Cognizant

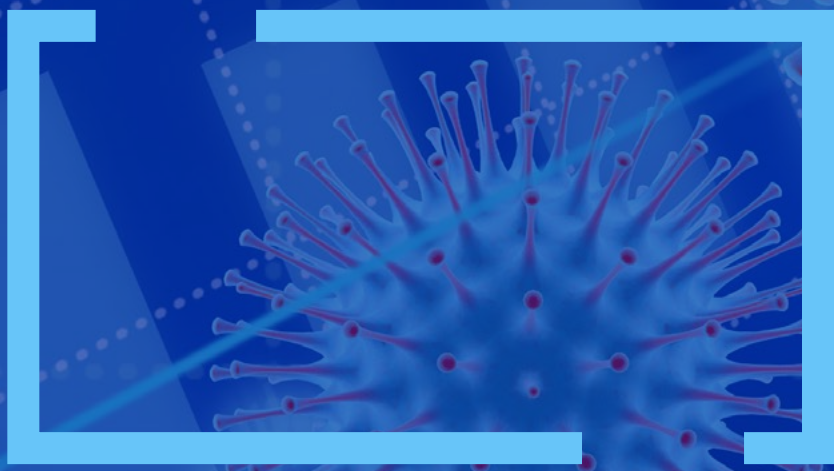
The Work Ahead in Intelligent Automation: Coping with Complexity in a Post-Pandemic World

Intelligent automation continues to be a top driver of the future of work, according to our recent study, and its benefits became clear in the pandemic. To reap the full advantages, businesses need to move from isolated to widescale deployment.

THE WORK AHEAD

Executive Summary

Companies across industries now see intelligent automation for what it is: a way not just to scale through the complexities and overwhelming concerns of the global pandemic, but also to make sure they're better able to anticipate and drive change.



Even before the COVID-19 crisis, the advantages of intelligent automation were well understood: faster processes, reduced bottlenecks and even systems that could automatically take decisive, intelligent action.

As far back as our 2016 Work Ahead study, automation was named by respondents globally and across industries as one of the highest-impact forces on the future of work.[1]

Then came "the great pause." Suddenly, across industries and business functions, businesses were besieged with requests, from customers and employees alike, across a range of transactional areas and business activities. Masses of remote employees needed HR or IT support. Droves of travelers needed to cancel or postpone airline and hotel reservations. Throngs of newly online shoppers needed support tracking packages or making returns. The spike in volume was unprecedented, and the need to respond quickly was intense.

Amid the seeming chaos, automation — from simple bots performing rote tasks, to systems that could pull in many data types, analyze them and suggest actions to take — was a beacon of hope, whether for answering customer queries, processing loans, assessing risk or determining refund eligibility. Companies across industries saw intelligent automation for what it was: a way not just to scale through the complexities and overwhelming concerns of the global pandemic, but also to make sure they're better able to anticipate and drive change.

To better understand the role of digital technologies, including automation, in a world dominated by digital and disrupted by COVID-19, we surveyed 4,000 executives globally and across industries. Five key themes emerged from our research and analysis around automation:

1 **Automation is coming of age.** Automation is now an integral part of the modern enterprise. Compared with 2016, more respondents see process automation as a force multiplier on the future of work. AI and analytics are also cited as crucial components in enabling intelligent automation.

2 **More (and more) process work is pivoting to machines.** The volume of work performed by intelligent machines is increasing rapidly — with many organizations taking advantage of automation to derive meaning at scale from a deluge of process data. The volume of both complex and routine decisions executed by machines will grow by about 50% between now and 2023. As automation approaches integrate AI and other cognitive technologies into the mix, organizations will move even more process work to machines.

3 **Highly scaled automation deployments are rare (for now).** Only 8% of respondents report having deployed automation at a significant scale. Most implementations are piecemeal, targeting process pain points rather than integrating processes together into a workflow. We expect this to change as enterprises see the value of implementing increasingly sophisticated automation toolsets across business functions and focus on supporting employees in the new way of work.

4 **The more you augment processes, the greater the returns.** Respondents who have augmented more business processes with automation, AI and analytics are realizing greater outcomes than those with fewer augmented processes. The areas of higher performance ranged from operational efficiency and decision-making, to reduced risk and a better customer experience.

5 **Scaling automation requires new skills and organizational models.** Needed skills will shift toward "softer" skills such as decision making, learning and creativity as automation in the workplace grows. The radical shift will happen when automation moves beyond a series of isolated initiatives to the defining factor in a workflow, reshaping how the enterprise performs work.

Automation comes of age in the modern enterprise

Automation is one of the few areas that saw an increase in respondents naming it as a top driver from our previous study to today.

As businesses navigate the changes the pandemic has wrought, three watchwords stand out: complexity, resiliency and speed.

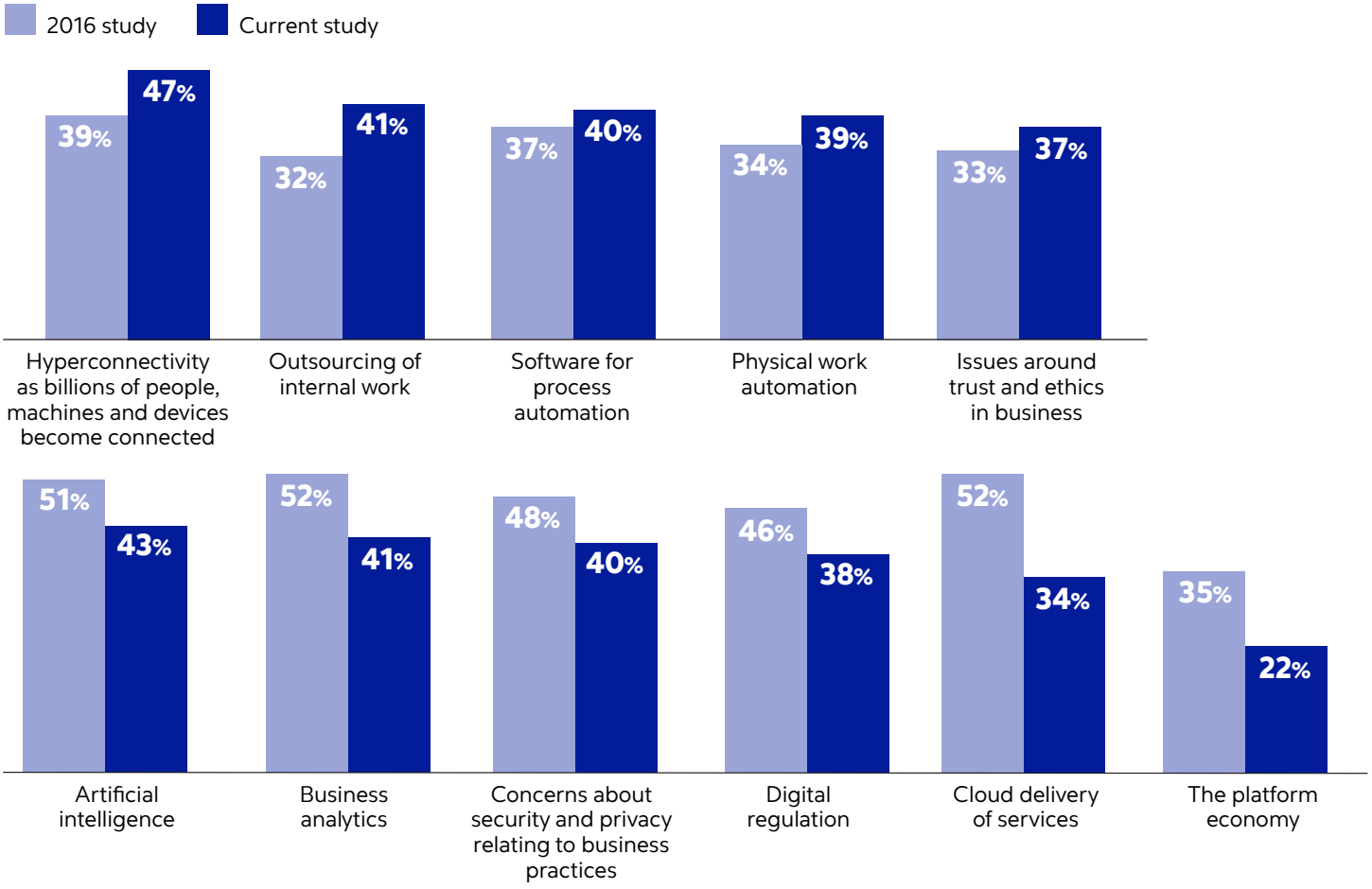
The economic fallout from the pandemic has yet to be fully felt or measured, and only the short-sighted would fail to heed the lessons learned about readiness for any future calamity. Meanwhile, businesses everywhere realize they need to react more quickly to the changing market dynamics.

In this environment, it's clear that digital is no longer a nice-to-have, an interesting adjunct to the main business. At the core of such digitization are "the 3@s" — AI, automation and analytics — ideas that were a brave new world for many organizations in our previous study but are now core curriculum in the great post-COVID reset.

It isn't surprising, then, that when we asked executives to name the forces that would have the most significant impact on their organization's work by 2023, these are the three technology areas — along with hyperconnectivity — that top the list (Figure 1). Notably, while respondents seem more tempered in their enthusiasm for AI and analytics, automation is one of the few areas that saw an increase in respondents naming it as a top driver from our previous study to today.

The forces of work drive automation to the next level

Respondents in both our 2016 and current studies were asked to rate the impact of the following forces on work in the future. (Percent of respondents saying high impact)



Response base: 4,000 senior business leaders
Source: Cognizant Center for the Future of Work
Figure 1

Of course, it's the integration of all three technologies (AI, analytics, automation) that turn robotic process automation (RPA) into the more impactful intelligent process automation (IPA). With RPA, businesses can automate repetitive tasks by creating software bots that use hard-coded rules to capture process steps.

An example is **a biopharmaceutical company** that implemented a bot to better understand the spread of COVID-19 cases so it could adjust inventory needed for its ongoing clinical trials. The bot pulled information on the virus's spread from the World Health Organization (WHO) and compared it with the global locations where clinical trials were occurring. The bot not only provided real-time insight into the pandemic's potential impact on the trials but also created daily reports on trial summaries and drug inventory levels that enabled faster and more effective decisions on supply and demand of needed drugs.[2]

With IPA, AI technologies such as machine learning and natural language processing (NLP) are integrated into the process flow to create smart workflows that learn and adapt on their own. By applying IPA, companies can increase efficiencies and gain new capabilities beyond human abilities — such as processing millions of documents and applications a day, spotting and resolving issues within each, and making improvement recommendations.

Intelligent automation could power large real-world changes in the way processes are managed, such as real-time identity checks for customer onboarding. One study respondent, the COO of a U.S. life sciences company, says the organization would like to develop a skill set for automation integrated with cognitive elements. With RPA, the company could reduce manual processing of drug trials by automatically consolidating databases and completing compliance procedures. By applying AI, however, it could also automate the assessment of clinical trial candidates, with the intelligent system shortlisting, ranking and even selecting the best candidates.

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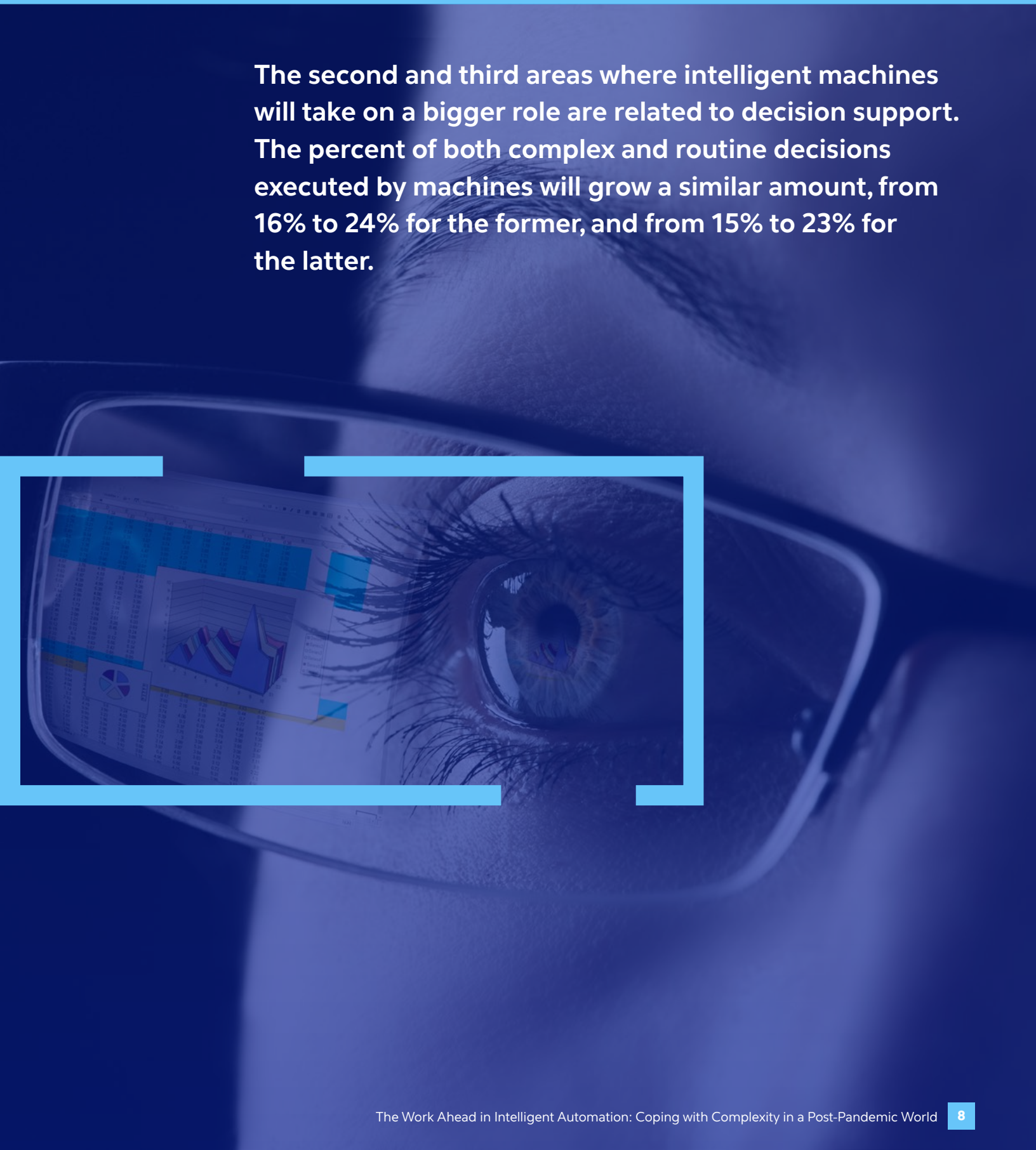
More (and more) process work pivots to machines

The second and third areas where intelligent machines will take on a bigger role are related to decision support. The percent of both complex and routine decisions executed by machines will grow a similar amount, from 16% to 24% for the former, and from 15% to 23% for the latter.



In light of the unwavering interest in automation, it's also not surprising to see that the ratio of process work performed by humans vs. machines continues to tip in favor of machines, particularly in the areas of data organization, complex decision support and rules-based decision making (see Figure 2).

Intelligent automation will increasingly help businesses overcome the operational hurdles created by crisis and uncertainty, as well as a world awash with data at volumes that are beyond human scale. Going forward, the technology will be crucial for data cleansing and data modernization, including unstructured data from a wide array of sources and unstructured data types. By incorporating machine learning and other AI technologies into the process flow, businesses can ensure data is accessible, reliable and timely.

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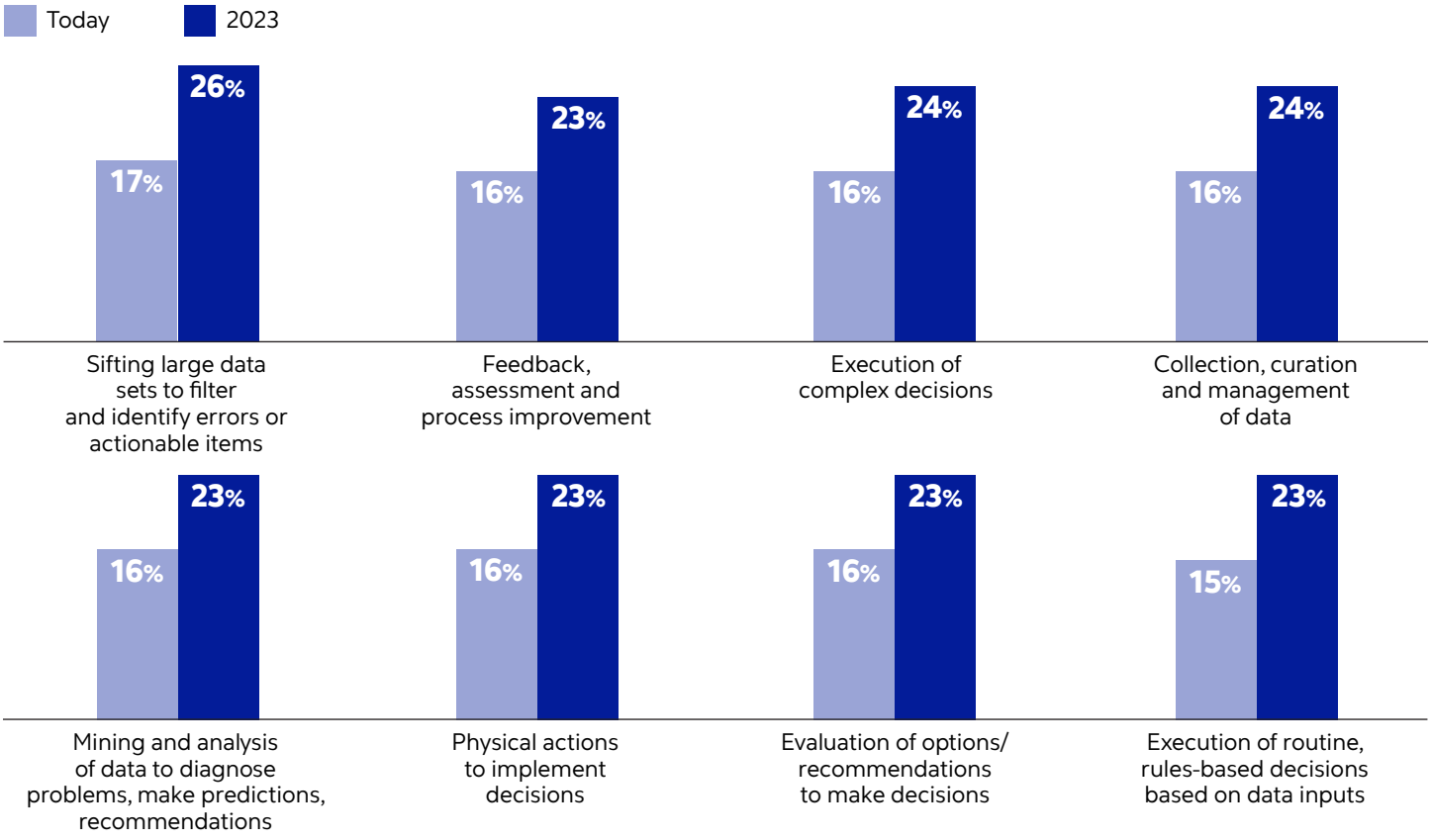
The march of machines continues

Respondents were asked to what extent the following activities would be executed by machines vs. employees, today and by 2023. (Percent of work done by machines)



Response base: 4,000 senior business leaders
Source: Cognizant Center for the Future of Work
Figure 2

to 24% for the former, and from 15% to 23% for the latter. Again, this trend reflects the fact that while humans struggle to process large data sets, intelligent machines can take on the heavy lifting of meaningfully consuming data. Just as most stock trading is now commonly undertaken by machines, many other complex decisions can be done more quickly and effectively by machines going forward.

In the early weeks of the pandemic, for example, **one major airline** reportedly received over 120,000 cancellation requests in the early weeks of the pandemic (a 4,000% increase from its standard 3,000 cancellations per month). The refund process required a manual review of each cancellation to determine whether the customer was eligible for a refund or a credit to rebook their trip at a later time.

Through an intelligent bot, the airline automated the process, including the refund vs. credit decision-making. With the bot's ability to clear 4,000 refund requests per day — more than would have been cleared in a month manually — employees were freed to handle more complex work.[3]

As data analysis continues to move beyond human scale, AI-driven approaches are needed to reveal insights from process work that leads to good decisions.

Deployments are piecemeal rather than strategic

Even with 60% of respondents having implemented or piloted automation technologies, its widespread use across the enterprise is limited. Businesses appear to be taking a piecemeal, reactive approach toward implementation, choosing automation targets tactically by focusing on immediate pain points.

Across industries, the starting point for automation initiatives tends to be in a business process most in need of improvement in operational efficiency, speed or customer experience (see Figure 3, next page). For example:

- **Accelerating research in life sciences.** In our study, 21% of life sciences respondents aimed their automation efforts at clinical research processes. Automation can play a key role in eliminating human error and improving accuracy in clinical research, including cancer drug discovery. For example, it can take scientists weeks to manually design, check, repair, order and create antibodies to be screened for use in treating potential cancers. The use of IPA drastically reduces the end-to-end time to perform this work **from weeks to hours**.[4] (For more on the role of digital in life sciences, see our report "**The Work Ahead in Life Sciences: Cures at the Speed of Digital.**")

- **Enabling zero-touch processing in insurance.** Over one-third of insurance respondents are applying automation to claims processing. **One insurer**, for example, used to rely on teams of analysts to register a single workplace compensation claim. Using intelligent bots, it can now automatically register an inbound claim by entering data across 15 screens and legacy systems, and applying 45 state-specific rules. An NLP-based system populates data into the workflow.[5] (For more on how insurers are accelerating the use of a range of digital technologies, see our report "**The Work Ahead in Insurance: Vying for Digital Supremacy.**")

- **Banks use automation to deal with mountains of customer data.** Over one-quarter of banking respondents are augmenting customer data management processes and the customer experience with automation tools. Processes range from customer onboarding, to loan origination and servicing, to customer support. Bank of America's AI-driven chatbot, for example, handled 400,000 client interactions a day in 2020, twice as many as in 2019.[6] Automation not only enables banks to achieve operational agility and capture huge cost efficiencies, but it also helps them to deliver the digital experiences that customers increasingly demand. (For more on this topic, see our report "**The Work Ahead in Banking & Financial Services: The Digital Road to Financial Wellness.**")

Across industries, the starting point for automation initiatives tends to be in a business process most in need of improvement in operational efficiency, speed or customer experience.

Initiatives target front and back office

Respondents were asked to name the processes where they've made the most progress with technology augmentation. (Percent of respondents who'd achieved some level of augmentation: widespread, some augmentation or pilots underway)

	Widespread augmentation	Some augmentation	Pilots underway
Banking and capital markets	**(26%)** Customer data management	**(26%)** Customer user experience	**(5%)** Financial management, accounting, budgeting, analysis and reporting
Consumer goods	**(14%)** Demand planning and inventory management	**(14%)** Last-mile delivery	**(6%)** Production and operations management
Education	**(16%)** HR and people management	**(9%)** Information services and technology	**(9%)** Strategic planning and implementation & sales, marketing and customer service
Healthcare payers	**(30%)** Sales, marketing and customer service	**(6%)** Financial management, accounting, budgeting, analysis and reporting	**(6%)** HR and people management
Healthcare providers	**(29%)** Care management and care coordination	**(17%)** Patient care	**(2%)** HR and people management
Information services	**(39%)** Software development	**(13%)** Security management	**(8%)** Information services and technology
Insurance	**(33%)** Claims processing	**(12%)** Underwriting and risk assessment	**(5%)** Sales, marketing and customer service
Life sciences	**(21%)** Clinical research	**(6%)** Clinical development, including trials	**(5%)** R&D and innovation (discovering/ innovating new processes)
Manufacturing	**(34%)** Quality management	**(21%)** Production scheduling and capacity management	**(3%)** Purchasing and procurement
Media and entertainment	**(37%)** Digital content supply chain	**(15%)** Media planning & buying	**(4%)** Information services and technology
Oil and gas	**(33%)** Production and operations management	**(11%)** Strategic planning and implementation	**(7%)** Supply chain and partner management
Retail	**(21%)** Call center operations	**(20%)** Product information management	**(8%)** Sales, marketing and customer service
Transportation and logistics	**(38%)** Supply chain and partner management	**(7%)** Strategic planning and implementation	**(5%)** Financial management, accounting, budgeting, analysis and reporting
Travel and hospitality	**(22%)** Information services and technology	**(14%)** Sales, marketing and customer service	**(9%)** Strategic planning and implementation
Utilities	**(19%)** Customer management	**(17%)** Field management	**(7%)** Strategic planning and implementation

Response base: 4,000 senior business leaders
Source: Cognizant Center for the Future of Work
Figure 3

Even with 60% of respondents having implemented or piloted automation technologies, however, its widespread use across the enterprise is limited (see Figure 4). Businesses appear to be taking a piecemeal, reactive approach toward implementation, choosing automation targets tactically by focusing on immediate pain points.

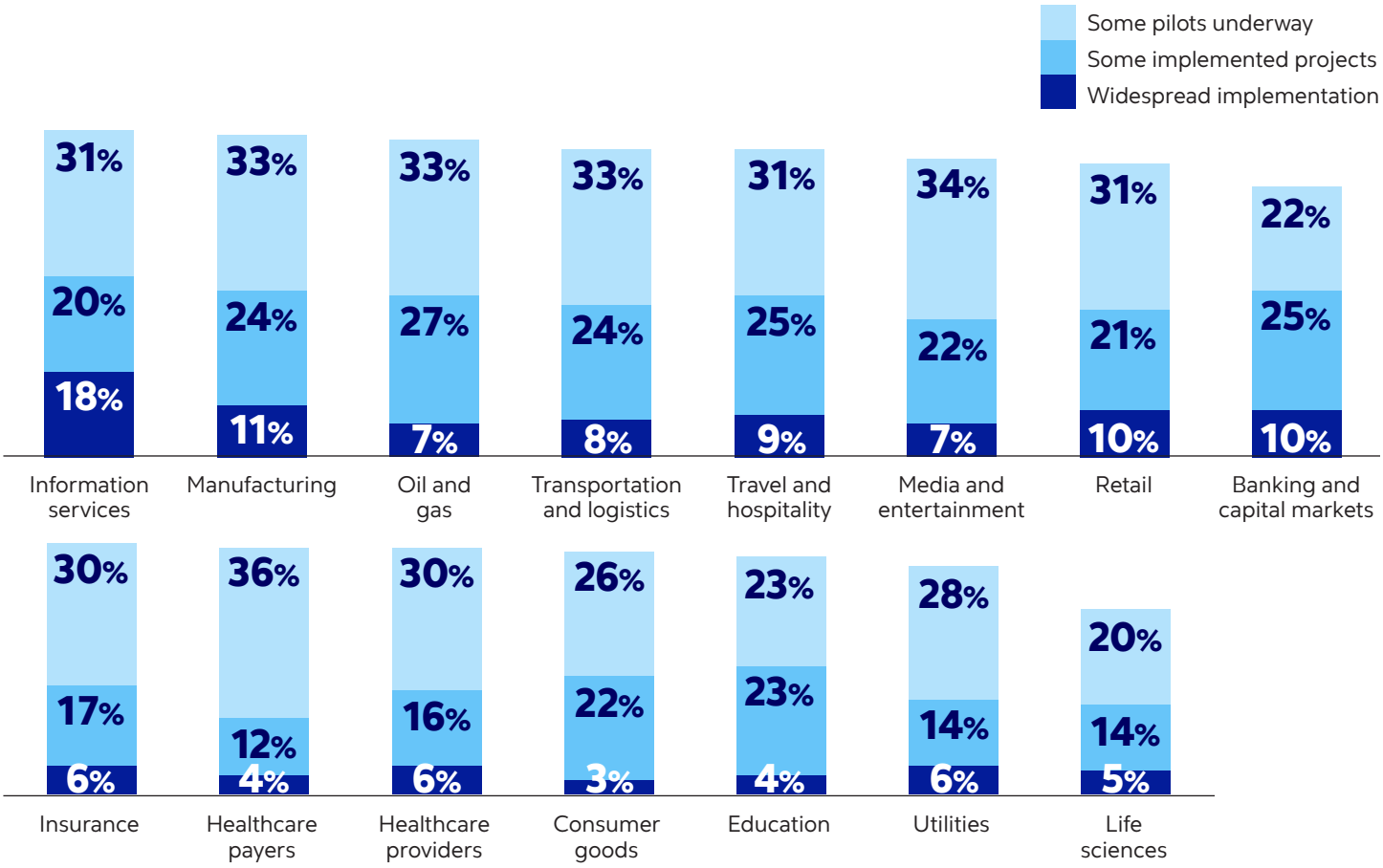
To realize the full benefits of automation, it is vital not only to create a roadmap for automating processes across the enterprise but also, in some cases, to integrate isolated processes together. Doing so can eliminate bottlenecks, manual hand-offs and siloed data. This is particularly true when connecting customer-facing processes to back-end operations. The lack of automation integration could lead to underperforming projects, as organizations automate part and not all of the process.

Processes are becoming intertwined, and process constituents demand and expect digital approaches to accommodate how they work, engage, interact — and experience. Businesses everywhere are using digital approaches to stitch together more tightly coupled, informed and personalized experiences.

An example is in the emerging area of real-time, micro-coverage in insurance, in which a social media post, for example, triggers an alert for marketing to offer short-term insurance for a specific need, such as a vacation. For the insurer to generate such an offer, it would involve processes across the insurer's entire operations, from policy underwriting and transactional processing (billing and payment), through claims processing and customer service.

Few scaled implementations

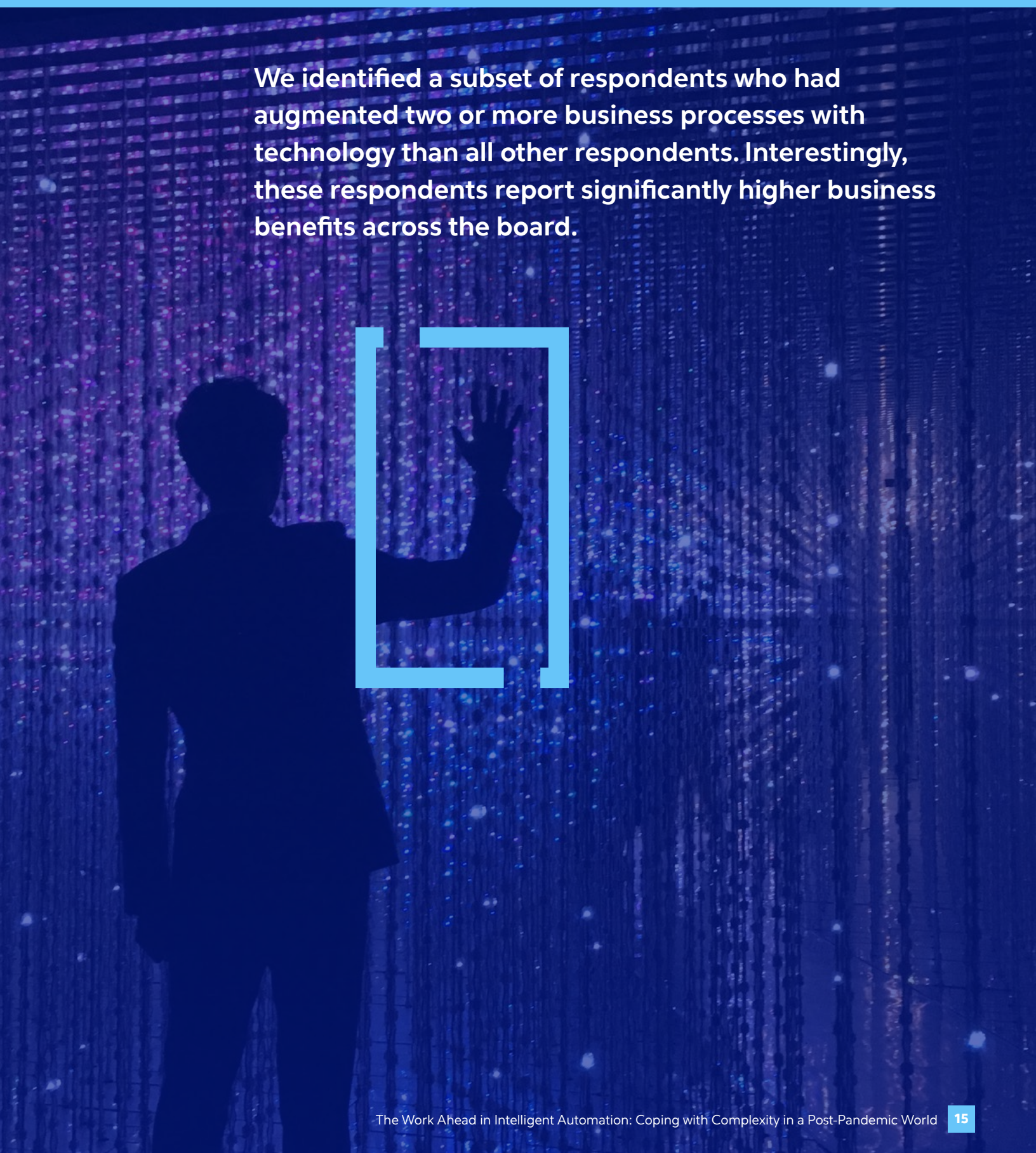
Respondents were asked to name the processes where they've made the most progress with technology augmentation.
(Percent of respondents who'd achieved each level of augmentation)



Response base: 4,000 senior business leaders
Source: Cognizant Center for the Future of Work
Figure 4

As automation scales, so do benefits

We identified a subset of respondents who had augmented two or more business processes with technology than all other respondents. Interestingly, these respondents report significantly higher business benefits across the board.



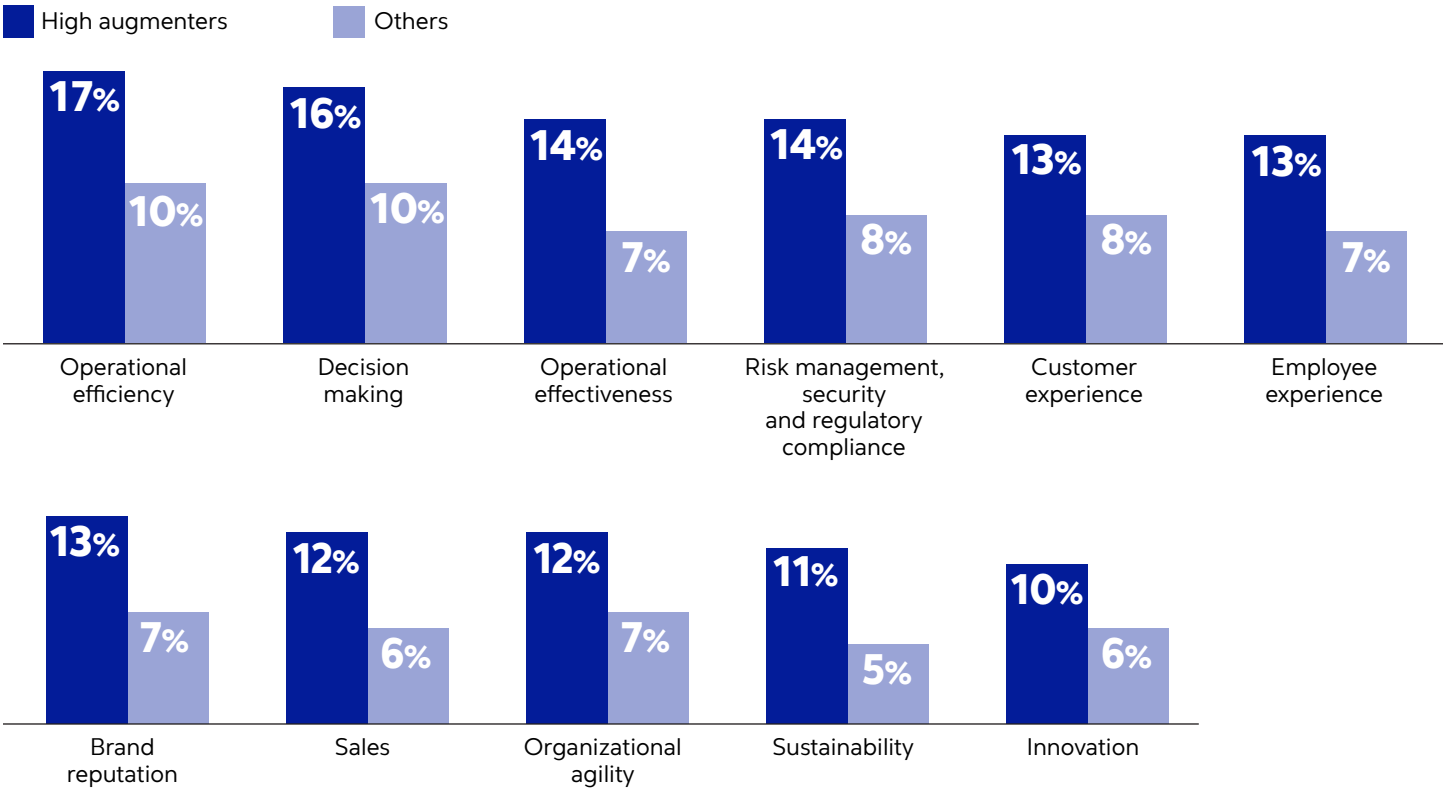
In fact, our study suggests that benefits increase exponentially when automation is driven across several core areas of the business and integrates cognitive technologies to support strategic goals.

We identified a subset of respondents who had augmented two or more business processes with technology vs. other respondents — we call this group "high augmenters." Interestingly, these respondents report significantly higher business benefits across the board (see Figure 5), with outcomes that are at least four percentage points higher (and in some cases double) that of the other respondents. They are experiencing greater improvements in decision-making, operational efficiency, risk management, customer experience and more.

The upshot: The more that businesses use AI, analytics and automation to augment processes, the greater the business benefits.

High augmenters get outsized results

Respondents were asked to rate the improvements they've achieved in the following areas as a result of augmenting processes with technology. (Mean percent improvement)



Response base: 425 high augmenters; 3,575 all others
Source: Cognizant Center for the Future of Work
Figure 5

Quick Take

Automation's four key imperatives

The benefits of intelligent automation extend across a range of business functions and processes. The examples below illustrate the results businesses can achieve from their intelligent automation initiatives.

- **Improve operational efficiency and effectiveness.** Using intelligent automation and intelligent workflows, businesses can reduce errors and handoffs, lessen the burden on staff, improve operational performance and cut costs.

  A leading P&C insurer, for example, was accustomed to receiving high volumes of email-based service requests from brokers, agents and insured customers. Eighty-two percent of these claims were processed manually by 15 full-time employees, with a turnaround time of roughly four hours per request.[7]

  When it implemented AI and NLP to streamline this process, the insurer achieved zero-touch operations for over 2.5 million requests. This freed up its full-time employees for more complex tasks, accelerated delivery by 96% to just 10 minutes per claim, and saved the organization $2 million over three years.

- **Make better financial decisions.** Businesses can improve working capital by applying intelligent automation to invoicing and collections and using the AI-driven insights gleaned from analytics across functions such as order-to-cash and record-to-report.

  A leading sports medicine provider was having trouble getting full payment for the products it sold to patients during medical consultations because of the insurance reimbursement process. The business implemented a system that used two years' worth of patient collection data to predict which invoices were least likely to be paid within 90 days, based on variables including the product, price, patient service center, territory, patient age and patient state. The operations team could then prioritize these patients for follow-up, which increased payment collection by 13%.[8]

- **Optimize the supply chain.** By focusing on data collection and analysis, enterprises can optimize inventory, logistics management, supplier/sourcing diversity and order management.

  For example, a Norwegian engineering company needed to reduce the effort and time lags involved with tracking changes made to project delivery dates and materials availability. The company implemented intelligent bots to check purchase orders and inventory levels and send alerts to relevant staff. This led to an 80% reduction in handling time, a 700% increase in POs processed per day and a cost savings of around $245,000 USD per year.[9]

- **Boost customer engagement through business agility.** Sustaining customer relationships requires leveraging data to improve customer outreach. A large technology company used intelligent automation to combine customer footfall data with time spent by customers at specific businesses. Wi-Fi scanners captured signals for tracking customer profiles and traffic, and a machine-learning model identified the businesses with a higher likelihood of store visits and conversions.

  By analyzing a wide array of data, such as dynamic impression changes, store type, photo impressions, business category, user density, location, etc., the system helped the company reduce acquisition costs by 15% through micro-targeting and increase conversions by 30%.[10]

Automation at scale means rethinking how people work

In 2016, respondents were lukewarm on the importance of skills such as decision making and, especially, learning. Today, these are the top two most important skills as we look ahead.

As intelligent automation changes enterprise workflows, businesses need to blend and extend the strengths of their people with the capabilities of machines.

New workflows need to be constructed so that the most predictable, rote and repetitive activities can be handed off to intelligent software, while humans specialize in using judgment, creativity and language.

A large part of the automation challenge will require progressing current workers' skills, so they are compatible with this journey ahead. Central to answering this question is the concept of "upskilling" — of having skills and capabilities that cannot be supplied by even the smartest of machines. This is as true for those in the boardroom as for those on the factory or showroom floor.

In 2016, respondents were lukewarm on the importance of skills such as decision making and, especially, learning; today, these are the top two most important skills as we look ahead (see Figure 6). Given the current uncertain times, it's not surprising enterprise leaders have shifted focus to decision-making skills. Operations need running in decisive ways, basing decisions on the best information at hand.

The jump in "learning" as a skill also aligns with the shift toward intelligent automation. It's critical to have the right people on a team who can help drive automation and understand how the work people do will change. If there are automation champions for each major business process, they can drive adoption to scale and help avoid automation languishing in isolated pockets.

Build a skills renaissance around decision-making and training

Respondents were asked which skills would become more important in the next three years.

2016	IMPORTANCE	Current study
Innovation	1	Decision-making
Decision-making	2	Learning
Leadership	3	Strategic thinking
Analytical	4	Analytical
Strategic thinking	5	Communication
Communication	6	Leadership
Customer care	7	Customer care
Selling	8	Selling
Interpersonal	9	Interpersonal
Learning	10	Innovation

Response base: 4,000 senior business leaders
Source: Cognizant Center for the Future of Work
Figure 6

Another way businesses are ensuring employee involvement in automation initiatives is training them to become automation champions and "citizen developers," vested in making automation a success (see Quick Take).

In addition to skills development, automation will also spur an enterprise-wide cultural shift as it transitions from a series of initiatives to becoming a fundamental part of how people work.

Quick Take

Getting people to embrace change (not fear)

Ironically, one of the most crucial components of a successful automation initiative is people. Automation needs to be seen as an orchestration exercise blending people and machines together, where simple process robots and more cognitive solutions are needed. Existing staff members are an invaluable resource in understanding the DNA of the organization and helping to reframe what automation can achieve.

Businesses are also taking advantage of visual software development environments to enable people with no software engineering experience to design and automate processes. Business users learn to automate small tasks specific to their roles, allowing them to do their jobs better, faster and smarter. These "citizen developers" can play a significant role in helping companies reimagine processes and redesign the way people work.[11]

Creating a cadre of citizen developers around a process automation initiative turns them into catalysts who will mitigate the fear and doubt that can sometimes slow down an automation project. As more companies adopt the concept and put the power of automation in employees' hands, those who actively choose to be citizen developers differentiate themselves as workforce dynamos, driving performance to the next level.

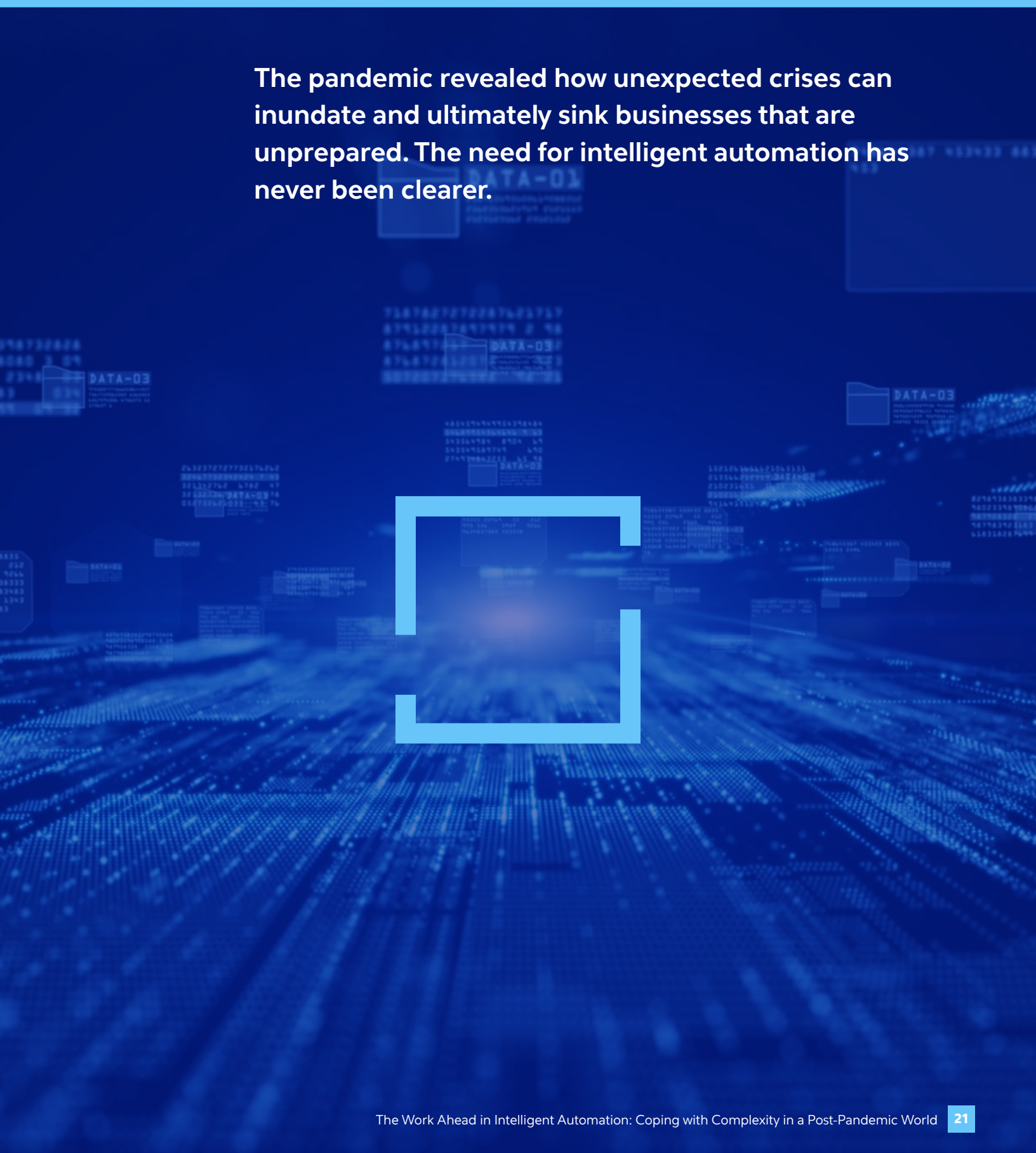
One case in point is a leading international agricultural and food business that was afflicted with a clunky, manual set of processes for order fulfillment, financial reporting and customer care. In addition to creating an automation center of excellence (CoE), it also started a citizen development program.

The CoE developed intelligent software bots to fix the process, while selected employees were responsible for 80% of development. Their work helped win hearts and minds across the business as they became advocates for the program.

Although the citizen developers sat outside the core automation program, they were invaluable in building confidence in the approach. The results for the company were impressive, with a 75% improvement in handling time; a change in focus for 50% of FTEs onto higher-value work; and 28,000 hours of annual savings.[12]

Moving forward with intelligent automation

The pandemic revealed how unexpected crises can inundate and ultimately sink businesses that are unprepared. The need for intelligent automation has never been clearer.



Businesses need to give serious consideration to how underlying processes should change and adapt. To properly exploit the full potential of automation, particularly when it is paired with its sister change agents (analytics and AI) requires processes to be re-imagined.

In order to leverage automation in your work ahead, the following steps are important to consider and act on:

- **Don't limit automation to a one-off initiative.** Create an end-to-end automation strategy and embed it into the fabric of the organization. It's key to ensure data is built into the core of the organization and is used to drive insights. Reimagined workflows that take advantage of intelligent automation — injecting better analytics and more intelligence into the initiative — will drive speed, accuracy and resiliency.
- **Build an automation roadmap that scales from pilots to production.** Push past isolated process fixes and pilot projects that typify an automation rollout today. The pandemic has accelerated a wholesale shift into digital, and timid approaches of the past will have you left behind.
- **Drive the change top-down and bottom-up.** Take a blended approach that looks across a process and function and that captures the ideas of the organization organically. No matter how effective the top-down analysis, getting grassroots ideas from across the organization is key to unlocking automation success. Locate the true subject matter experts. Bringing them into the loop helps with change management as engaged people will buy into the solutions that they helped scope and craft. However, it's also vital to maintain a top-down view to ensure you don't miss opportunities to scale and create connections. This allows you to keep the end state in mind while moving forward with integrations and implementations.
- **Adopt a culture of collaboration and learning.** People are the key to success or failure when it comes to automation. Even as work is automated, employees are still a vital part of ensuring process success. Creating a culture of continual learning and sharing helps raise the digital IQ across the organization and drives technology adoption while helping employees stay engaged with the work.
- **Turn automation advocates into automation dynamos.** Automation needs to become integral in how people work. This doesn't mean everyone has to be part of building automations, but everyone should be a part of the journey — well beyond IT. Automation initiatives are not technology adventures led by the CIO and IT team; rather, they need to be business-driven and developed in conjunction with IT. (For more on this topic, see our report "Financial Services Automation: Taking Off the Training Wheels.")

Changing processes for fast-changing times

For years, businesses have been aware of the need to streamline and speed processes. In an age when the concept of time became "real-time," clunky and creaky processes were no longer tenable. But the pandemic revealed how unexpected crises can inundate and ultimately sink businesses that are unprepared. The need for intelligent automation has never been clearer.

Importantly, intelligent automation involves more than speeding a process "as-is." Processes need to be rethought and optimized to fit changing business dynamics and unlock exponential business results.

The intelligence behind the automation is as much about reimagining the process for what it could be when digital technologies and mindsets are applied. As we emerge into a post-pandemic world, such a reimagining will be not only refreshing but also vital for businesses going forward.

Intelligent automation involves more than speeding a process "as-is." Processes need to be rethought and optimized to fit changing business dynamics and unlock exponential business results.

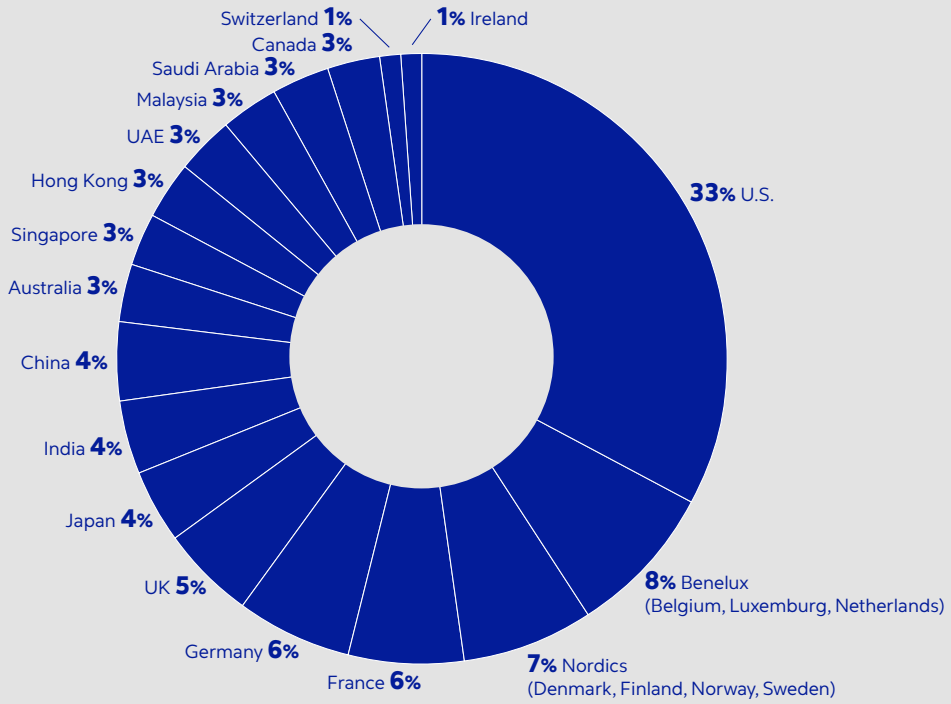
Methodology

Cognizant commissioned Oxford Economics to design and conduct a survey of 4,000 C-suite and senior executives. The survey was conducted between June 2020 and August 2020 via computer-assisted telephone interviewing (CATI). Approximately one-third of the questions were identical to those asked in the 2016 Work Ahead study, allowing us to compare responses and track shifting attitudes to technology and the future of work.

Respondents come from the U.S., Canada, UK, Ireland, France, Germany, Switzerland, Benelux (Belgium, Luxemburg, Netherlands), Nordics (Denmark, Finland, Norway, Sweden), Singapore, Australia, Malaysia, Japan, China, Hong Kong, India, Saudi Arabia and UAE. They represent 14 industries, evenly distributed across banking, consumer goods, education, healthcare (including both payers and providers), information services, insurance, life sciences, manufacturing, media and entertainment, oil and gas, retail, transportation and logistics, travel and hospitality, and utilities.

All respondents come from organizations with over $250 million in revenue; one-third come from organizations with between $250 million and $499 million in revenue, one-third from organizations with between $500 million and $999 million in revenue, and one-third with $1 billion or more in revenue. The high augmenter cut is a group of survey respondents. The group consists of respondents from various markets, industries and company sizes.

Respondents by geography



(Percentages may not equal 100% due to rounding)

Respondents by role

- **13%** Vice President
- **13%** Chief Operating Officer
- **13%** Director reporting to senior executive
- **13%** Senior Vice President
- **12%** President
- **12%** Chief Executive Officer
- **12%** Chief Financial Officer
- **12%** Other C-suite Officer

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Euan Davis leads Cognizant's Center for the Future of Work in EMEA. A respected speaker and thinker, Euan has guided many Fortune 500 companies into the future of work with his thought-provoking research and advisory skills. Within Cognizant's Center for the Future of Work, he helps ensure that the unit's original research and analysis jibes with emerging business-technology trends and dynamics in Europe, and collaborates with a wide range of leading thinkers to understand how the future of work will look. Previously, Euan held senior analyst, advisory and leadership positions at Forrester Research, IDC and CEB.

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Girish Pai
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Girish Pai is a seasoned digital and transformation leader with over two decades of experience and a strong track record of delivering strategic business outcomes for clients globally across industries. Girish heads the Intelligent Process Automation Practice for Cognizant Digital Business Operations, leading the charge to create next-gen digital solutions by leveraging technology to simplify, reimagine and transform processes.

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Mariesa Coughanour is the Head of Advisory for the Intelligent Process Automation Practice at Cognizant. She is passionate about working with clients to accelerate their automation journey, custom-tailoring strategies, methodologies and technologies to achieve outcomes and scale. Her drive to create results and help others embrace change stems from her previous experience as the leader of Global Operations Analytics and Automation at GE, and executive roles at a NYC-based startup.

Mariesa is recognized as a thought leader in the IPA industry, collaborates often with industry analysts, is a sought-after speaker, and was named Innovator of the Year at the Women in IT Awards in 2020.

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Endnotes

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THE WORK AHEAD

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Center for
The Future of Work

About the Center for the Future of Work

Cognizant's Center for the Future of Work™ is chartered to examine how work is changing, and will change, in response to the emergence of new technologies, new business practices and new workers. The Center provides original research and analysis of work trends and dynamics, and collaborates with a wide range of business, technology and academic thinkers about what the future of work will look like as technology changes so many aspects of our working lives. For more information, visit Cognizant.com/futureofwork, or contact Ben Pring, Cognizant VP and Director of the Center for the Future of Work, at Benjamin.Pring@cognizant.com.

About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 194 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at www.cognizant.com or follow us @Cognizant.

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