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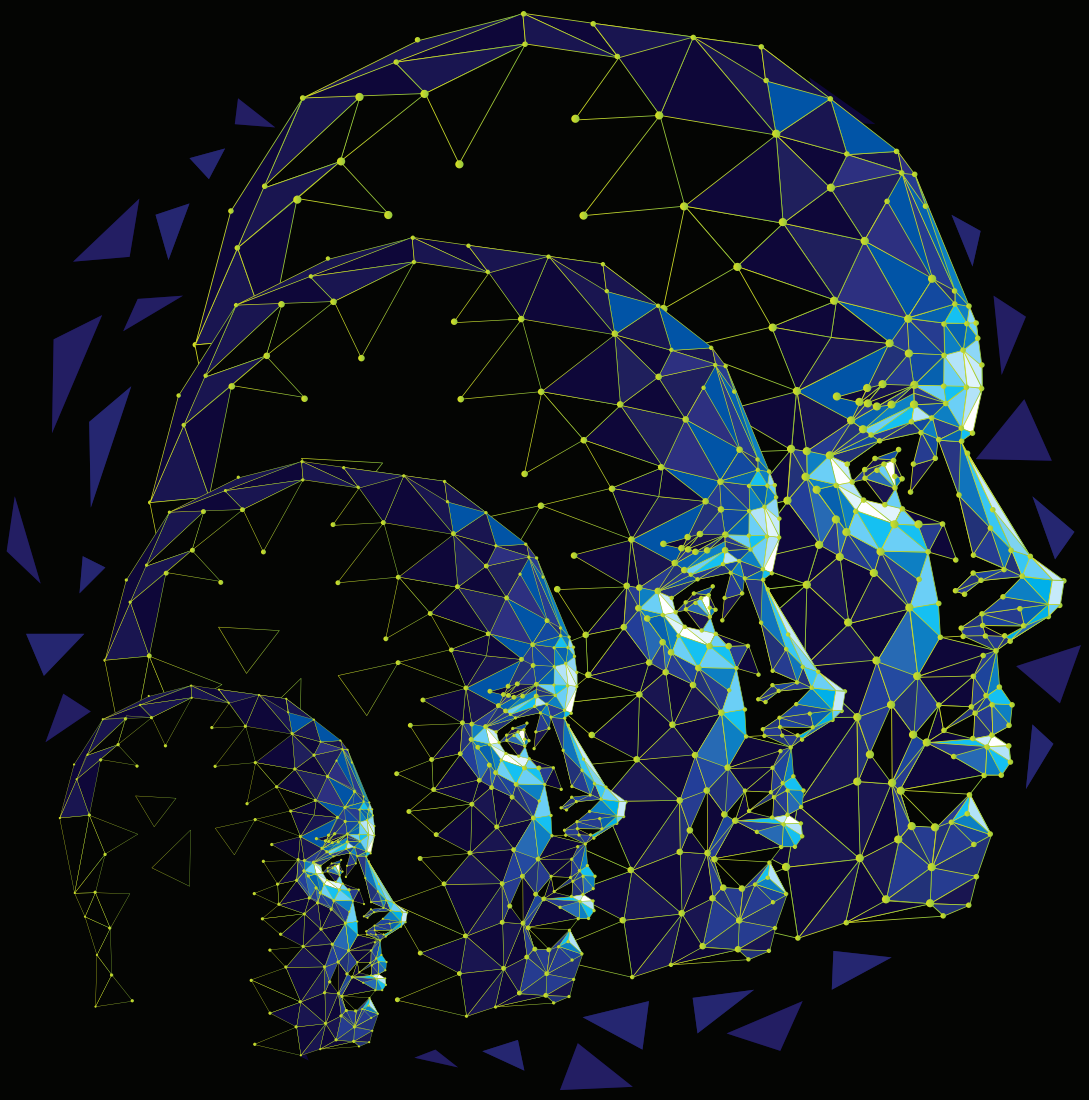

# Automation with intelligence

Reimagining the organisation in the 'Age of With'

Deloitte provides a portfolio of services and assets to imagine, deliver and run intelligent automation. Through immersive events we expose and explore opportunities to define the vision, strategy and business case for widespread adoption across the enterprise. We help executives refine the design, tools and methods necessary in order to rapidly scale up automation. As the business transformation takes shape and the benefits are realised at scale Deloitte provides bot management, maintenance and enhancement.

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# Introduction

Humans have misjudged robots. They are often seen as job thieves, threatening workers with redundancy. Artificial intelligence AI only makes their perceived threat worse. Perhaps these thinking machines could, like the fictional robots of the science-fiction writer, Isaac Asimov, begin to decide humans are superfluous. Our image of the robot, shaped by popular culture, is not a positive one. Yet, this prejudice should be put aside. Robots, especially thinking ones, are to be welcomed, not feared.

MACHINE INTELLIGENCE CAN complement human intelligence. Humans are creative, imaginative, strategic, tactical and inventive. Robots are better suited to tasks that humans find difficult and dislike. The inspection of vast amounts of data and search for patterns in that data might involve endless repetition. It would exhaust any human brain, but not a robot one.

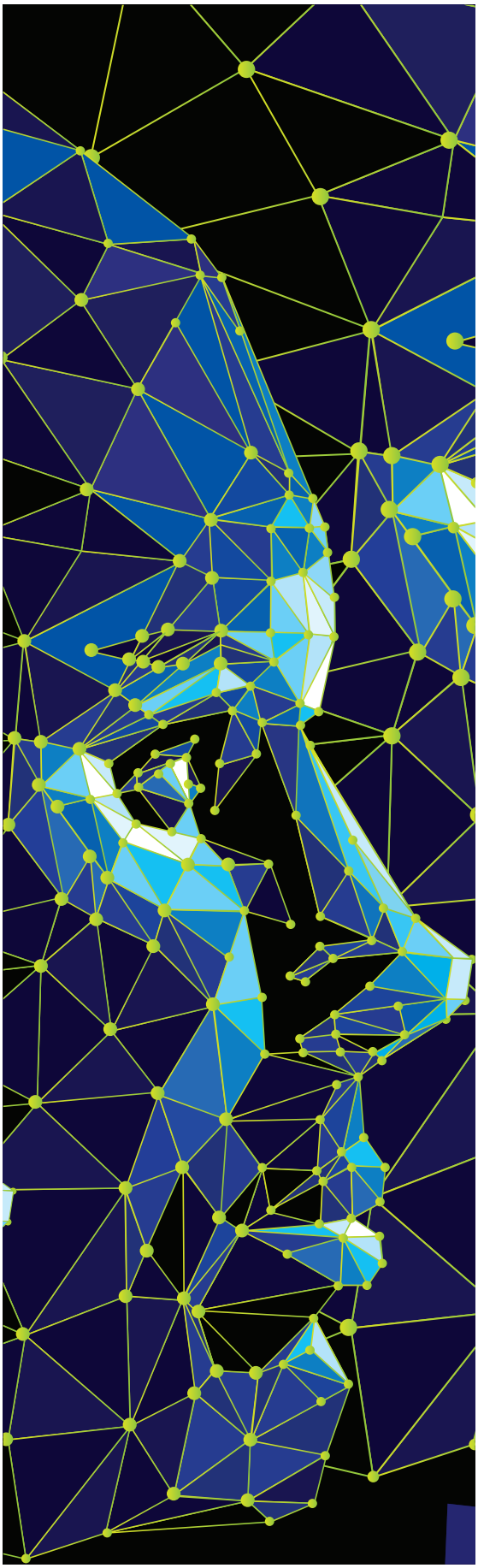
This opens the way to the future: the Age of With. Robot intelligence works with humans to amplify our intelligence. Helped by robots, we can be relieved of the repetitive and exhaustive, and be free to predict and derive the analytical and strategic. We can create, collaborate and communicate even more than before.

How work is done, and using which combination of human and artificial intelligence implies far-reaching change in the structure of our organisations. How ready are we for this?

In May 2019 Deloitte invited executives to take part in an online survey of their intelligent automation strategies and the impact on their workforces. We received responses from 523 executives in a range of industries in 26 countries across Africa, the Americas, Asia and Europe, with a combined annual turnover of $2.7 trillion.

**A combination of human and artificial intelligence implies far-reaching change in the structure of our organisations.**

The market for automation technologies, such as robotic process automation (RPA), is growing at 20 per cent per year and is likely to reach $5 billion by 2024.[1] Reflecting this growth, respondents to our survey indicated that the number of organisations that have successfully scaled their automation implementation has doubled since 2018. Eight per cent of executives say that they have deployed more than 51 automations. Yet achieving scale remains a challenge, with process fragmentation identified as the main barrier to success.



Organisations that have achieved scale are those with a clear vision, strategy and approach to capturing value from automation. They have approached automation as an enterprisewide challenge and have established the new capabilities required. They are more likely to be combining automation technologies, and are also much more likely to be thinking about how automation will assist and augment their workforce and broaden the scope of work that can be performed.

Over the next three years, executives expect automation to increase their workforce capacity by 27 per cent: equivalent to 2.4 million extra full time employees (FTE) in the workforces of the 523 organisations that took part in our survey. This presents a significant opportunity to drive productivity and improve the human experience, as roles are redesigned and work is made more meaningful. Unfortunately, 44 per cent of organisations have not yet calculated how their automation strategies will affect their workforce while 60 per cent have not looked into whether automation will require their workers to retrain.

**Over the next three years executives expect automation to increase their workforce capacity by 27 per cent: equivalent to 2.4 million extra full time employees.**

It is clear that in many organisations, a lot more thought needs to be given to the integration of humans and machines and the ways in which the enterprise can be reimagined in the Age of With.

# The journey to scale

## Moving from RPA to intelligent automation

In their embrace of more digitised ways of working, many organisations have adopted robotics to automate repetitive rules-based processes. They are now seeking to scale these solutions and make them smarter by integrating artificial AI capabilities.

ROBOTIC PROCESS AUTOMATION (RPA) can bridge multiple different systems and interfaces. RPA uses precisely programmed 'bots' to automate specific routine tasks, reducing processing time dramatically and ensuring greater quality by providing consistent results with negligible errors. In addition, if implemented effectively, RPA can free up the workforce to focus on more strategic activities or customer-focused tasks.

Our analysis reveals that organisations are not only continuing to use RPA, but are moving beyond by seeking to ramp up deployment of intelligent automation. Fifty-eight per cent of surveyed executives report they have started their intelligent automation journey. Of these, 38 per cent are piloting (1-10 automations), 12 per cent are implementing (11-50 automations), and eight per cent are automating at scale (51+ automations). The number of organisations deploying at scale has doubled compared to our 2018 findings.

**RPA can free up the workforce to focus on more strategic activities or customer-focused tasks.**

### DEFINITIONS

***Robotic process automation:*** RPA is the automation of business processes in which software performs tasks that can be codified by computers. It is often referred to as 'robotics' or 'robots', and is defined as the automation of rules-based processes with software that utilises the user interface and which can run on any software, including Web-based applications, ERP systems and mainframe systems.

***Artificial intelligence:*** AI technologies perform tasks that previously required human intelligence, such as extracting meaning from images, text or speech, detecting patterns and anomalies, and making recommendations, predictions or decisions. They include machine learning, deep learning, natural language processing and generation.

***Intelligent automation:*** The combination of RPA, AI and other related automation technologies.

## Building smarter bots

RPA many has great and obvious benefits, but also limitations. Bots can only follow logical rules-based processes. They do not see patterns in data or extract meaning from images, text or speech. The RPA software is programmed to process functions, such as registration, invoicing or data transfer, without understanding the logic behind them.

Having exhausted many of the low-value opportunities available through such simple task-based automation, organisations are now seeking to implement next-generation solutions. These leverage multiple advanced technologies and data science such as AI to make automations smarter and to provide more value to the organisation.

Set up in this way, RPA software aggregates and processes data under the direction of more advanced – or intelligent – technologies. When AI has completed its functions on the raw data, RPA then pushes the answers to the target systems.

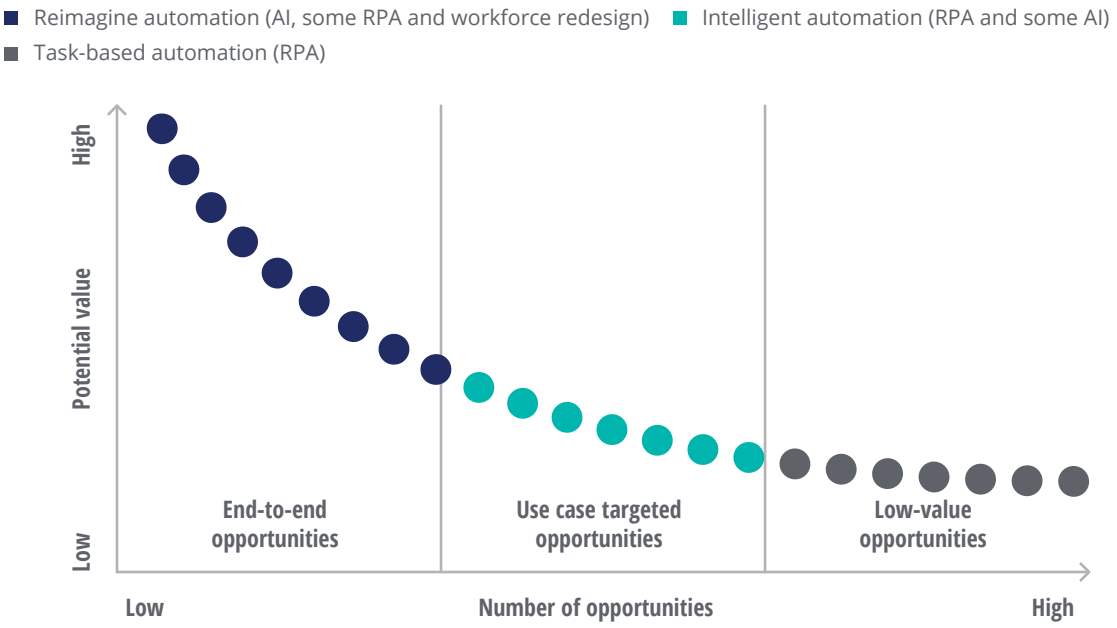
## Expected benefits of intelligent automation

With intelligent automation technologies, organisations can transform business processes – not only achieving higher speed and precision, but also automating predictions and decisions on the basis of structured and unstructured inputs. Our analysis reveals that three primary benefits are driving uptake of the technology. Organisations expect to achieve increased productivity and cost reduction; greater accuracy; and an improved customer experience.

Executives estimate intelligent automation will provide an average cost reduction of 22 per cent and an increase in revenue of 11 per cent over the next three years. However, those organisations currently scaling intelligent automation say they have already achieved a 27 per cent reduction in costs on average from their implementations to date.

FIGURE 1

### The path to intelligent automation and beyond




Source: Deloitte analysis.

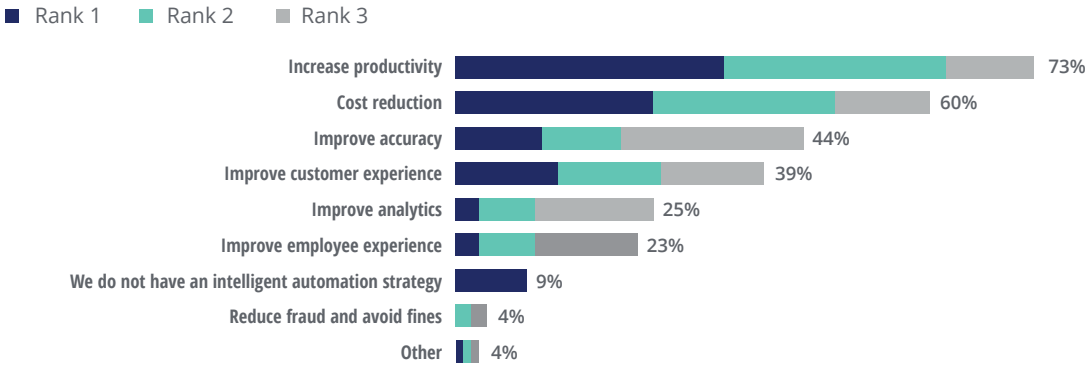
Forty-seven per cent of organisations have already combined RPA and AI as part of their intelligent automation strategy. They report higher increases in revenue to date as a result of their automations, averaging a rise of nine per cent. Those only using RPA report just a three per cent increase in revenue.

Further evidence suggests intelligent automation implementations are exceeding expectations. Organisations piloting intelligent automation expect an average payback period of 15 months; those in the scaling phase report an average payback after just nine months.

Based on our past research, Deloitte concludes that most organisations are making steady progress in the application of intelligent automation, though many are thwarted by significant barriers.

FIGURE 2

## Top three expected benefits from intelligent automation adoption




Source: Deloitte analysis.

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### BARRIERS TO INTELLIGENT AUTOMATION ADOPTION

The top two barriers for organisations at all stages of adoption are reported to be process fragmentation and IT readiness.

Process fragmentation, the way daily processes are managed in a wide range of methods at the desktop level, is felt by 36 per cent of survey respondents to be the biggest barrier. IT readiness, in terms of infrastructure and systems, is considered the biggest barrier by 17 per cent of organisations.

Organisations piloting automation also see a lack of vision and ambition for intelligent automation as a key barrier, while speed of implementation becomes much more significant for organisations implementing or scaling automation.

An emerging key trend is that organisations often lack the talent to, for example, develop Centres of Excellence. That creates significant demand for third-party vendors, such as system integrators. Deloitte anticipates a shift from building in-house capabilities to buying automation as a service, driven by continuing cost pressures (in part driven by digital disruption), transition to cloud technologies, talent shortages and the challenge of managing a rapidly changing product and vendor ecosystem.

Accompanying this is a transformation in the role of Centres of Excellence. These are evolving from 'enablers' of intelligent automation to 'internal marketplaces' or 'exchanges' for digital assets. Some are even going beyond this to become 'directors' of operational improvements powered by intelligent automation. This is an important trend and is eflected in the creation of open marketplaces by RPA vendors, for example.

## Building a winning intelligent automation strategy

Given the returns that intelligent automation offers, organisations seem slow in their implementation and scaling. It is clear that significant barriers must be tackled before implementation can proceed, but Deloitte notes a distinct difference between organisations in the piloting phase and those in the scaling phase.

In particular, executives in organisations scaling intelligent automation are more likely to have a clear understanding of how they will capture value from their projects – 78 per cent of them do so. Only 50 per cent of companies piloting solutions claim the same.

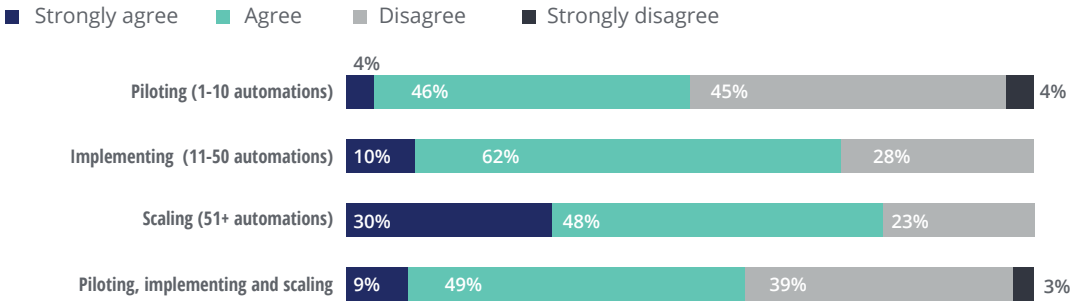
In addition, organisations in the implementing and scaling phases also have a clear and accepted vision and ambition for intelligent automation (71 per cent) and an enterprisewide intelligent automation strategy (49 per cent). Organisations that are implementing or scaling intelligent automation are also confident that their workforce has the capacity and skills to implement the solution.

### PAYBACK UNKNOWN

A surprisingly large number of organisations initiating intelligent automation projects have not calculated the payback period. Among organisations in the pilot phase, over half (54 per cent) have not estimated the payback period. A third of organisations (35 per cent) implementing and scaling solutions have not done so either.

FIGURE 3

**Percentage of organisations agreeing or disagreeing they have a clear understanding of how to capture value from intelligent automation**




*Excludes 'We have not yet started our automation journey'

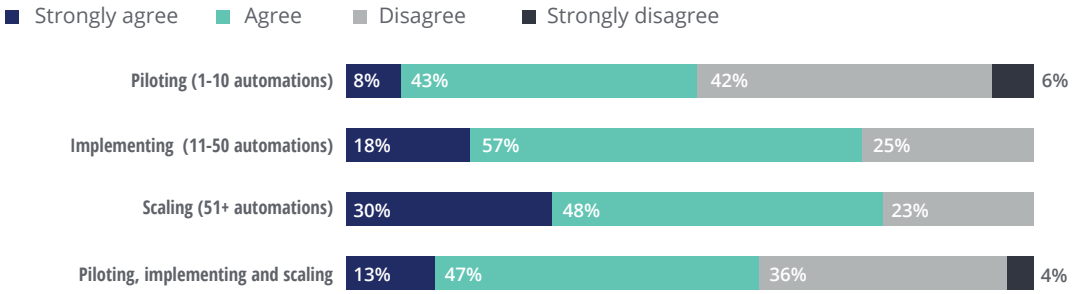
Source: Deloitte analysis. n=302

Other aspects that distinguish organisations scaling automation are a highly supportive IT function with the required technology, infrastructure and cybersecurity in place (see figure 4), as well as agile, multidisciplinary teams capable of implementing automation at pace. There is also strong emphasis on appropriate governance, project management and technology.

Scaling organisations have also made significant efforts to create mature process definitions, standards and process management, with the standards controlled by a Centre of Excellence. Some 65 per cent of organisations in the implementing and scaling phase hold this latter proposition to be true, as opposed to only 32 per cent in the piloting phase.

FIGURE 4

**Percentage of organisations agreeing or disagreeing they have governance, project management and technology in place**




*Excludes 'We have not yet started our automation journey'

Source: Deloitte analysis. n=302

## Six key factors for intelligent automation success

Analysis of the survey data reveals a picture of organisations that are clearly benefiting from intelligent automation. Such organisations have six distinguishing characteristics:

**01. Enterprisewide strategy for intelligent automation**
Typically, companies that have an enterprise-wide strategy report higher returns in terms of additional workforce capacity, cost reduction and an increase in revenues. They reduce costs on average by 24 per cent and increase revenue by 8 per cent, whereas organisations without an enterprisewide strategy reduce costs by 14 per cent and increase revenue by three per cent on average.

**02. Combining robotic process automation with AI**
This approach appears to be the most powerful factor helping organisations increase revenue. Organisations combining the two report an increase in revenue by nine per cent on average, while those that do not increase revenues by only three per cent on average. Almost half (45 per cent) of organisations scaling automation combine RPA and AI, while only 20 per cent of organisations piloting and 36 per cent of those implementing are doing the same.

**03. Technology, infrastructure and cybersecurity**
Organisations with a supportive IT function, with the required technology, infrastructure and cybersecurity in place, are more effective at reducing their costs. On average they report a 21 per cent reduction in costs compared to 13 per cent among organisations that lack these functions.

**04. Mature process definitions, standards and processes**
Mature process definitions, standards and processes lead to higher gains in back office workforce capacity. Organisations with these in place achieve an average increase in back office workforce capacity of 19 per cent compared to 12 per cent among organisations which do not.

**05. Clear understanding of how to capture value**
A clear understanding of how to capture value from intelligent automation leads to much higher reductions in costs. Executives with a clear understanding report their organisations reduce costs by 21 per cent on average, while those lacking a clear understanding reduce costs by 15 per cent. However, executives who say they have a clear understanding of how to capture value do not report significantly higher gains in revenue (six percent compared to four per cent). It is possible that they are not being ambitious enough in their targets to reap the full benefits.

**06. Radical simplification driven by a need for cost reduction**
Scaling organisations are more likely to agree that the main purpose of their strategy is radical simplification, driven by a need for cost reduction. Some 73 per cent do so, while only 61 per cent of piloting organisations take the same stance.

**Almost half (45 per cent) of organisations scaling automation combine RPA and AI.**

# The value of intelligent automation

## Making machines more human

The strength of intelligent automation comes to the fore when RPA combines with AI to enable applications that go beyond the routine to the innovative: from collecting and processing data to analysing and making contextual decisions. However, a significant number of survey respondents (48 per cent) admit to neither thinking about nor implementing an intelligent automation strategy that includes AI yet. Another 36 per cent include AI in their strategy, but not at scale. Only 11 per cent of organisations are currently scaling solutions that include artificial intelligence.

### LESSONS FROM THE FRONTLINE

*Intelligent triage*

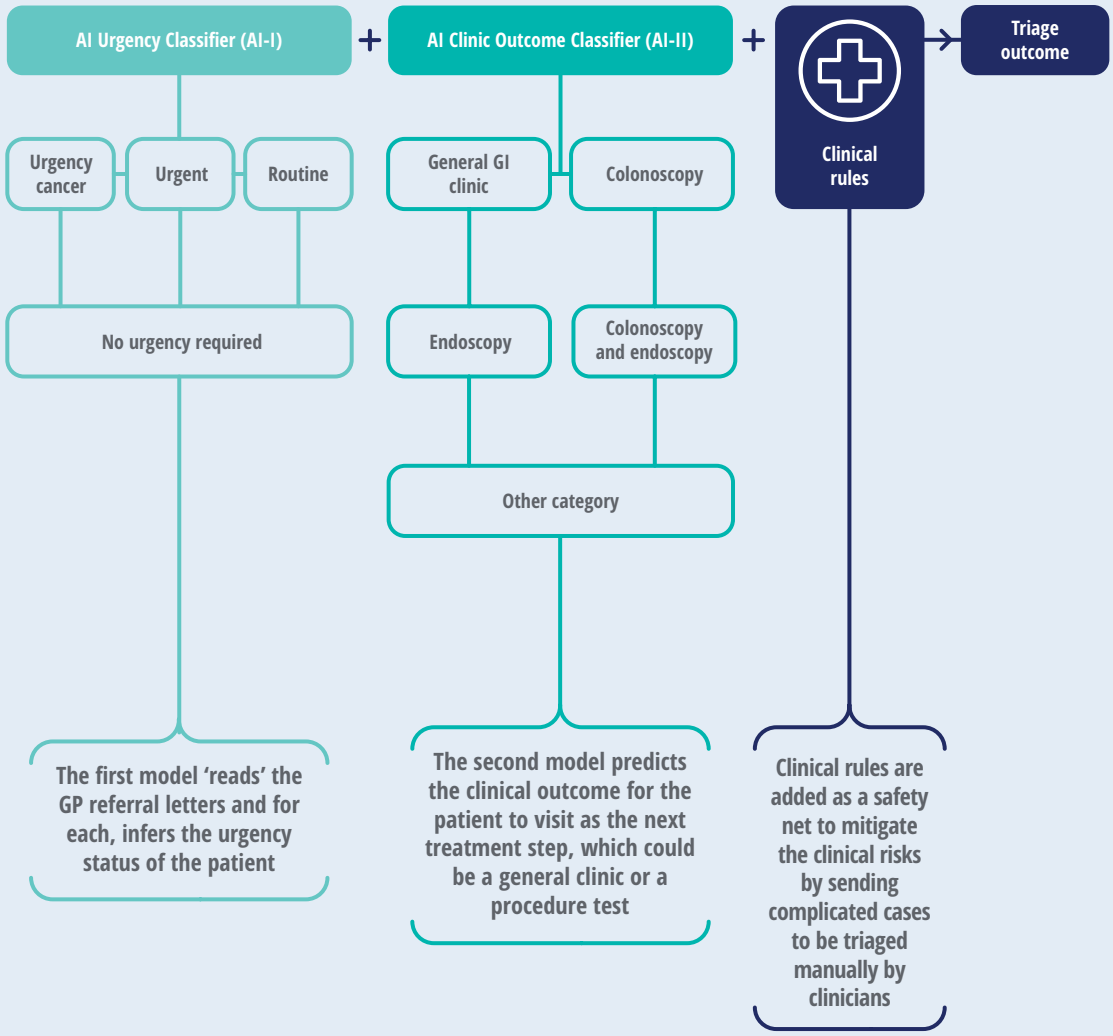
**To help address challenges in patient demand management, Deloitte worked with the gastroenterology department at a large hospital in the UK to develop an AI solution to improve the triage of general practitioner (GP) referrals.**

The aim was to use AI to unlock the data held in electronic medical records, permitting more efficient processing, intelligent analysis and improved decision-making in order to overcome service challenges.

Natural language processing (NLP) was used to read incoming GP referrals to the gastroenterology service. The AI solution suggested the most likely triage outcome, urgency status and clinic or diagnostics for referral. Two RPA solutions were used: one to pull the electronic medical records into the AI and another that actively looked into a Structured Query Language (SQL) database for updates on whether the AI had made its decision. If it had, the RPA pulled the decision into the appointment booking system.

Deloitte applied a methodology which combined two classification models – 'AI-I' to predict the urgency status and 'AI-II' to predict the clinical outcome. By splitting the prediction problem in two, the accuracy significantly improved compared to a single model which would predict the triage outcome in one step.

Within the AI modelling, feature engineering was used to convert free text into a machine-readable format. Then classification was used to make decisions based on the characteristics extracted from feature engineering.




The feature engineering used Term Frequency – Inverse Document Frequency (TF-IDF). This looked not just for key words but also for how often they appeared in a given document compared to the document base as a whole. It automatically learned to map words into a 'vector space'. Each term can then be represented in a numerical form.

The baseline classification model used 'traditional' machine learning models such as support vector machine, random forests and k-nearest neighbours. It also used convolutional neural networks (a type of deep neural network model) to look for patterns in word representations that identifed the triage outcome of the referral letter.

Thanks to the success of clinically-led proof of concept and pilot work, this AI model has now been approved by the client clinical risk committee under an appropriate governance and control model to automate triage of two cohorts of patients, focusing on urgent suspected cancer referrals.

## Early adopters and positive returns

Organisations that are implementing and scaling intelligent automation are more likely to be combining RPA and AI. Likewise, those that are incorporating AI as part of their intelligent automation strategy are more likely to report that deployment meets or exceeds their expectations.

Organisations combining RPA and AI also report higher increases in revenue as a result of their automations to date, compared to those using RPA alone (8.5 per cent versus 2.9 per cent). They also achieve greater gains in workforce capacity both in the back office and their core business operations. It is clear that executives believe they derive more economic benefit and improve their competitiveness by integrating AI and RPA rather than using both in isolation.

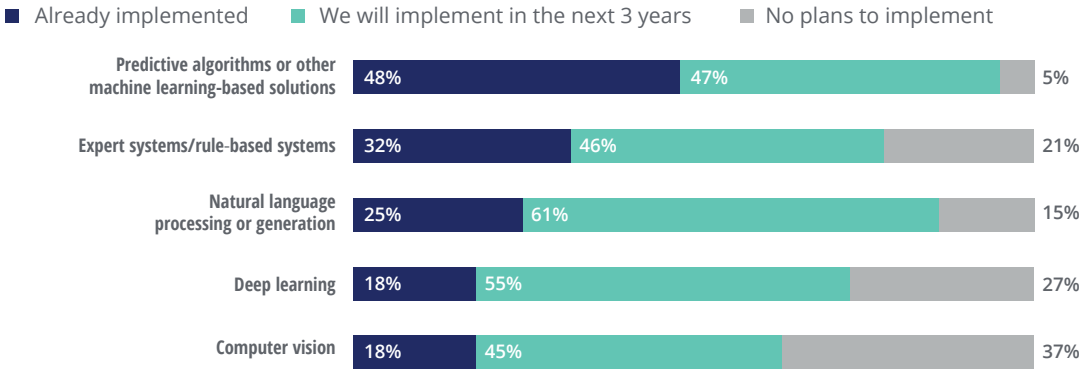
FIGURE 5

### Automations combining RPA and AI deliver above expectations more than RPA only deployments

| | Improved customer experience | |
|---|---|---|
| | **Combining RPA and AI** | **RPA only** |
| **Exceeded expectations** | 26% | 21% |
| **Met expectations** | 52% | 42% |
| | **Improved accuracy** | |
| | **Combining RPA and AI** | **RPA only** |
| **Exceeded expectations** | 35% | 21% |
| **Met expectations** | 61% | 67% |
| | **Improved analytics** | |
| | **Combining RPA and AI** | **RPA only** |
| **Exceeded expectations** | 16% | 8% |
| **Met expectations** | 52% | 46% |

FIGURE 6

### Organisations are most likely to use machine intelligence, least likely to use computer vision




*Excludes 'Our current focus is RPA or other types of automation technologies'

Source: Deloitte analysis.

n=142

The most popular AI solutions currently being implemented as part of intelligent automation strategies are predictive algorithms or machine learning-based solutions, expert or rule-based systems and natural language processing or generation (NLP/NLG). Deloitte expects this will change, with deep learning in particular becoming more prominent. Some 18 per cent of respondents have already implemented deep learning and 55 per cent are planning to do so.

## Barriers to AI implementation

Organisations including AI as part of their intelligent automation strategy see the three biggest barriers to implementation as the identification of appropriate use cases; data issues (for example, privacy or quality); and the availability and capability of talent.

Executives consider that identification of use cases is difficult because the 'buzzwords' associated with the technology are confusing and many of the technology definitions seem to overlap. When an organisation lacks in-house expertise, it can be difficult to cut through the terminology and shape an idea into a concept that can be delivered.

A potential solution is to place more focus on training management and staff. This should lead to better understanding of the technologies, permitting the construction of use cases and development roadmaps.

### DEFINITIONS

***Predictive algorithms or other machine learning-based solutions:*** systems that can learn from and make decisions and predictions based on data.

***Deep learning:*** a specific type of machine learning that uses cascading layers of model parameters to learn and represent a hierarchy of concepts. Examples include speech and image recognition.

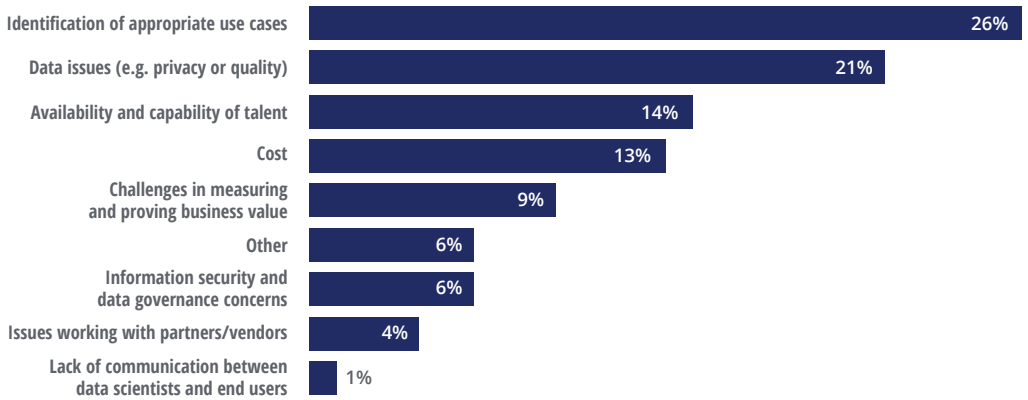
***Natural language processing or generation:*** systems that help computers analyse or generate human language. Examples include automated analysis of customer emails or conversational technologies such as chatbots.

***Computer vision:*** analysing digital images or videos and creating classifications or high-level descriptions that can be used for decision-making and action.

***Expert systems/rule-based systems:*** systems that represent knowledge as a set of rules (derived from human experts) that say what to do or decide in different situations.

FIGURE 7

**Use case identification and data issues are the biggest barriers to AI implementation**




*Excludes 'Our current focus is RPA or other types of automation technologies'

Source: Deloitte analysis. n=142

# The Age of With

## Human-machine systems

Artificial intelligence has now come of age. Deloitte refers to this as the Age of With: a world where humans are aided and augmented by automation. The power of automation is the power to reimagine the way organisations do things. But that can only happen when organisations understand the tools AI gives them and are ready to absorb and adopt these technologies.

### Preparing the workforce for the impact of automation

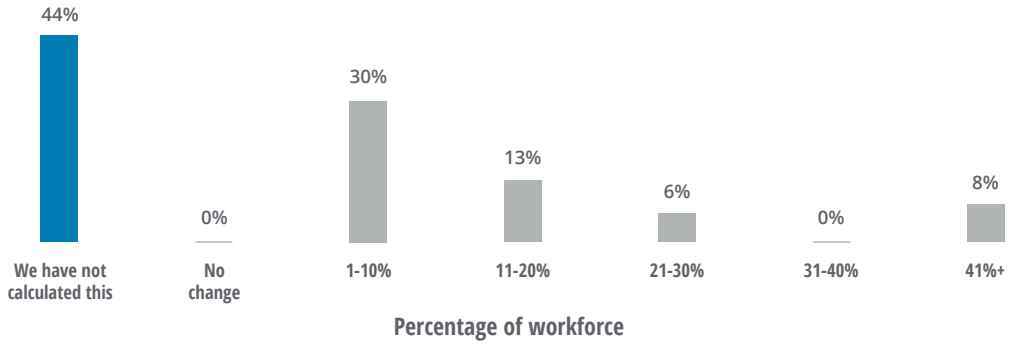
AI INCREASES THE productive capacity of the human workforce. Over 90 per cent of organisations surveyed expect it to increase their workforce capacity. On average, they expect a 26 per cent increase in back office capacity over the next three years and a 17 per cent increase in capacity in their core business operations. Despite the opportunity presented by intelligent automation to increase productivity, 44 per cent of organisations have not yet calculated how their workforce's roles and tasks, and the way tasks are performed, will change.

Moreover, almost two-thirds of organisations have not considered what proportion of their workforce needs to retrain as a result of automation. Even organisations that have automated at scale (51+ automations) are not yet thinking about this, with 53 per cent stating that they have not yet explored whether their workforce needs to reskill as a result of their automation strategy.

**Almost two-thirds of organisations have not considered what proportion of their workforce needs to retrain as a result of automation.**

FIGURE 8

## Percentage of the workforce that has seen changes to their roles, tasks and ways of working as a result of intelligent automation, implementing and scaling respondents



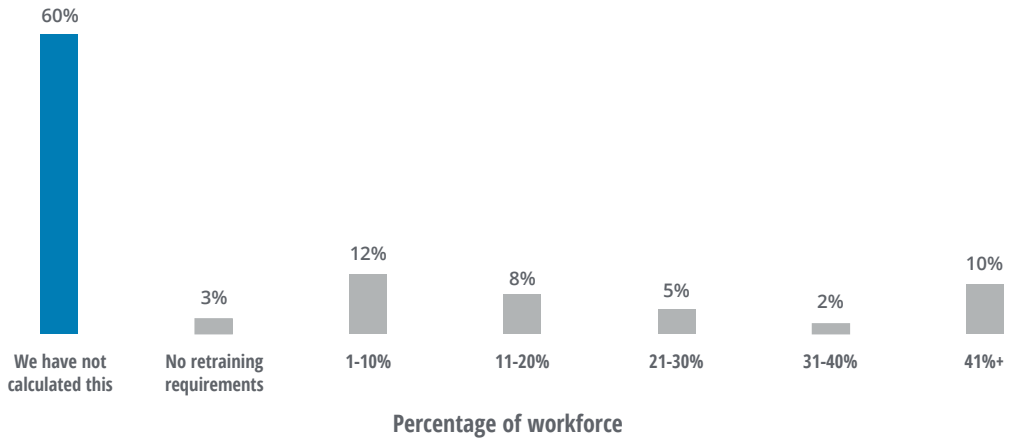

*Excludes 'We have not yet started our automation journey" and 'We are piloting (1-10 automations)'

Source: Deloitte analysis. n=101

According to survey respondents, on average, 19.5 per cent of workers have seen a change to their roles or ways of working because of the implementation of intelligent automation.

FIGURE 09

## Percentage of workforce needing to retrain in the next three years as a result of intelligent automation, piloting, implementing and scaling respondents




Source: Deloitte analysis. n=302

According to survey respondents, on average, 29.4 per cent of workers will have to retrain in the next three years as a result of the implementation of intelligent automation.

## Reimagine with a human focus

In many ways technology has leaped ahead of executives and organisations, and the human element needs to catch up. As automation becomes more prevalent in the workplace, there is a need to put meaning back into work and an opportunity for organisations to address the 'human experience'.[2]

Reskilling based on how the human workforce will interact with machines, including changes to role definitions, should be baked into organisations' plans for intelligent automation adoption in order to capitalise on the expected increase in workforce capacity. But 38 per cent of organisations are not yet retraining employees whose roles have changed.

Deloitte notes that even where organisations offer retraining, this tends to be an afterthought: something to be addressed once technologies have been implemented. Workforce retraining, and the resources needed for this, should be part of the intelligent automation adoption plan. This is key to the success of future human-machine collaboration.

Deloitte's *Voice of the Workforce in Europe* found that 65 per cent of workers believe they need to acquire advanced IT skills to ensure their future employability.[3] However, where retraining is offered, it focuses instead on process skills such as active listening and critical thinking, cognitive abilities such as creativity and problem solving, and system skills like decision-making and systems analysis. There is clearly a perception gap between the skills identified by employers as being critical to their newly automated and digitised organisations and the skills that employees believe they will need in the future.

**There is clearly a perception gap between the skills identified by employers as being critical to their newly automated and digitised organisations and the skills that employees believe they will need in the future.**

### RETRAINING FOR SUPERJOBS

In Deloitte's *2019 Global Human Capital Trends,* organisations said that as they adopt RPA and AI technologies they are finding that virtually every job must change, and that the jobs of the future are more digital, more multidisciplinary and more data- and information-driven.

To take full advantage of automation, organisations are having to redesign jobs to focus on finding new human dimensions of work. The report concludes this will involve the creation of new 'superjobs'.

Superjobs combine work and responsibilities from multiple traditional jobs, using technology to augment and broaden the scope of the work performed and involve a more complex set of domain, technical and human skills. These roles will leverage the significant productivity and efficiency gains that can arise when people work with technology.

The outlines of the future workforce are only slowly emerging, but the issue will assume greater urgency for organisations as the benefits of intelligent automation become widely diffused, and complementary waves of innovation, such as AI and machine learning, are implemented as well.

To prepare the workforce for the impact of automation successfully, identifying the jobs of the future and ensuring the right skills are available, organisations cannot simply rewrite existing job descriptions. Instead, work should be defined by:

- the outputs and problems the workforce solves, not the activities and tasks executed
- the teams and relationships people engage with and motivate, not the subordinates they supervise
- the tools and technologies that both automate work and augment the workforce to increase productivity and enhance value to customers
- the integration of development, learning and new experiences into the day-to-day (often real time) flow of work.[4]

**LESSONS FROM THE FRONTLINE**

***Intelligent triage***

**Westpac has developed a 'Skills for Life' programme as a basis for future workforce planning.**

Westpac, Australia's first and oldest bank, has an ambitious plan to create a seamless experience for customers and reduce costs by using digital technologies to simplify processes and consolidate systems. Westpac expects these technologies to create as many jobs as they eliminate. But the new jobs will require a different set of skills from those prevalent in the company's 40,000-strong workforce.

Following a future workforce modelling exercise, which identified the roles that will be most augmented or displaced by cognitive technologies, Westpac was able to identify the skills its future workforce will need in order to work with cognitive technologies. These include creative problem-solving, effective communication and personal resilience skills.

This future workforce modelling resulted in a training programme that aims to prepare staff to thrive in an environment of rapid change and heightened uncertainty.

## Accessing talent to deliver intelligent automation

Over a third of executives acknowledge that a lack of the skills required to deliver the new technologies is one of their top three barriers to scaling intelligent automation. This shortage is more pronounced in organisations just starting their automation journeys: 59 per cent of those piloting automation believe they lack the workforce capacity and skills needed to deliver their strategy.

At the moment it is difficult to hire external talent to fill this gap. Demographic trends are shrinking the pool of available talent. By 2028 there will be up to 8 million fewer workers in Europe than today. Low birth rates in recent decades and people entering the labour market at a later age mean fewer young people are set to enter the workforce – particularly in European countries. Meanwhile, a significant part of the workforce is approaching retirement age. According to Eurostat data, in EU15 countries, 16 per cent of all employees were between 55 and 64 years of age years old in 2017 – almost 25 million individuals.[5]

In this tightening market for talent, organisations cannot expect to source enough workers with all the capabilities they need externally and must develop people internally. We see two main sources of capabilities that can be leveraged more strategically, neither of which has been tapped to their fullest potential to date.

**To identify jobs of the future and ensure the right skills are available organisations cannot simply rewrite existing role descriptions.**

Organisations need to curate learning content that links directly to future jobs, thereby helping workers build the skills they need for specific roles, including hybrid jobs and 'superjobs'. Leadership needs to commit to the idea that employees spend a portion of their time learning.

Older workers represent a greater proportion of the workforce than those aged under 35. Incorporating lifelong learning and reskilling these older workers will be key to delivering intelligent automation at scale.[6]

In recent years, the relationship between workers and many organisations has changed, allowing for a portfolio of different types of company-worker configurations and contracts (full-time, part-time, contract, freelance, gig).[7] Organisations should better utilise the 'alternative workforce', which offers short-term access to highly-skilled workers during the implementation and scaling of automation.

## LESSONS FROM THE FRONTLINE

### *Intelligent triage*

**Together with Northern Ireland's Department for the Economy (DfE), Deloitte pioneered a robotics academy to develop sought-after skills and boost employment in Northern Ireland.**

Tanya Telford is carving out a new career in the fast-moving field of robotics. A former executive assistant, she was one of the first to enrol in the Robotic Process Automation and Data Visualisation Assured Skills Academy. Now working in consulting, she is helping clients to understand just what robots can do.

"When I saw the advert for the robotics academy I jumped at the chance," she says. "I've always been interested in technology but didn't study it at university, so to have an opportunity to retrain in such a new and exciting area, while learning core consulting skills, was amazing."

The academy, which launched in January 2018, ensures a pipeline of specialist talent. The 11-week course is part of the Assured Skills Programme, an employment initiative funded by Northern Ireland's DfE.

Based at Belfast Metropolitan College, the academy was developed from scratch by Deloitte's Belfast Delivery Centre, a nearshore Centre of Excellence for Deloitte UK. Without an existing curriculum, they worked closely with the college, DfE and Deloitte practitioners to understand exactly what the market needed.

Colin Mounstephen, who leads the team that developed the academy, says, "The goal was not only to gain skilled recruits, but to provide graduates in Northern Ireland with the opportunity to build the skills, knowledge and experience needed to gain high quality jobs in this in-demand area."

"We're leading the way," Colin adds. "We have collaborated with Belfast Metropolitan College to train and retrain people from all backgrounds. Our Belfast team now has analysts who can deliver complex RPA solutions and we've begun to see the impact, with a number of successful public sector projects."

The Belfast Delivery Centre has earned a reputation for its innovative approaches to developing talent. The robotics academy cements that.

## Workforce shows strong support for automation

Seventy-four per cent of survey respondents believe their workforce, a stakeholder group often anxious about technology change, was either supportive or highly supportive of their intelligent automation strategy. This is remarkably positive considering how technology-related anxiety, especially the perception that automation may alter or eliminate jobs, is reportedly so prevalent.[8]

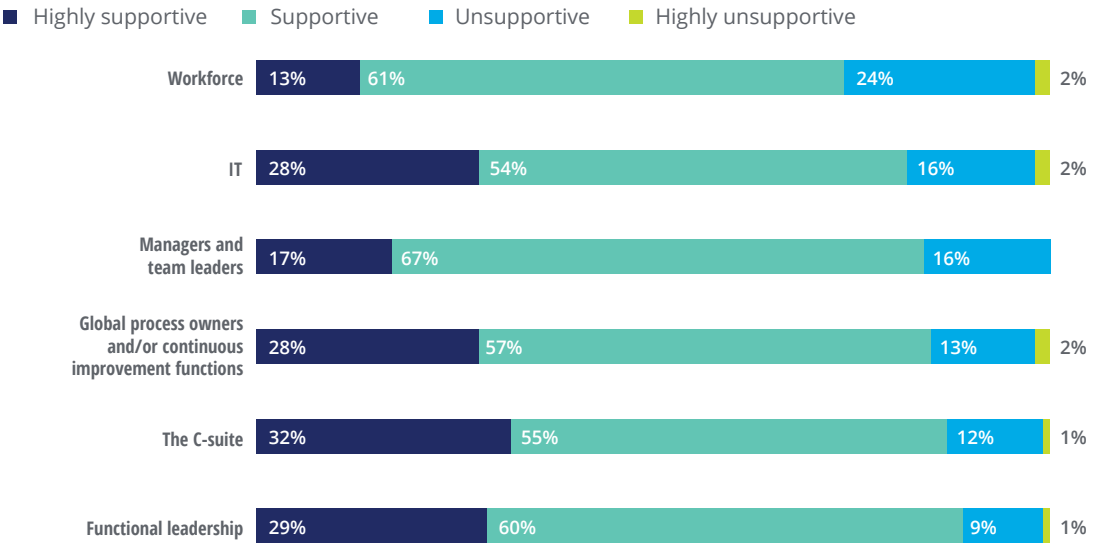
The perceived level of stakeholder support tends to grow significantly as organisations move further along their automation journey. For example, 32 per cent of executives whose organisations are piloting (1-10 automations) say their workforce is unsupportive, compared to just 12 per cent in organisations which are implementing (11-50 automations) or scaling (51+ automations).

It is clear that as workers' roles change as a result of automation they are more supportive of the technologies. Increased familiarity with intelligent automation and new ways of working dispels many common myths about robots 'taking jobs'.

Deloitte believes that organisations must take advantage of the positivity shown by workers towards intelligent automation and adequately equip them with the skills needed. Automation provides opportunities for workers to redefine their roles in the workplace around aspects that are uniquely human, such as imagination, creativity, curiosity and emotional and social intelligence.[9]

FIGURE 10

### Level of support for intelligent automation strategy by stakeholder group




Excludes 'We have not yet started our automation journey'

Source: Deloitte analysis.

n=302

## LESSONS FROM THE FRONTLINE

### *Intelligent triage*

### *Wendy Hulton, head of process simplification and automation, Royal Mail Group*

At Royal Mail, we were faced with a large cost base and tough revenue challenges in a changing marketplace. Following a successful project to use RPA to automate nine processes, a project was initiated to help reduce costs by scaling up process simplification and automation.

We had initially concentrated on automation opportunities, however quickly realised we would achieve more effective results and significantly increase cost reduction by simplifying and standardising our processes. We now have a combined team of process analysts and developers looking end to end at business processes.

We also quickly appreciated that RPA delivers much more than just cost benefits and now have automations delivering increased revenue and improved speed to service, compliance and controls.

We use Agile methodology which fits perfectly with RPA development. We create the automations using sprints to leverage realisable benefits with each deliverable, so advancing business value. Agile also allows the stakeholders to gain confidence in what we do, ensuring that we bring the humans with us, which is not always easy. And we are able to challenge assumptions along the way and either extend or cut back the automation to achieve optimum cost benefit.

To date, we have implemented over 50 automations delivering multimillions of annualised benefits. I love RPA and it does a job. However, I believe it cannot exist indefinitely on its own. So, we have developed two intelligent automation proofs of concept combining other technologies to get more out of RPA. The next challenge is to gain acceptance of these and improve understanding of the speed at which intelligent automation is moving.

I always find it interesting that people have accepted intelligent automation and digital technologies in their day-to-day lives, but they struggle to translate this use into something meaningful in the workplace. Many organisations are yet to explore the full potential of intelligent automation but RPA is a great first step and opens the door for more opportunities.

# Conclusion

**2019 LOOKS TO** be a breakout year for intelligent automation. Firms have targeted low-value opportunities for task-based automation and will increasingly seek to incorporate more advanced analytical and AI technologies as part of their solutions. Successful exploitation of the possibilities will require organisations to develop a clear path to scalability that delivers quantifiable results and return on the investment.

Organisations that have mature process definitions, standards and process management and have the support of an effective Centre of Excellence are most likely to benefit most from intelligent automation. Likewise, those organisations that develop the skills to redesign workflows and enhance the capabilities needed to harness intelligent automation will be better placed to take advantage of the opportunities.

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**ACKNOWLEDGMENTS**

The authors would like to thank Georgina Dowling , Jessica Green, James Guszcza, Oscar Hamilton, Aoife Kilduff, John Leonard, Fei Liao, Shaardul Mandlekar, Ashley McKeever, Kishan Pattni, Tanya Telford and Andy Wilmer for their contributions to this article.

# Endnotes


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