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The future of work in Japan: Accelerating automation after COVID-19

Digitization has played a key role in reducing the spread of the virus and promoting a safe recovery. Now, it's even more critical to the country's longer-term economic health.

by Maya Horii and Yasuaki Sakurai

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Japanese leaders have long promoted productivity improvements to drive economic growth. That has become an even greater priority as the country's low birth rates and rising life expectancy have reduced the domestic workforce (those aged 15 to 64 years) to 59.7 percent of the total population. Even with efforts to hire more women, retirees, and foreign workers to boost the labor pool, Japan's demographic shift threatens to stall GDP growth for the next decade. The key to sustained economic growth is not just finding workers but also transforming how they work through automation.

That task has become a more urgent priority, as the COVID-19 pandemic has forced an unprecedented drop in economic activity. The pandemic is also accelerating a shift toward digitization to reduce the spread of the virus while enabling more people and processes to move online. That moment could prove to be a catalyst for Japanese employers to automate their operations and retrain workers to deliver more value. The McKinsey Global Institute (MGI) estimates that Japan will need a 2.5-fold increase in productivity growth over the next decade simply to maintain its recent GDP-growth rate.
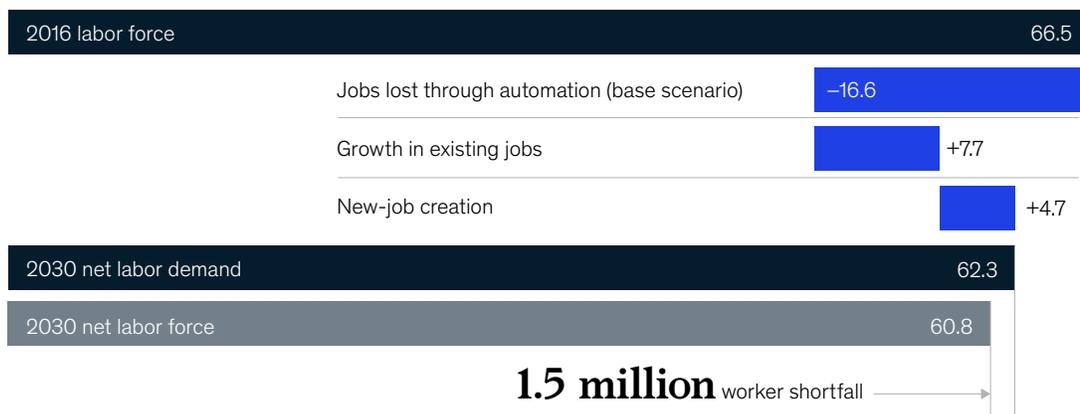
The looming labor shortage

Even with those productivity gains, Japan is likely to face a shortage in labor supply. To compensate for the challenge of a shrinking workforce, companies have to deliver more. Prior to the pandemic, Japan was on track to automate 27 percent of existing work tasks by 2030. While that could replace the jobs of 16.6 million people, it would still leave the country with a shortfall of 1.5 million workers in ten years (Exhibit 1). What's more, the tight labor market could make it difficult for employers to free up people and resources to develop the new growth opportunities that could emerge with automation.

Exhibit 1

Even with automation and expanding labor-force participation, Japan is likely to face a shortage of 1.5 million workers by 2030.

Projected change in labor demand, millions

2016 labor force	66.5
Jobs lost through automation (base scenario)	−16.6
Growth in existing jobs	+7.7
New-job creation	+4.7
2030 net labor demand	62.3
2030 net labor force	60.8

1.5 million worker shortfall

Source: Japan Institute for Labour Policy and Training; O*NET OnLine; Statistics Bureau of Japan; McKinsey Global Institute analysis
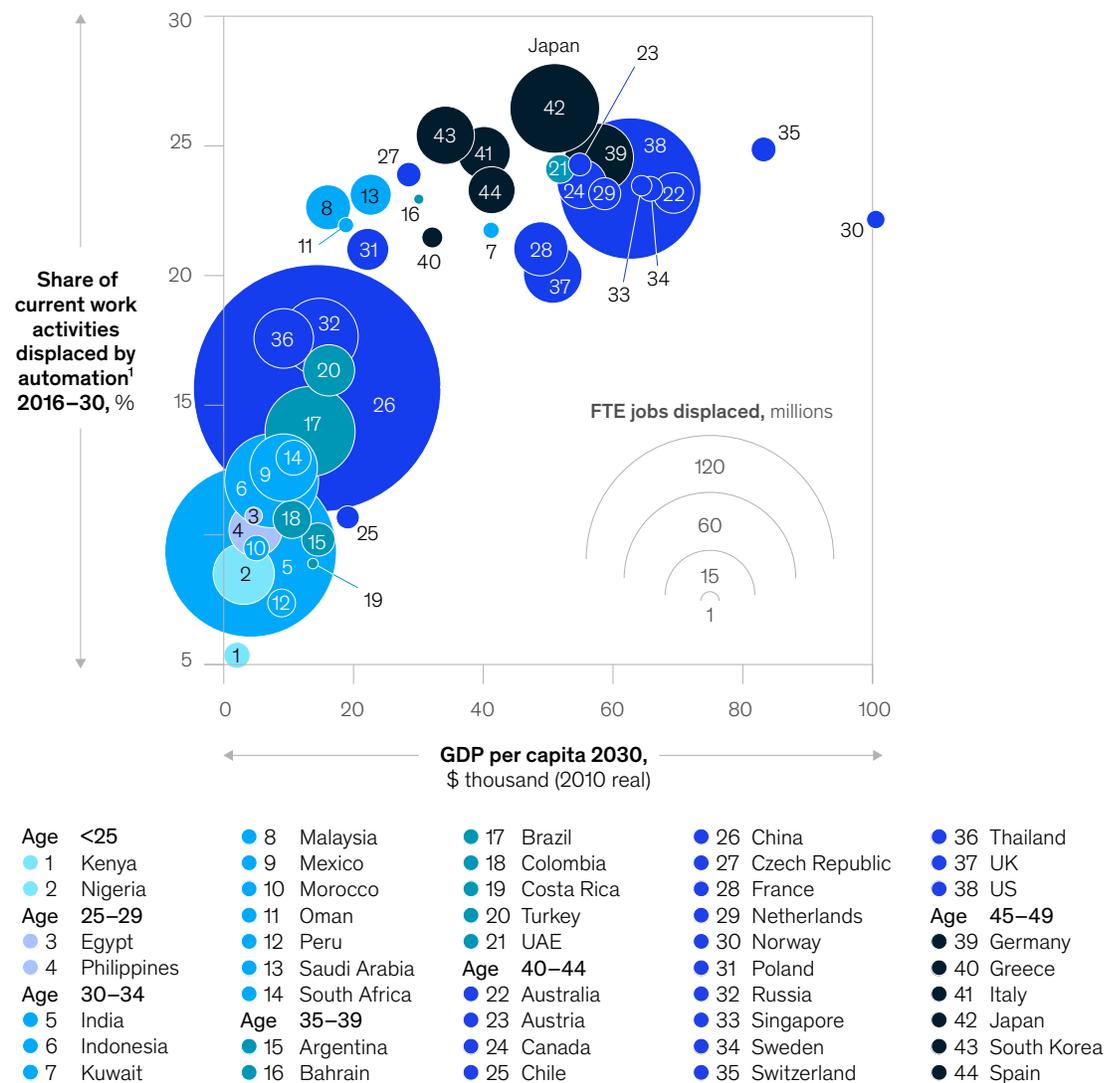
Companies can get ahead of the trend. In 2017, MGI published research that found Japan's potential for automation exceeded that of countries such as Germany and South Korea (Exhibit 2). Researchers estimated that automation could displace around 56 percent of the work activities being done across Japan, enabling companies to lower costs and boost productivity despite a shrinking workforce (Exhibit 3).

Exhibit 2

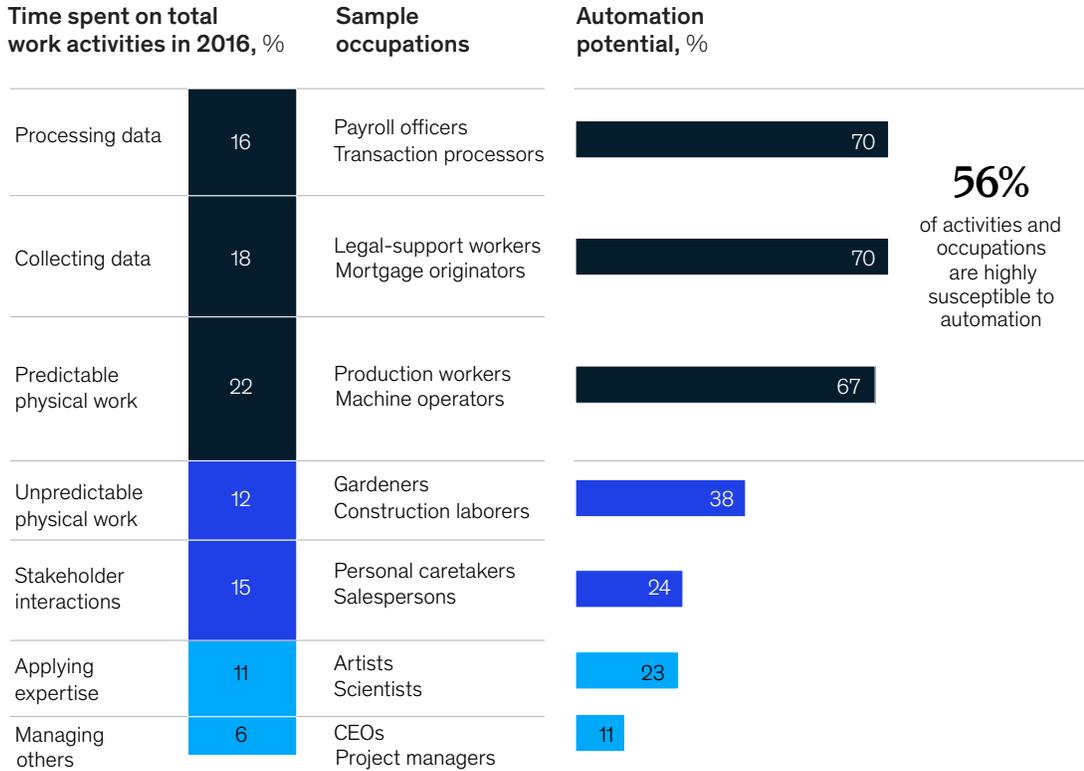## Japan leads the world in the potential for jobs displaced by automation.

Full-time-equivalent (FTE) jobs potentially displaced by 2030 by age group, millions

Share of current work activities displaced by automation[1] 2016–30, %

FTE jobs displaced, millions

GDP per capita 2030, $ thousand (2010 real)

Age	<25								
1	Kenya	8	Malaysia	17	Brazil	26	China	36	Thailand
2	Nigeria	9	Mexico	18	Colombia	27	Czech Republic	37	UK
Age	25–29	10	Morocco	19	Costa Rica	28	France	38	US
3	Egypt	11	Oman	20	Turkey	29	Netherlands	Age	45–49
4	Philippines	12	Peru	21	UAE	30	Norway	39	Germany
Age	30–34	13	Saudi Arabia	Age	40–44	31	Poland	40	Greece
5	India	14	South Africa	22	Australia	32	Russia	41	Italy
6	Indonesia	Age	35–39	23	Austria	33	Singapore	42	Japan
7	Kuwait	15	Argentina	24	Canada	34	Sweden	43	South Korea
		16	Bahrain	25	Chile	35	Switzerland	44	Spain

[1]Midpoint-adoption scenario.
Source: Oxford Economics; World Bank; McKinsey Global Institute analysis

Exhibit 3

More than half of work time in Japan is spent on repetitive activities, two-thirds of which can be automated.

Time spent on total work activities in 2016, %		Sample occupations	Automation potential, %
Processing data	16	Payroll officers Transaction processors	70
Collecting data	18	Legal-support workers Mortgage originators	70
Predictable physical work	22	Production workers Machine operators	67
Unpredictable physical work	12	Gardeners Construction laborers	38
Stakeholder interactions	15	Personal caretakers Salespersons	24
Applying expertise	11	Artists Scientists	23
Managing others	6	CEOs Project managers	11

56% of activities and occupations are highly susceptible to automation

To achieve even minimum targets for such growth will require a new mindset and approach to leadership. Employers should start with a focus on training and reskilling people to fill between 11 and 12 million new positions that Japan is likely to need by 2030. Along with demand for more data scientists, there will be a need for people with skills in technology, analytics, and business to "translate" automation into innovation and growth. Employers will also need to incorporate skills training into the jobs of existing employees and work with government agencies to encourage more labor-force participation while minimizing disruption, especially to vulnerable populations.

The next wave of digital innovation

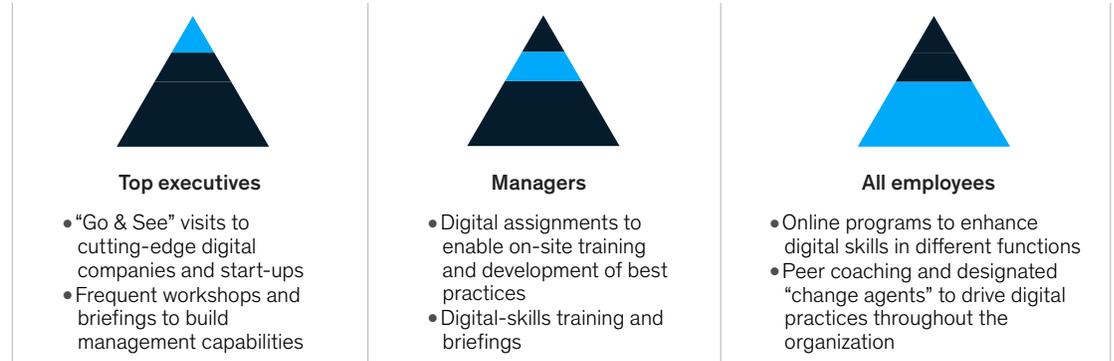To prepare for a more automated future, leaders can accelerate their own efforts at digitization and take action in four key areas:

— *Commit to digital transformation at the top.* Managers cannot lead a revolution that they don't understand. Senior executives need to enhance their own digital capabilities to drive change from the top. That means learning about the implications of digitization, machine learning, and artificial intelligence (AI) for their businesses. It also means going beyond workshops to see these technologies in action, perhaps through

Exhibit 4   5

To adapt to automation and compete in the digital age, employers need to offer skills training and innovation at all company levels.
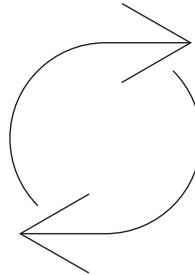
Program initiatives by management level

Top executives

- "Go & See" visits to cutting-edge digital companies and start-ups
- Frequent workshops and briefings to build management capabilities

Managers

- Digital assignments to enable on-site training and development of best practices
- Digital-skills training and briefings

All employees

- Online programs to enhance digital skills in different functions
- Peer coaching and designated "change agents" to drive digital practices throughout the organization

Enhancing digital skills

Capabilities accelerating value creation for customers

- Innovative solutions
- Data/digital stacks
- Partnerships/ecosystems
- Digital organizations
- Talent and corporate cultures

Reinforcing a culture of innovation

Elements of digital skills and practices

- Data-driven digital insights
- Agile work styles
- Integrated customer experiences
- Digital-enabled operations
- Design thinking
- IT systems

"Go & See" visits with start-ups or creative partnerships (Exhibit 4).

— *Develop 'business translators.'* Japan's 2019 strategy for AI points out the need to train 250,000 people annually in fields such as data science and AI. What employers also need are business translators, people who can match that talent and technology with business priorities to help transform operations. Effective business translators understand industry trends and market needs when measuring potential innovation. They help educate customers and
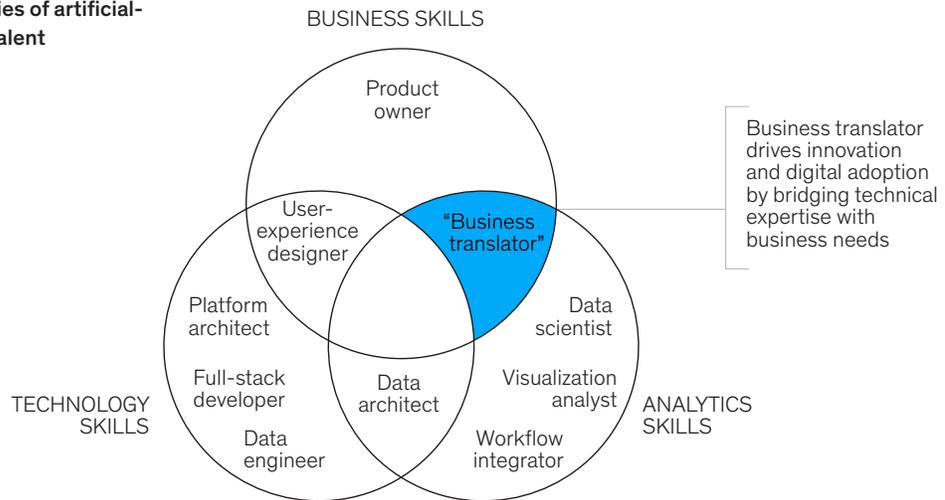
employees on the benefits of automation and find ways to foster growth while minimizing disruption. To fill the urgent need for people with these skill sets, the best option is often to help talented employees develop more digital capabilities (Exhibit 5).

— *Establish flexible work-style models.* The need to minimize contact during the pandemic has transformed work norms in ways that would otherwise take years to play out. After the pandemic, organizations will need to operate with flexibility—both in where people work and

Exhibit 5

'Business translators' play a critical role in driving change and aligning technologies with business needs.

Responsibilities of artificial-intelligence talent

BUSINESS SKILLS

Product owner

User-experience designer

"Business translator"

Platform architect

Data scientist

Full-stack developer

Data architect

Visualization analyst

TECHNOLOGY SKILLS

Data engineer

Workflow integrator

ANALYTICS SKILLS

Business translator drives innovation and digital adoption by bridging technical expertise with business needs

in when they do so. For Japanese companies, that will create new opportunities to recruit people who could not or would not work under less flexible conditions. Potential recruits include parents with small children, people in other countries, and those whose personal or professional priorities make it difficult to commit to a traditional office job. Digital innovation can further enhance flexibility by giving leaders new tools to foster culture, manage teams, and safeguard cybersecurity (Exhibit 6).

— *Retrain and reskill the workforce.* With increased competition for talent and pressure to innovate, training and reskilling workers has become a national challenge. Few managers have the resources to help workers adapt to rapidly changing technologies, especially in small and medium-sized enterprises. Workers also need more flexibility to go where their skills and training are most in demand. Companies can partner with government agencies to create a more end-to-end approach that includes

With increased competition for talent and pressure to innovate, training and reskilling workers has become a national challenge.

Exhibit 6

A digital workforce needs flexibility and accountability.

Practices to adopt for a digital workforce

Cultivate a one-team culture, with frequent 1-on-1 meetings with staff and customers to enable transparent communication and collaboration

Clarify decision-making and reporting lines by reducing isolation and silos, making people accountable and connected

Establish common platforms and technology across the company: shared goals require shared tools and technology

Accelerate test-and-learn cycles by using pilot testing to learn about and adopt new working models

Leverage digital tools to create virtual team rooms that enable collaboration, communication, and transparent decision making

Work in small, agile teams to build effective structures for continual iteration and adaption to changing conditions

Raise awareness on cybersecurity risks and best practices, with frequent updates to enhance compliance and awareness

developing training programs and helping match graduates with employers.

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The COVID-19 pandemic illustrates how rapidly the way we live and work can change. For Japan, recovering from the public-health crisis is both a challenge and an opportunity to accelerate the automation that is critical to the country's economic growth. If leaders in the public and private sectors can work together to prioritize action, Japan is likely not just to recover but also to lead the way in the next digital revolution.

Maya Horii and **Yasuaki Sakurai** are both partners in McKinsey's Tokyo office.