of technologies.

RPA and Intelligent Automation ensure that all such operations across front office, middle office, back office and IT operations are being done at faster speed and at reduced cost with highest accuracy.

RPA, sometimes considered as the [gateway drug](#) to AI and Digital Transformation, can address task automation (using attended bots) and to some extent end-to-end automation (using un-attended bots). More and more organizations are realizing strategic prioritization at the C-suite, not cost reduction, or need for a competitive advantage is the driving factor for successful automation efforts. The [imperatives for automation success](#) are not just rooted in a single technology but rather a collection of integrated technologies.

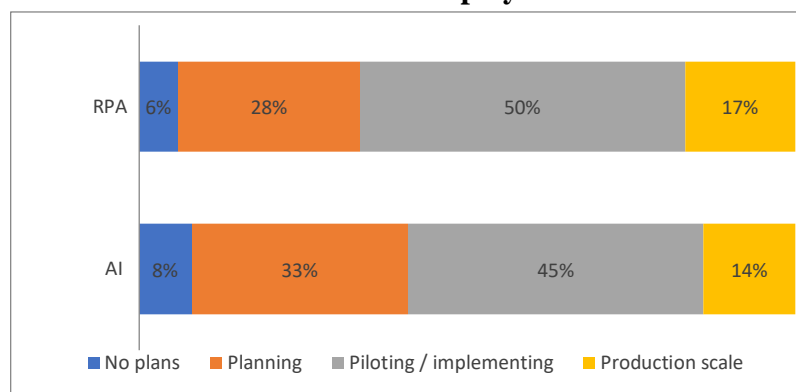
## Current State of RPA, a brief summary

- 3 large players (Automation Anywhere, Blue Prism, UiPath)
- Long-tail of approximately 100 other players
- 15k customers with 80% having less than 5 to 10 robots and average ASP in the market of \$40k
- Gartner pushes for Hyperautomation, a collection of un-integrated technologies – possibly leading to the creation of [digital twins](#) of the organization.
- Three main purchasing reasons:
  - Optimize operational efficiency
  - Accelerate existing process
  - Optimize cost
- The insurance industry accounts for approximately 12% of the RPA market but represents significant untapped potential.



RPA Market Size by Industry (2020) | source: HFS Research

## Current state of RA and AI deployments in Insurance

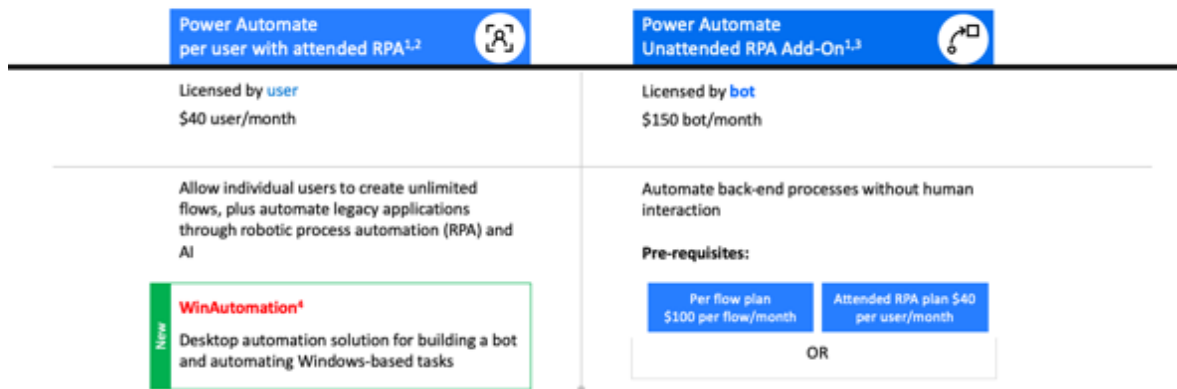


% of respondents, N = 36 insurance companies | source: HFS Research

## Current Trends in RPA

**Commoditization:** On average an attended bot costs approximately \$2,000 and an unattended bot in the range of \$8,000 to \$12,000. The second half of 2019 saw huge discounting by vendors to capture market share, in the tune of 70% discounts on what was the industry norm at 40% in H1'19. Microsoft's entry into the market and reducing its price to \$480/yr for attended and \$1,500/yr for unattended has caused an impact on pricing and buyer patterns.

### Democratizing RPA for everyone



source: Microsoft

**Disruption:** Various solutions are popping up as alternatives, namely opensource RPA (RoboCorp), workflow automation (Instabase), No-code solutions (LeapWork), various vertical specific automation providers, etc.

**TAM Expansion:** Existing vendors are moving down a path of expanding their TAM by adding Testing, Process Mining, AI capabilities. Approximately 50% of the 15k customer base, if not more, is on older versions of the software and will need to upgrade to take advantage of the new features that are not yet integrated into the core RPA solution.

**ROI Focus:** Customers are focused on tangible ROI metrics, moving away from FTE reduction and often questioning derivative metrics ie 'If this, then it must be the bot', resulting in a very careful purchase on the quantity of bots. Many have been oversold.

**Free RPA:** There are at least a dozen vendors that are offering free RPA software today.

## Emerging Market Needs

**Consumption Based Pricing:** *DXC technology*, besides others are starting to or considering offering consumption based, pay-as-you-go pricing for bot usage.

**TOC Reduction:** *Rocketbot* and *Innocloud*, besides others are starting to offer cloud-based RPA, claiming to reduce at a minimum 50% of the TOC.

**Addressing Bot Fragility:** *ChoiceWorx* is an intelligent automation company that is focused on ending bot fragility often bound with RPA.

**Convergence:** We are starting to see the convergence of Testing and RPA, or Process Mining, Testing and RPA in platform solutions, like for example *Worksoft*, with the promise of lowered TCO and better usability.

## Emerging Best Practices & Challenges for Global Implementation of RPA

### Focus on the business case upfront

- “client decided not to proceed with RPA because they couldn’t see how it would pay for their investment”
- “the only way for RPA to be viable was to provide initial training to their resources, a light-touch platform and a couple of licenses. To break even in-year required automation of 6 FTE worth of processes, which they managed to (just) achieve.”

### Build internal/local delivery capability

- “it simply isn’t cost-viable for us to work in those other countries at standard consulting rates, especially when needing to add travel and out of pockets (though it isn’t such an issue right now)”
- “We partnered with local player in the region. They have a big operation primarily in Malaysia and use this as a lower cost base to service other countries. We worked with them more in an advisory/training capacity and used their lower cost consultants to help shandy our rate for process delivery.

### **Use RPA beyond FTE reduction**

- *“RPA could be used to quality review 100% of claims for compliance/accuracy instead of sampling. We’ve automated this process for a health service client recently and it resulted in a \$15mn/year benefit by preventing claims being paid erroneously.”*

### **Leverage innovative commercial models**

- *“ended up engaging by offering a price-per-process which included developing an automated solution and managing support and maintenance for a 3-year period post deployment.”*
- *Reduce RPA program overheads by introducing accelerator tools to expedite delivery and improve quality, thereby reducing ongoing support and maintenance costs*

Business cases will likely to become more attractive post-Covid as labor costs are likely to increase, the need to go digital becomes more dire, and the cost of RPA tech becomes more competitive.

## Industry Specific Use Cases

### Finance and Accounting

#### TOP 5 USE CASES

<b>Invoice processing</b>	Capture invoice data from scanned invoices or electronic files and process the same in ERP systems. The invoice processing time can be reduced by up to 60 to 80 %.
<b>Payment matching &amp; processing</b>	Bank lockbox payments received from various sources are matched against open invoices, then processed in the ERP system and remittance receipts generated
<b>Automate journal entries</b>	RPA can process email, perform compliance checks and process the Journal entries in ERP (SAP, Oracle, etc.), and notify the requestor.
<b>Account reconciliations</b>	RPA can automate the download of sub-account balances, perform validations and create balancing journal entries to handle discrepancies
<b>3-way matching</b>	Matching of invoices to purchase orders (PO) and goods received notes (GRN) can be automated with RPA.

#### NORDEA

##### How OCR and Chatbots enhance the Digital Workforce

Nordea, the biggest financial group in Nordic countries, with over 10mn customers, 29,000 employee has digital transformation and innovation at its core.

With the goal to be an efficient, customer friendly bank that operates with great efficiency, RPA has been a tool to realize this goal.

Nordea has extended Intelligence Automation across a myriad of business functions globally and has 175 digital workers in production no handling 450 processes and approximately 115 humans working with these robots.

OCR integration solutions feeds necessary data and helps Nordea save FTEs and raise compliance levels.



## Human Resources

### TOP 5 USE CASES

<b>Employee Onboarding</b>	HR teams automate many of the onboarding tasks including receiving information and paperwork from new hires, setting up access to systems and notifying concerned.
<b>Time record validation</b>	Following up on missing timesheets, validate time booked and notify any discrepancies.
<b>Payroll payments</b>	With RPA, the bot automatically extracts data from an input source such as an MS Excel file or an email and enter the Payroll payment data into the banking application.
<b>Compensation Management</b>	RPA can be used to input compensation data for employees into the Talent Management System.
<b>Earnings and Deductions</b>	Initiate batch creation and imports into the payroll system, complete the standard validations.

### WALGREENS

#### Increasing HR shared services efficiency by 73%

Walgreens, improved employee experience to make HR more “human”, allowing employees to enhance the customer experience and bottom line – while boosting efficiency in the HR shared services group by 73%.

They were in a lengthy process of refreshing their core HR and payroll systems – with cloud-based replacement, but supporting this major rollout was stretching the existing staff thin. Company couldn’t hire additional people and turned to RPA.

RPA, for example, loads the necessary data of approximately 2,000 Walgreen employees who might be on a leave of absence any single day. It identified where this is paid or unpaid leave and updates all required systems. In the worker compensation process, the bot instantaneously feeds data back and forth between Walgreens and its claims management service provider.



#### WALGREEN'S 4 STEP RPA VISION

1. Automate processes to allow for the Digital Workers to assume transactional and repeatable tasks
2. Continually look for ways to optimize processes and improve Digital Worker productivity
3. Deploy team members onto higher value work
4. Continue to develop and integrate artificial intelligence to improve efficiency and effectiveness — while optimizing the employee and customer experience

## Customer Service

### TOP 5 USE CASES

<b>Customer Management</b>	Agents can quickly add or update customer records with RPA. They can also update the details on other systems with a mouse click.
<b>Update CRM</b>	RPA can automate the process of sending the Sales & Order information from ERP to CRM and notify the salesperson.
<b>Incident/Change Management</b>	RPA can raise incidents/change requests by creating and/or updating tickets. These tickets can be created from email or can also be auto created with inputs from monitoring systems.
<b>Update or Close Tickets</b>	RPA can close tickets after follow-up if the users indicate the incident has been resolved or if there is no response after repeated follow-up.
<b>External and internal interface</b>	RPA can be used to drive actions in external systems (supplier, partner or customer) or even internal systems with a non-disruptive integration

### MAJOR INSURANCE PROVIDER

#### Reduced call time by 70%

A major insurance company sought to improve customer service at its call center. Prior to automation customer calls were time consuming and frequently resulted in delayed customer transactions, as agents needed to retrieve KYC info from multiple systems.

While on a call with a customer, a CS rep can assign relevant tasks to the bot directly from the desktop. Once the robot completed a process it automatically sends customer information to the CSR in an organized message.

With this approach they were able to cut operating expenses by 20% and eliminated 100% of human errors. They also reduced customer waiting time by 67% (from 2 minutes to 40 seconds per call) and cut average call times by 70% while reducing handling times from 10 minutes to 3 minutes per call.

## Insurance

### TOP 5 USE CASES

<b>Claims processing</b>	RPA helps the insurers in easily gathering data from various sources to be used at the centralized documents so that the claims can be processed in much faster pace.
<b>Underwriting</b>	RPA automates the process of data collection from various external and internal sites, thus considerably reducing the time taken for underwriting.
<b>Regulatory Compliance</b>	Validating existing customer information, regulatory report generation, sending out account closure processing notifications are a glimpse of the scenarios which RPA in Insurance can automate.
<b>Policy Admin and Servicing</b>	RPA cuts down the back-office process times which are operational, high volume, repetitive and time consuming. It automates transactional and administrative parts of activities such as accounting, settlements, risk capture, credit control, tax, and regulatory compliances
<b>Customer Onboarding</b>	Automation can help cut through the clutter or paperwork through auto-filling & accessing data from various sources.

### AVIVA

#### Robust Robotic Operating Model Leads to Unprecedented ROI

Aviva, one of the largest insurance providers in the UK, aimed to place innovation and automation at the heart of its business.

They developed a powerful Robotic Operating Model framework to govern its rapidly growing automation program.

With over 350 automated processes running, it is crucial that each one has been properly vetted. Targeted IT teams usher each process through stringent evaluation, development and code quality checks. A continuous release model enables IT to ship usable development features when ready, speeding time to market. Splunk dashboards are used to prioritize top exceptions and have helped attain a 99% success rate for problem resolution.

- 16mn transactions processed by Digital Workers.
- £ 1mn in cost savings
- 1.4mn hours back to the business

## Specific Insurance Industry Cases

### Case 1

#### Business problem

- The business ran by email, phone, paper, fax, spreadsheet and people's knowledge: lack of adherence to the standard process, higher than average data entry errors, one-off "work arounds", no formal process for quality measurement and assurance
- Aging legacy systems: prevented needed functionality improvements and forced development of unsupported application releases.
- F & A governance was disaggregated with no single owner for end-to-end processes. Sub-process or transaction completed within organizational silos with early stage errors causing substantial downstream rework.

#### Solution

- Business Transformation Consulting: A business-wide assessment to identify opportunities, design solution, and develop business case justification of a high-impact process transformation and modernization roadmap.
- Sutherland Digital Automation: Detailed, collaborative specification-building with client SMEs for paper forms digitization, document & workflow management, web-apps, RPA or APIs for each of the 20 in-scope process areas, all delivered on a cloud-based platform.
- Financial Transformation Practice Consulting: Finance expertise applied to the detailed design of money-in and accounting functions.
- Analytics Consulting & Services: Data governance consulting & design with leverage of Sutherland's proprietary, cloud-based analytics platform to not only deliver rich, operational and financial reporting, but also to enable ongoing analytical diagnostic services to identify new business opportunities and to support strategic decision-making.

#### Impact

- 25% average reduction in labour costs per process. 20% improvement in claims-related processing turnaround time. Total of \$ 6mn in annual recurring and \$2 in one-time client benefits. Elimination of \$ 1mn in suspense accounts, then recognized as revenue. Now delivering lapse analytics to prevent unwarranted policy churn
- Insight on Agent profitability, policy profitability and Customer segmentation for cross sell and upsell opportunities yielding 5-8% increase in annual premium.
- Improvements in key financial metrics: Increased financial transaction accuracy by ~25%, Reduction of premium suspense by ~50%, First time policy payment accuracy improved to 100%

## Case 2

### Business problem

The Company had a mandate to robotize its processes, but there was no defined approach or capability to support. They needed a holistic strategy, development and governance support, change management support, and ongoing technical support.

### Solution

First phase of project included 45 use cases deployed across 20 business process. Project also included setting up the governance model and Centre of Excellence. Second phase of project increased use case to 62 across 40 business process with 300 robots deployed. A CoE was implemented and KPMG provides ongoing training and support and acts as a strategic partner helping defined the future of automation.

### Impact

- 30% reduction in average operating time
- Increase in operating capacity up to 3 times
- 3 billion COP in economic benefits in reducing operating costs and increase revenues, 25 FTE reduction
- 62 use cases deployed across 40 process
- 2 million monthly transactions, movements of 4 billion COP per month
- Focus on process improvement and not on FTE reduction

### Scale

Initially only the RPA factory was contemplated, but the results allowed that in addition to defining the CoE, RPA was deployed as a digital transformation process for the Company.

### Tools

Automation Anywhere

Process Analysis, Bizagi (Flows), Azure, Trello, BotsNation (a tool locally developed by KPMG)

## Case 3

### Business problem

As part of the client's cost optimization strategy, the business has committed to delivering significant operational savings. There are a number of initiatives client is looking for to achieve this. Automation is one of those key initiatives and wanted to grow the digital workers significantly in the organization. Client wanted to have a digital operations strategy and an implementation roadmap to be put in place to ensure a structured program approach for the digital journey. Major challenges in the ecosystem were: Dependency on multiple stakeholders, internal and external to the organization, was not managed properly and needed a well-structured governance model, lack of proper methodology for identification of processes for automation, ineffective code review and standardization mechanism.

### Solution

CoE setup was completed by Wipro engagement. Setup overall Program Management for client with the help of process documentation, Version control, Knowledge Management, program governance and project tracking. Installed the UiPath Infrastructure in a highly Available cross-country setup. Set up coding standards and best practices for the Platform. Setup Automation champion forums evangelize and drive RPA adoption across the organization. Train & mentor customer's and partner's resources to operationalize the Automation Platform as a Service. License to operate framework for internal business units as well as outsourced organizations.

### Impact

- Deliverables: Digital operations strategy document, 24 months implementation roadmap, system architecture for aPaaS setup, clearly articulated challenges coupled with mitigation strategy, governance approach covering day-to-day scenarios, target operating model and digital assessment report out (business case, project plan for the selected business area), defined digital program change management practices, enterprise change management strategy and defined templates for RPA implementation, roadmap for OCR/ICR implementation, processes shortlisted and roadmap defined for cognitive automation.
- Governance - Better control for both In-house and outsourced automation services. Efficiency - Improved internal processes. Standardization - Centralized Automation Portfolio
- Outcome expected out of RPA implementation: 41% productivity benefit, 55% handling time reduction.

## **Scale**

The aPaaS setup itself is a scalable model which can cover all business units and even the outsourced partners. Our platform setup has detailed guidelines on what should be done while using the platform across business units.

## **Tools**

UiPath.

## Case 4

### Business problem

Poor customer experience during peak home contents + buildings claims periods (e.g. natural disasters such as cyclones, storms etc.). Root cause was very limited scalability of customer contact centre and constrained customer channel choice (primarily the immaturity of online claims processing capability). During times of "peak load", new claims processing time averaged 4 days.

### Solution

Firstly-the current E2E processes were redesigned applying zero-basing process reengineering principles. After reengineering was completed, a technical solution comprising RPA, a new Front-End digital smart form was designed. EY configured all overall required technology and deployed it into production. Part of the design allowed integration into 3rd party weather forecasting software used by the client to predict new claims surges (resulting data was fed to the automation CoE who used it as one input into the amount of RPA processing capacity to be "reserved"). Finally, the solution was integrated into the client's workflow management solution which allocates and tracks the progress of claims assessment and allocation of trades from the client's preferred trade suppliers lists.

### Impact

Yes, if taken in the context of the organization's total RPA estate e.g. 200+ of automated processes. EY automated processes account (c.90) for 40%+ of all automated processes in production.

### Scale

Yes, if taken in the context of the organization's total RPA estate e.g. 200+ of automated processes. EY automated processes account (c.90) for 40%+ of all automated processes in production.

### Tools

- Blue Prism
- Digital smart form technology to create new front end online new claim submission form with built-in validation checks to existing customer records.



## Case 5

### Business problem

The Credit & Lending department in the Bank had multiple processes, such as – Quantitative Credit Rating Process, loan operation process. Information exchange process F&A - High Cycle time due to multiple hand-offs between human and the RPA BOTs, inefficient exception handling, human efforts wastage in activities like (allocations, manual tracking, reporting etc.), missing SLAs due to dependency on human agents

### Solution

- Enhancement of RPA effectiveness by augmenting human potential with Enate Service Orchestration (with UiPath) –
- Service Orchestration works across a hybrid workforce of humans and bots to automate end-to-end services
- RSO implementation led to service automation instead of task automation
- keeps human in the loop to handle exceptions and edge cases while allowing interoperability between humans and BOTs.
- Eliminates certain types of work (allocations, manual tracking, prioritization, reporting)
- Streamlines activity (everything gets done in time against SLAs without delays).

### Impact

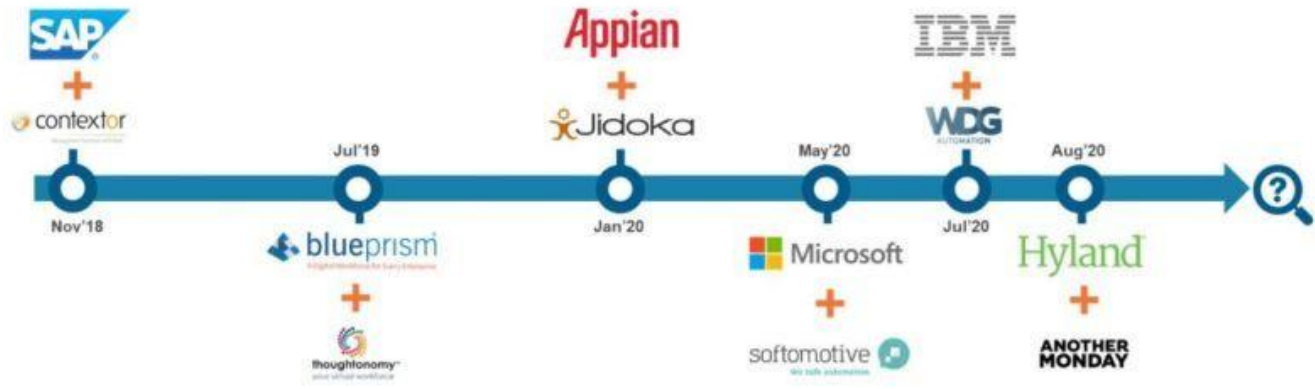
- 25% reduction in loan processing times
- 20% reduction in overall activities
- Real-time exception handling with better utilization of human skills
- End-to-end service automation.

### Tools

- UiPath
- Enate (Service Orchestration tool)

## Acquisitions & Emerging Companies

There have been 7 acquisitions to date in the RPA market, representing approximately \$400M in acquired assets (comparatively approx. \$4.4B in venture investment in about 90 companies in RPA).



\*( Pega acquired Openspan in 2016)

## Emerging Companies

Company	Expertise	Description
Apromore	Process Mining	Leading provider of open-source solutions for process mining and AI-driven business process improvement. The product incorporates the results of nine PhD theses and has been showcased in over one hundred scientific publications.
Automation hero	RPA	RPA, Intelligent OCR
Ayehu	IT Automation	Ayehu NG is an intelligent IT Automation and Orchestration platform built for the Digital Era. Powered by machine learning algorithms, Ayehu acts as a force multiplier, driving efficiency through a simple and powerful, web 3.0 automation platform for IT and security operations.
Blackbook.ai	RPA & AI	Australian based company that specializes in automation and AI
Camunda	RPA	Innovating process automation with a standards-based, highly scalable and collaborative approach for business and IT
Celonis	Process Mining	Celonis is the market leader in AI-enhanced Process Mining and Process Excellence. The system knows how processes really run, senses friction in real time, and acts with intelligent automation and recommendations.
Contract Wrangler	Vertical specific Intelligent Data Processing	Provider of an enterprise SaaS software intended to deliver actionable insights from corporate contracts. The company's technology leverages machine learning with attorneys-in-the-loop to accurately extract, analyze and distribute prescriptive insights and transform contract language to actionable data.
Conexiom	Vertical RPA	SaaS platform for Sales order and invoice automation for manufacturers and distributors.
ElectroNeek	Intelligent Automation	ElectroNeek, an Intelligent Automation company backed by Y Combinator, develops products to automatically discover, analyze, and robotize repetitive business processes.
Enterdev	RPA	Privately held RPA product provider in Latin America with 80% attended and 20% unattended bot implementations serving three large insurance companies in Latin America, amongst other customers.
FortressIQ	Process Mining	FortressIQ empowers enterprises to decode work with its process intelligence platform. It automatically and continuously acquires process data at scale across the entire enterprise, allowing companies to understand and monitor current state processes, and then make better, faster process improvements.

Functionize	IT Automation	Testing solution provider. Functionize combines NLP, deep learning ML models and other AI technologies to build tests faster that don't break and run at scale in the cloud.
HighIQ	Vertical RPA	Provider of Digital Workforce as a Service (DWaaS), role-based intelligent automation solutions. They offer ready to run Digital workers with consumption based pricing, and merged billing through AWS Marketplace as a part of our cloud spend.
Indico	Physical process capture	A single solution for document intake, understanding and digitization that effectively addresses structured, semi-structured and unstructured document formats.
Liveobjects.ai	Business Process Automation	Live Objects is delivering the world's first closed-loop business process optimization platform that accelerates customers' digital transformation journey.
Midnight.sh	Document Processing	Provides a platform for orchestrating workflows by connecting 3 <sup>rd</sup> party systems, coordinating teams and automating work. Also provides integration with their data extraction engine and document inspector, giving customers the ability to process critical business documents in a single platform.
Minit.io	Process Mining	Providers of Process Mining solution, to help businesses transform the way they analyze, monitor, and optimize their processes and uncover opportunities for continuous process improvement and higher operational efficiency.
RoboCorp	Opensource RPA	With a developers first approach, Robocorp provides an open source RPA product in the cloud.
Rocketbot	RPA	Latin America based, provides RPA solutions in region and expanding the US.
Soroco	RPA	Provides process discovery and automation for enterprises.
Skan.ai	Process Mining	Skan is a cognitive technology startup redefining business process discovery to empower large enterprises to uncover, untangle, and unleash their business processes. Skan's vision is to be the foundation for operational intelligence and the fabric of the future of work.
Worksoft	RPA & Testing	Provider of 'connective automation' platform, tying Process Discovery, Testing and RPA in one platform.

## About the Author

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## LEVERAGE OUR EXPERIENCE

AV8 is ready to help you change the world. We are executives and investors dedicated to transforming industries, dismantling the old, and bringing in the new – empowering the bold.

## DEEP TECH EXPERTISE

We are scientists and specialists at the cutting-edge of our fields. We work with you to build research-based – and truly innovative – solutions.

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