



# ROBOTIC PROCESS AUTOMATION

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*YEAR IN REVIEW & LOOK INTO THE FUTURE*





Artificial Intelligence (AI) technologies like Robotic Process Automation (RPA) and machine learning are the biggest disruptors in global business since the Internet. They are transforming work by stripping away mundane, repetitive tasks and freeing up people to handle more advanced, innovative work.

In fact, many dubbed 2017 “**The Year of AI**,” based on its widespread impact. As we approach the end of 2017, we can reflect on the technological milestones and discoveries and use them to look forward.

Read on as we explore some of the biggest RPA and AI trends in 2017 and which new ones will influence the future.



## 2017 YEAR IN REVIEW: THREE BIG TRENDS

### Industries Using RPA to Unlock Innovation

Many industries are seeing more innovative developments from their unchained human staff thanks to digital automation. Some of the well-documented sectors include healthcare — where about 86% of providers and companies use some form of AI — and information technology, which always has the pulse of latest tech trends.

However, other sectors are unlocking innovation in surprising ways by leveraging the strengths of both their workforces. Government and Law Enforcement, Banking and Accounting, Retail and Customer Service, Telecommunications, and Mass Transportation have all seen innovation breakthroughs by leaning on digital workforces for everyday tasks.

In banking, for example, automation is being used by banks to flag suspicious spending behavior, communicate with customers, validate credit screening data, and review wire transfers for fraud, just to name a few. Also in 2017, H&R Block used tax-code-trained AI to alert its accountants about deduction or claim opportunities on customers’ tax returns.

### Businesses Use RPA to Increase Staff Size / Effectiveness

Many companies wish they could “clone” their most productive employees, doubling their staff’s capacity without adding extra costs. With RPA, businesses are finding they can do just that.

At one of Novatio’s clients, for example, employees at an overseas shipping company spend valuable time manually updating shipment-tracking information in various databases. Updating these databases is nonstop, tedious, and ripe for human errors. Multiple systems hold different types of data, which means staff constantly log in and out of databases to edit information.



Novatio launched a solution that uses digital workers and RPA to compare data and update all systems automatically, with no data loss. Digital workers autonomously track reports, update the different databases, validate the data, and report back to human workers, all with zero errors.

The company's human workers can spend more time following up on shipment issues, working directly with customers and delivery staff. And the resulting tracking accuracy gives better insight to customers, with the efficiencies gained boosting the value of their services.

## Silicon Valley Giants to Small Businesses

According to **CIO Magazine**, “[In 2017], machine learning took the place of big data as the shiny new thing in technology.”

Apple, Microsoft, Facebook, and Google were key companies that launched AI initiatives. Apple's AI team ended their secrecy and started the Apple Machine Learning Journal — an online research publisher. Microsoft has followed suit, and Facebook released educational content explaining how AI works. Meanwhile, Google continues to spend big on AI and RPA research.

As Silicon Valley's giants increase spending, research, and product creation, the “little guys” have benefitted. Starting in 2017, and surely into the future, RPA technology has never been more affordable and accessible for all business uses — from the solo-preneur to the Fortune 500.

*Read more on RPA / AI trends at [novatiosolutions.com/blog](https://novatiosolutions.com/blog).*



## 2018 AND BEYOND: RPA OF THE FUTURE

*That was 2017. What about 2018 (and beyond)?* We asked Novatio Solutions CEO and co-founder, Gokul Solai, M.D., to predict the future of RPA. Here are the biggest trends he sees coming.

### STANDARDIZED NOMENCLATURE

One of the biggest pushes for the future will be around the terms used for the technology. The industry has been so hot that **tools in this space were mis-marketed as “process automation” or “artificial intelligence”** when it wasn't really the case.

“What you see is what you get” isn't necessarily true,” says Solai. “And consumers have gotten wise.”

“I think there is going to be a good push to standardize what tools, software, and other solutions are called,” says Solai. “Tech companies will need to be more transparent and operate with integrity, because people are increasingly demanding it.”

One push we might see is the shift from **Robotic** Process Automation to the more broad **Intelligent** Process Automation.



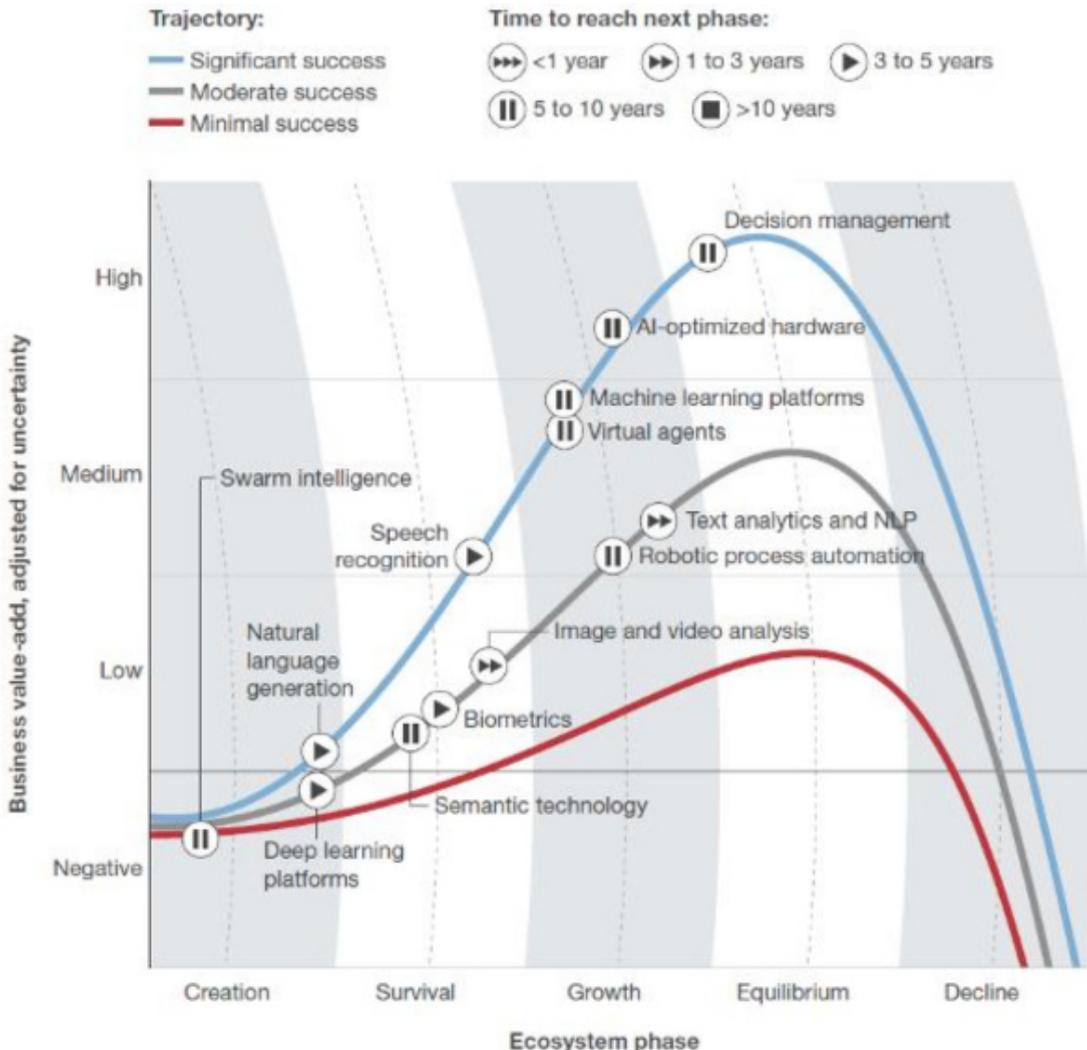
## AUTOMATED AUTOMATION

When it comes to designing and building automated solutions, humans are the driving intelligence behind structuring the rules, requirements, and structure of processes. But recent advancements in technology will allow for **even the development of automated solutions to be automated**. The concept of “robots building robots” is not a new one, but now possibility has become reality.

“There’s going to be a larger infusion of this technology and how we view tasks we traditionally thought robots couldn’t handle,” says Solai. “Better integrated voice response, better speech to text, and a better ability to understand people and processes means an improved ability to convert unstructured data to structured data by robots.”

Digital workers and cognitive technology will take over more tasks. A mass re-shoring of work (bringing work that had been offshored to low-cost workforces back in-house), as organizations understand they can provide value at cheaper cost. And tech firms will be able to help more organizations, more quickly and more cost-effectively.

Over time, digital automation designers will learn and adapt from previous builds and create optimized solutions at lower costs.





## FASTER KNOWLEDGE NETWORK

Computers and digital workers will have larger base of data to draw from — a shared network of data to accelerate knowledge collection.

“Processes and people will be able to store data in more efficient and accessible ways,” says Solai. “And accessibility to that data will be more prevalent for use in developing new technologies.”

## INTELLIGENT THINGS

As AI seeps ubiquitously into every technology, the Internet of Things (IoT) phenomenon — the network of connected devices, appliances, content, and hardware — will grow. Artificial intelligence and machine learning will enable these IoT devices to operate autonomously or semi-autonomously.

Technology will allow intelligent things to work collaboratively in what research firm Gartner calls the Digital Mesh. This network will blend “the virtual and real worlds to create an immersive digitally enhanced and connected environment.”

## HIEGHTENED AWARENESS OF SECURITY

“A large push toward prioritizing cyber security solutions will be one of the most important developments,” explains Solai. “Companies will need to secure all their new digital solutions, so that robots are not a weak link to hack their organizations.”

## NEW INDUSTRIES IMPACTED

Growth areas for RPA include industries that involve heavy physical labor — deep-sea exploration, oil drilling, mining and manufacturing, energy. These industries use digital tools now, but new augmented reality solutions can allow for “personal assistants” that guide decision-making.

“Think Iron Man’s digital assistant, JARVIS,” explains Solai. “These solutions can make it safer, provide more reliable, real-time information, and allow humans to react faster to dangerous events.”

## AI-ASSISTED EDUCATION

Leading education companies will lean on **AI to improve teaching and learning in the classroom.**

Pearson Education is putting its efforts into creating “a range of online games based on AI.”

Mindojo — an online tutoring company — is developing algorithms that both teach and study you to get to know exactly who you are.

Test makers are creating adaptive tests, to mold questions to individual students

Students could someday use robot tutors to help with schoolwork

From grading to tutoring to testing, many of the tedious tasks in education can be performed by RPA, leaving creative teaching to human teachers.



## HEALTH CARE TRANSFORMED

In the health care sector, about 86% of providers and companies currently use some form of AI. But, according to Solai, there are still opportunities to find efficiencies in most processes by leveraging digital workers.

Some efficiencies include:

- Reduction of time needed for clinical research, because digital workers can aggregate and process data faster than humans
- Decreasing the workload of patient processing (insurance, onboarding, off-boarding) on human workers
- Standardization of telemedicine processes and software to find cost savings
- Allowing secure access to medical records, using block chain and digital workers

“Access to medical records is a game-changer,” says Solai. “Right now, if you’re from Arkansas and need health care in Illinois or overseas, those providers can’t easily access your medical history.”

“Those providers must fax records requests to your primary doctor and wait for a fax to come back,” Solai explains. “Block chain can give instant, distributed, and secure access to anyone will the correct permissions. **This technology could save thousands of lives.**”

## RPA IN 2020: INTELLIGENT ECOSYSTEM

By 2020, Solai predicts RPA will be one part of a larger intelligence ecosystem, a network of connected data and automated processes. This network will work together, sharing information, connecting human-used devices, accomplishing tasks autonomously, and learning from each other to find efficiencies.

“In 2020, about 80% of all organizations will use some form of artificial intelligence,” adds Solai. “And the vast majority of all your interactions with companies will be automated, not with a human agent.”

Solai also expects AI Designer to overtake Programmer/Developer as the most desirable technology job.

## CONCLUSION

While 2017 (“The Year of AI”) saw many new developments in the world of robotic process automation, the years that follow might impact more industries and organizations. From new technologies to optimized processes, RPA techniques will only improve.

Businesses and consumers across the world – massive conglomerates, solo-preneurs, and their customers – will benefit. Only time will tell how innovative and pervasive automation will grow.

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