# Automation for the Future Enterprise

AN IDC INFOBRIEF | NOVEMBER 2020

Doc #AP241199IB

IDC | ANALYZE THE FUTURE

Sponsored by: bmc

# The CEO's New Agenda for the Future Enterprise

**Future of Trust**
Digital trust programs

**Future of Digital Infrastructure**
IT infrastructure resiliency

**Future of Intelligence**
Intelligent organizations

**Future of Work**
Dynamic work models

**Future of Industries**
New industry ecosystem


**Future of Connectedness**
Experience built around continuous connectivity

**Future of Operations**
Market-driven operations

**Future of Digital Innovation**
Software capabilities to deliver innovation

**Future of Customers & Consumers**
Personalized customer experiences

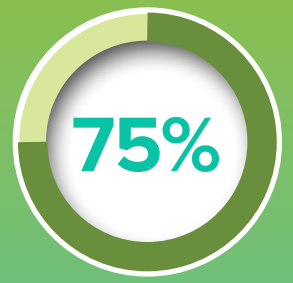
> *"We tend to overestimate the impact of technology in the short-term and underestimate its impact in the long-term."*
>
> **Ray Arama**
> The Institute of the Future

**The Future Enterprise** is IDC's vision for how firms must organize and invest to participate in increasingly digital-focused markets. Organizations, however, will have to master nine competencies to become a Future Enterprise. Our current digital transformation research shows that nearly half of all companies now have long-term digital strategies that form the basis for an end state that incorporates empathy, intelligence, resiliency, and empowerment at scale.

This InfoBrief describes the role that **Intelligent Automation and Operations Technologies** can play in how organizations become the Future Enterprise.

# IDC Predicts: The Future Enterprise

## By 2022




of enterprises will embed artificial intelligence (AI) into customer-facing technologies and processes using AI-based software to discover operational and experiential insights to guide innovation.

## By 2024


of all new programming-language-based applications developed will be deployed in containers to improve deployment speed, application consistency, and portability.

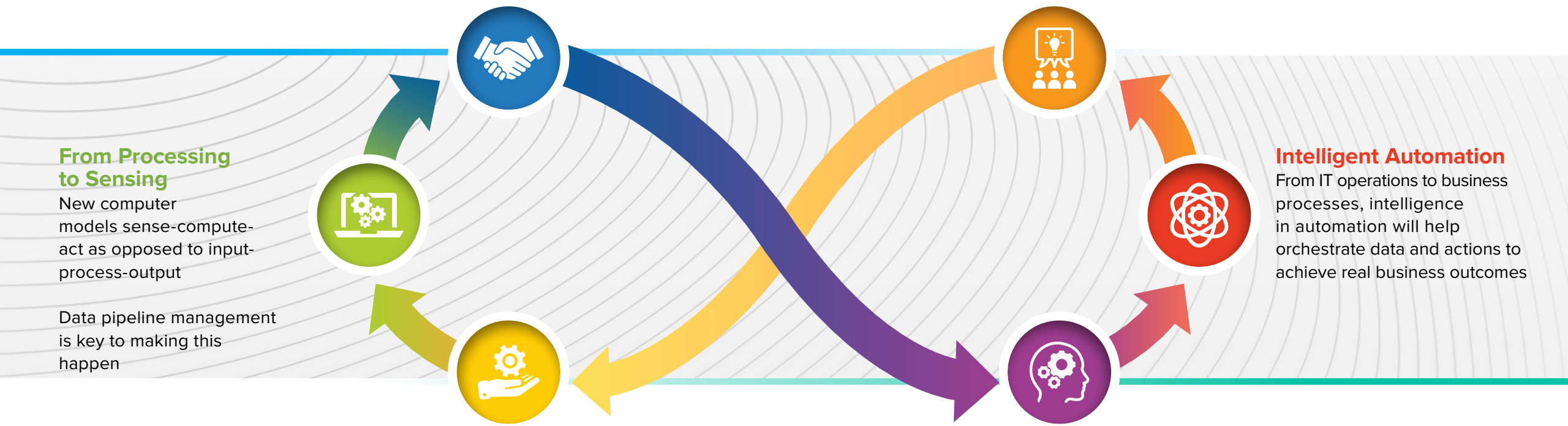
## By 2025


of the G2000 will have become high-performance, large-scale producers of software-based digital innovation.

# Capabilities Fundamental to Achieving the New End State

### Building Digital Trust
Escalating threats mandate strategic responses that minimize risk and increase customer trust

### Agile Everywhere
DevOps methodologies and teams now play a large role in meeting digital innovation targets



### From Processing to Sensing
New computer models sense-compute-act as opposed to input-process-output

Data pipeline management is key to making this happen

### Intelligent Automation
From IT operations to business processes, intelligence in automation will help orchestrate data and actions to achieve real business outcomes

### Rising Expectations Around Experience
More convenience, customization, and control on how tasks and work gets done

### Economies of Intelligence
AI, human, and organizational "learning" fuels asymmetric advantage as data assets increase in value and not just volume

# What COVID-19 Has Taught Us

Organizational priorities have shifted as a result of the pandemic. Cost containment is an immediate concern, but enterprises have indicated priorities which will have a lasting impact on their resiliency. They are:

1

## Customer Engagement Outcomes

For example, new cloud-based digital offerings focused on the experience around payments, delivery, and ecosystem partnerships

2

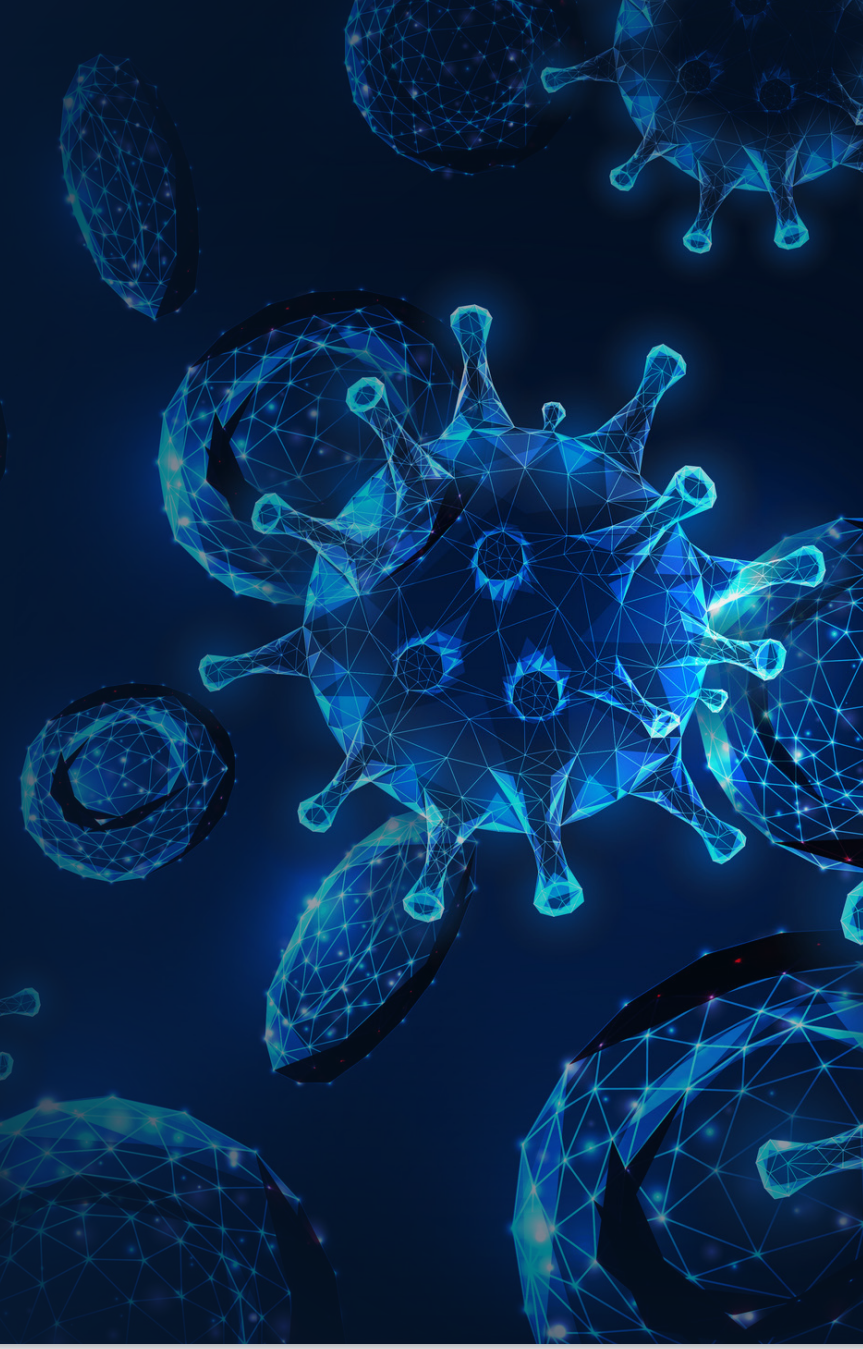
## Operational Excellence

This involves automating processes to improve reliability and responsiveness for customers who need timely outcomes

3

## Data Monetization

The impact that data has on new products and services, when the right insights are applied at the right time versus via rear-view reporting



Source: IDC COVID Survey Wave 3, 1st May (Weighted) n=149

# Looking Inwards: Opportunities for Transformation

## DevOps

We can expect a shift in the monitoring and responsibilities of DevOps teams, as cloud-native technologies become more widely adopted. Application development teams will need to broaden and extend their skills to drive more fluidity and consistency across the development stages.

## Customer and Employee Experience

There are signs of previously siloed customer journey activities and systems. Conventional practices such as sales funnel management will be replaced by customer journey management. True customer centricity as a source of strategic competitive advantage takes hold in the enterprise.

## Cybersecurity and Trust

User behavioral analytics (UBA), powered by AI and machine learning (ML), provides a security analytics layer. This layer automatically creates individual profiles of devices/users and establishes statistical baselines from normal behaviors. Manual activities related to cybersecurity must be diminished to tackle the most malicious threats.

## Intelligent Automation

The next five years promise significant change, especially when it comes to organizational structure, alignment of jobs with roles, and a shift to a more elastic and dynamic workforce. Intelligent automation is now a strategic priority as reliability and responsiveness are needed in both business operations and IT operations.

## Data-Driven Business

Enterprises that can achieve "economies of intelligence" by ensuring that everything they do with data is aligned with business goals will have a competitive advantage. Data management, integration, analytics, and AI are not an end in themselves, but will have a lasting impact on digital innovation and the enterprise's future.

# Enterprise IT Strategic Priorities

The current crisis has accelerated digital transformation plans, specifically those around moving applications to the cloud, investing in more automation and AI technologies, and improving risk and compliance outcomes. These newly important priorities are expected to change the way organizations operate and how they rely on digital technologies.

We will move data and applications to the cloud more aggressively

41%

We will drive faster investments in automation of key business processes

41%

We will implement more agile IT contingency processes and plans focused on risk aversion

41%

We will make changes to our IT security strategy or systems

39%

We will expand our use of AI and other tools for real-time business performance monitoring

38%

Source: IDC COVID Survey Wave 3, 1st May (Weighted) n=149

# Country Developments: ANZ and ASEAN

## Indonesia

**One Data Indonesia** (signed by President Jokowi in June 2019), puts the spotlight on the increased importance of data in government strategy. This could have a ripple effect on enterprises in the country, too.

## Malaysia

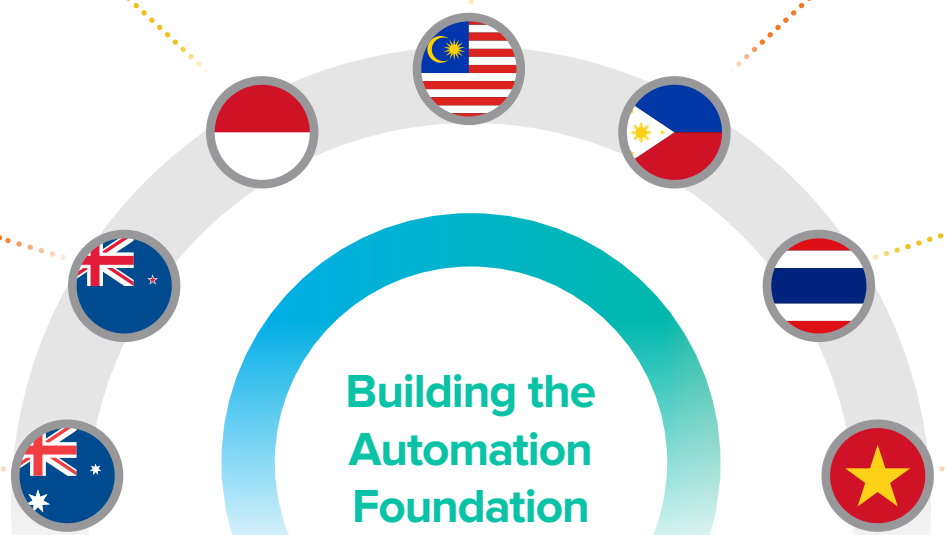
Increasing openness to spending on automation and business process transformation, including the development of mobile and customized applications.

## Philippines

The government has been taking the lead in digitalization with the e-government master plan, and the **National Government Data Center** and **Smart Cities** initiatives.

## New Zealand

With higher IT spending being led by the line of business, challenges remain around unstructured procurement, leading to inconsistent technology deployment and integration issues. Intelligent process automation and cloud-based integration solutions are expected to play a larger role in solving these problems.




## Thailand

Thailand aims to achieve six key long-term goals ranging from digital infrastructure build-out to building trust and confidence in digital technologies through legislation and policies with the **National Digital Economy Plan** (2017-2036).

## Australia

Development of the **2020 Cyber Security Strategy**, which replaces the 2016 Strategy, is currently taking place. The new Strategy is expected to receive significant funding and sets the foundation for enhanced trust for digital activities.

## Vietnam

Vietnam **Resolution 17/NQ-CP** (March 2019) outlined the development of key agendas such as the restructuring of government department and ministry IT infrastructures through a combination of centralized and distributed cloud models.

**Foci for next 18 months**

Cost optimization

Big data and analytics

ANZ - Australia and New Zealand

ASEAN - Association of Southeast Asian Nations

Source:
1. IDC Research
2. IDC Asia/Pacific Software Survey, May 2020, N=969

# Country Developments: North and South Asia

## India

Government initiatives such as **Digital India** and **Smart Cities** accelerate infrastructure modernization as well as the adoption of cloud, AI/ML, and robotic process automation (RPA) across enterprise segments and verticals, especially in the banking, financial services, and insurance; telecom; and manufacturing sectors.

## Japan

The government's recent initiatives include:

- Implementation of AI in the public, healthcare, and education sectors
- IT investments to facilitate remote working and work-from-home arrangements, due to a workstyle transformation bill which took effect in April 2019
- US$3.7 billion pumped into the GIGA School project to provide digital-based education to junior high and high schools, which will continue until 2021

## Hong Kong

More organizations, especially in the finance and public sectors, are adopting hybrid IT and moving core workloads to the cloud, due to the easing of governance, regulation, and compliance (GRC) requirements and more guidelines on cloud services.

## South Korea

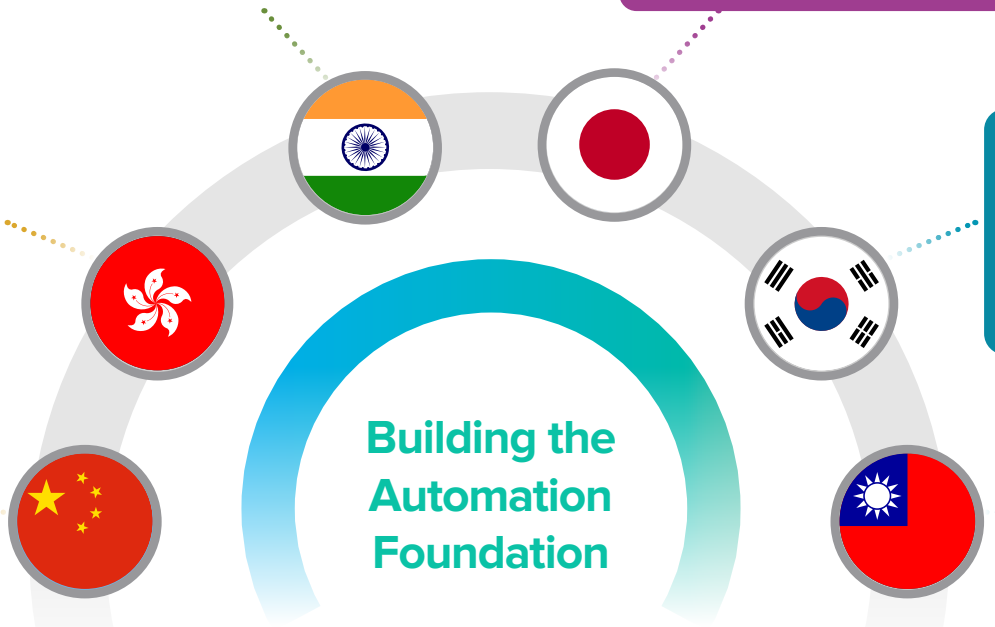
Government deregulation and a move towards digital transformation (DX) has resulted in:

- A gradual increase in emerging technologies such as Internet of Things (IoT) and AI in the public and financial sectors
- Industry convergence opportunities such as in digital health and insurance

## China

Digital transformation is still a priority in China:

- Organizations are adopting emerging technologies like IoT and robotics to remain competitive
- Main areas of spending are in application development and migration, as well as infrastructure modernization



## Taiwan

Signs of rising data-driven efforts and the use of IoT in manufacturing:

- PCB manufacturers leverage analytics to improve the accuracy of automatic optical inspection defect detection systems
- Gaming companies use analytics to alert them when they lose a member
- Banking continues to leverage AI for anti-money laundering

**Building the Automation Foundation**

**Foci for next 18 months**

- Big data and analytics
- Modernizing enterprise applications for cloud
- Integrating application and data silos
- Workflow transformation

Source:
1. IDC Research
2. IDC Asia/Pacific Software Survey, May 2020, N=969

# Country Developments: EMEA

## United Kingdom

The UK is lagging far behind its international competitors in the adoption of automation. Several reasons why the country's productivity growth has been slow: management doesn't recognize the potential of automation, a lack of digital skills in parts of the workforce, and business environments where new technology does not coalesce with existing practices.

The UK's 2021 priorities will be:

- Connectivity programs to connect workforce, operations, and partners
- Software development capabilities to drive product/experience innovation

## Spain

Spanish companies that experimented with reasonable economic expansion threw out existing strategies, rapidly adapted their business models, and took all necessary measures to survive the downturn. Spain, which is facing high unemployment rates, could use this downturn as an opportunity to remain on track to recovery.

In March 2019, Spain's Ministry of Science, Innovation, and Universities published the **RDI Strategy in Artificial Intelligence**, which established a series of priorities and policy recommendations to create the appropriate ecosystem for the development and application of AI technologies. Automation plays a crucial role here.

Spain's 2021 priorities will be:

- Software development capabilities to drive product/experience innovation
- Data programs to gain insights into business operations, products and/or ecosystems
- Customer experience programs

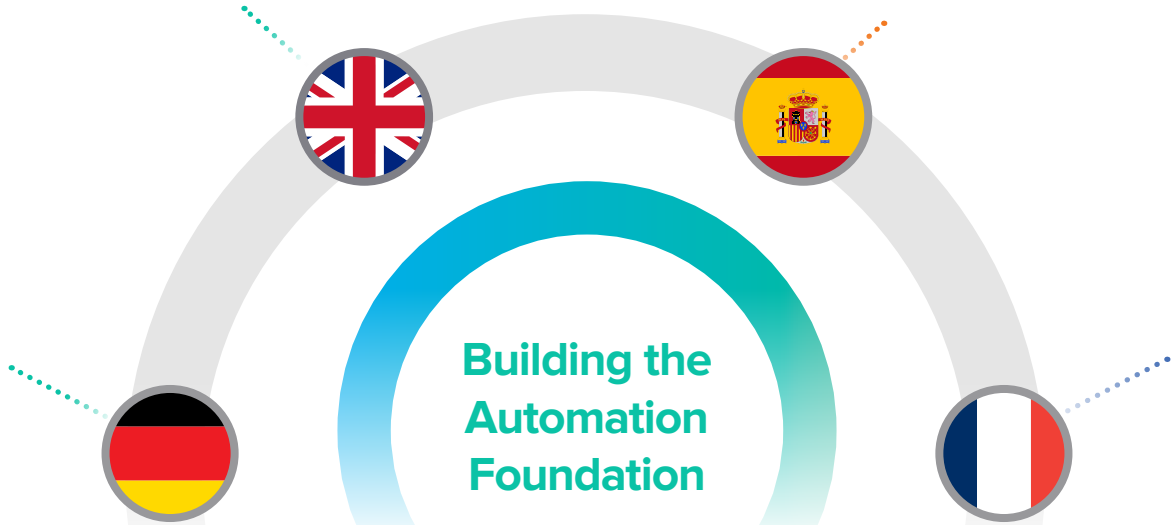
## Germany

Germany plays a key role in automation, both in the European Union (EU) and from a global perspective. COVID-19 has put the automation strategies of the country under pressure.

Germany's 2021 priorities will be:

- Business operations resiliency
- Digital infrastructure resiliency
- Software development capabilities to drive product/ experience innovation

Germany is also involved in the transformation of industrial processes through the cooperation between the Plattform Industrie 4.0 and other national programs (i.e., in Italy and France).




## France

Automation is at the heart of Industry 4.0. The French government decided in 2018 that automation would be one of the axes used to enhance the French industrial competitiveness. The strategy includes support for **investment in robotics and digital transformation**, and the creation of a **regional acceleration platform for industrial technologies**.

France's 2021 priorities will be:

- Software development capabilities
- Workplace transformation
- Customer experience programs

France is also involved in the transformation of industrial processes through the cooperation between the Alliance for the Industry of the Future (AIF) and other national programs (i.e., in Italy and Germany).

**Foci for next 18 months**

Data management | Security | IT operations

EMEA = Europe, Middle East, and Africa

Source:
1. IDC Research
2. IDC EMEA, COVID-19 Impact Survey Europe, Internal, Wave 11: August 21 - August 31, 2020

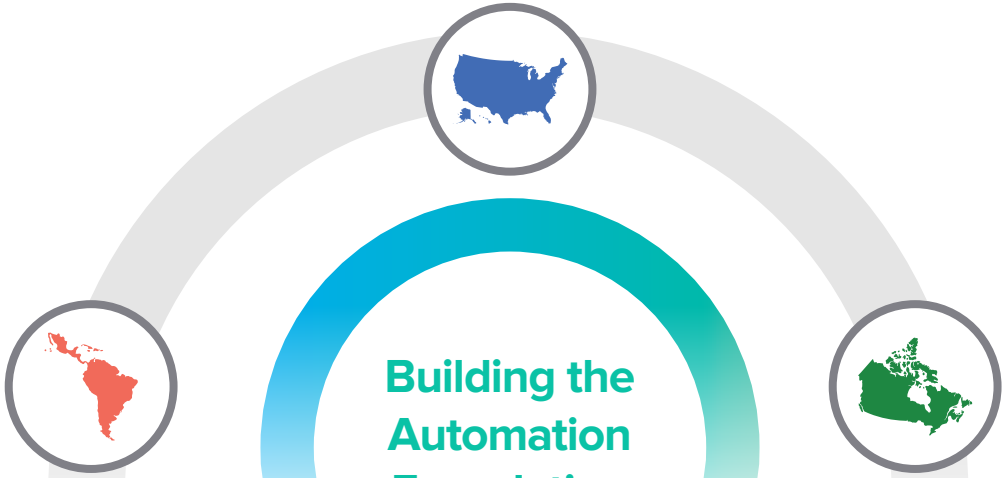
# Country Developments: The Americas

## United States of America

After years of ups and downs with digital transformation initiatives, the U.S. has arrived at a tipping point where it can see the digital economy emerging on the horizon. The execution of digital transformation strategies has gained momentum, and, despite current circumstances, is seen as a "must do" in order to build resiliency for the enterprise. In some enterprises, the data generated from products, services, experiences, and ecosystems has been informing and driving intelligent automation of processes for operations, work, and customer outcomes.

## Latin America

Before the pandemic, top business initiatives driving IT investments for 2020 were productivity increase and cost reduction. CIOs recognize the need for and importance of automation across their technology and business architecture. Many business and technology executives are investing in the retraining and relocation of staff who use automation tools, while improving on the efficiency and productivity of teams. It's a journey that focuses on empowering and promoting teams with new automation-related skills and capabilities to do more with less and is not about reducing headcount.




## Canada

Canadian companies, which are maturing in their adoption of Agile, have been gaining the internal capabilities needed to drive more automation outcomes in support of business strategies. For example, the Canadian government is considering adopting more agile, automated capabilities for project procurement to speed faster completion of critical projects across the nation.

Source:
1. IDC Research
2. IDC IT Investment Trend LA Survey Jan 2020, n=440

# Intelligent Operations Capabilities Need to be Forward-Looking

Operational capabilities can be augmented by rules-based algorithms that leverage AI and ML in order to drive a magnitude of efficiencies that cannot be done with labor-based models of the past.


*"So far, priorities have focused on historical events, for example, visualization and root cause analysis, but there needs to be more applicability for predictive outcomes."*

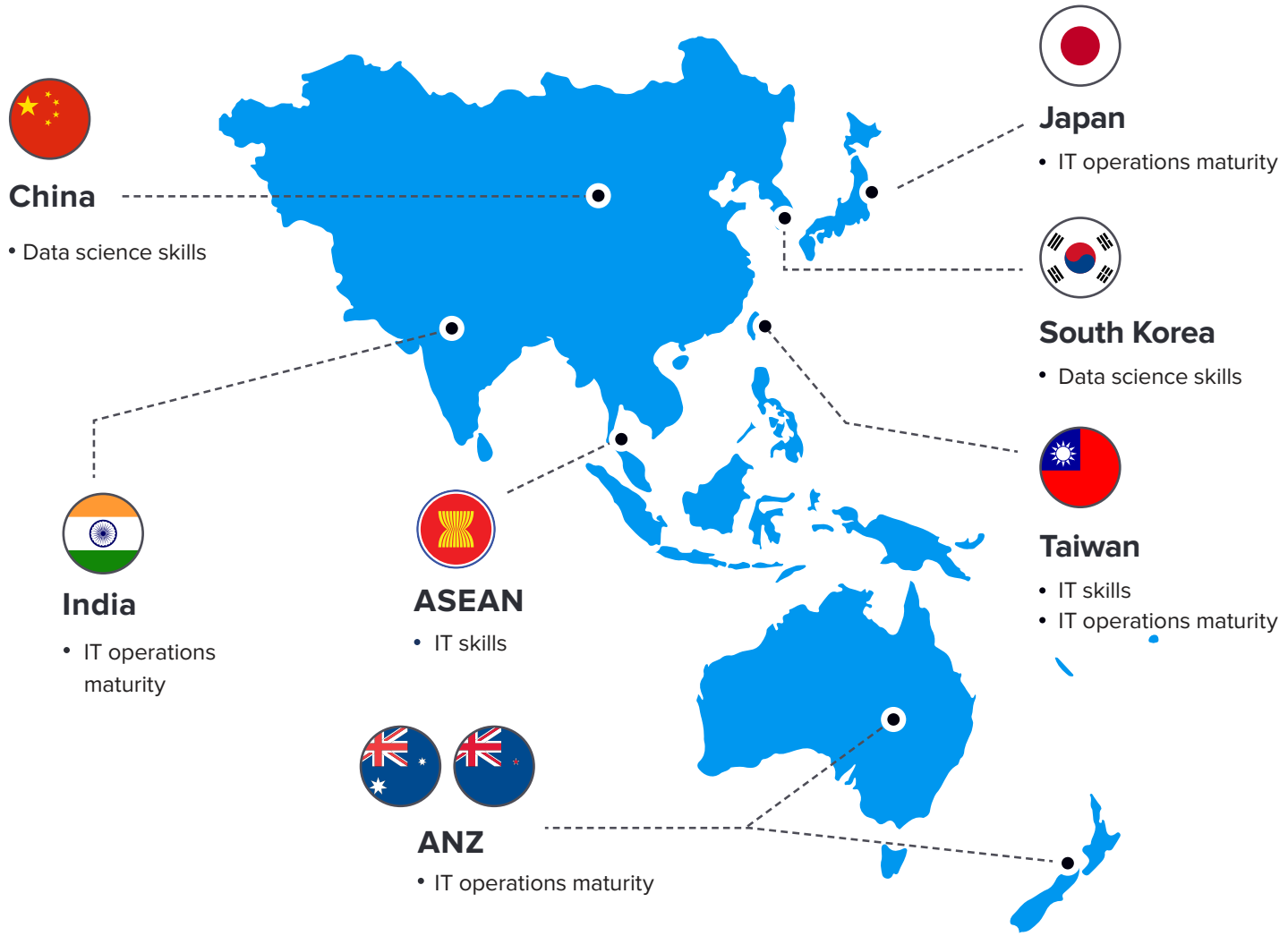
**Linus Lai**
Vice President,
Software and Services Research Group,
IDC Asia/Pacific

Source: IDC Asia/Pacific Services Survey, May 2020, N=913

# Key Challenges to Automated Operations: Asia/Pacific and Japan

Differing challenges by geography highlight the complexity of the problems.

Key challenges remain and are not always tied to software tools; they are actually tied to managing a changing culture and attitude towards automation and the availability of good data, processes, and skills to ensure automation is governed well.




Source: IDC Asia/Pacific Services Survey, May 2020, N=913

# Key Challenges to Automated Operations: EMEA

Differing challenges by geography highlight the complexity of the problems.

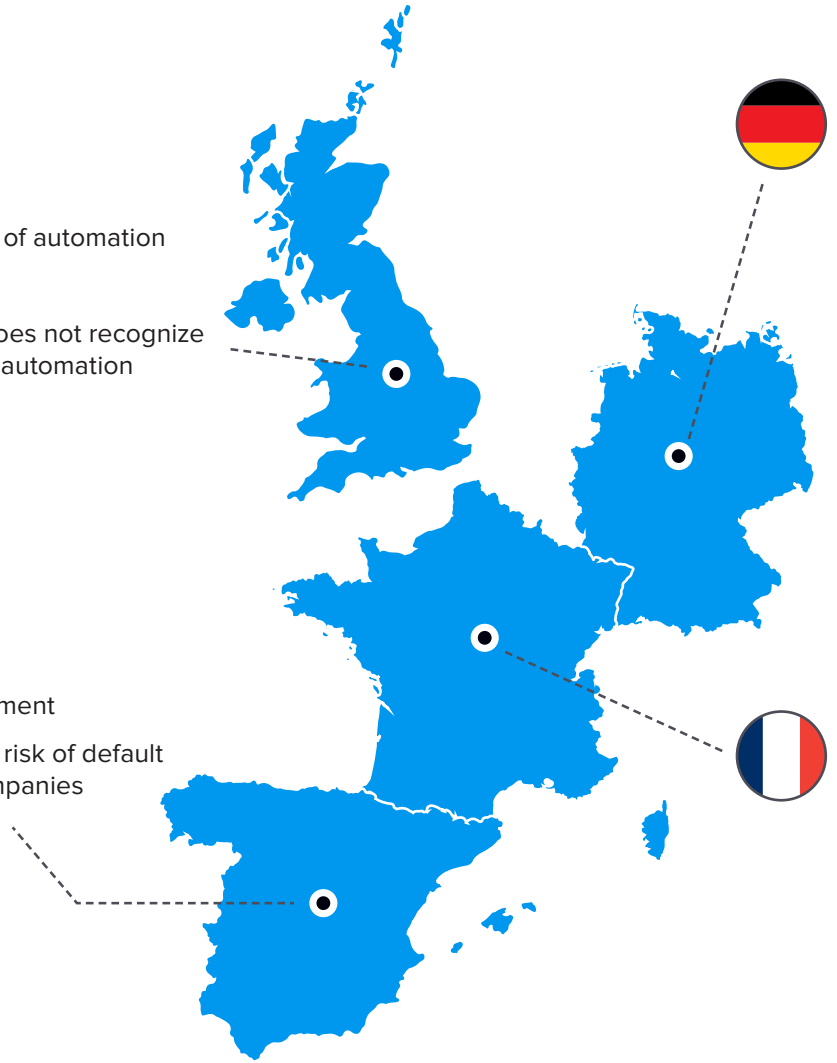
Key challenges are related to an accelerating demand for technological skills. Jobs could face substantial change in how they are being carried out. Innovation platforms will be key to supporting workforce culture transformation, with engagement and motivation through continuous learning opportunities.

### UK

- High initial cost of automation
- Uncertainty
- Management does not recognize the potential of automation

### Spain

- High unemployment
- Potentially high risk of default for Spanish companies



### Germany

- Difficulty in acquiring know-how
- Necessity to make structural changes
- Lack of innovation within the German economy

### France

- Common belief that automation creates unemployment
- Time and costs related to automation

Source: IDC Europe, Nov 2020

# Key Challenges to Automated Operations: The Americas

Differing challenges by geography highlight the complexity of the problems.

The challenges for automated operations for the USA, Canada, and Latin America include visibility into application dependencies that increasingly span multiple clouds, the ability to manage classic and modern cloud architectures, and having a common automation strategy across multiple teams (DevOps, development, IT operations, cloud COEs, infrastructure platform engineers, etc.).

### USA

- Self-service provisioning at scale (infrastructure as code)

### Canada

- Multicloud management visibility
- IT skills gap

### Mexico

- Data science skills
- IT operations
- Maturity for hybrid cloud

### Brazil

- IT operations
- Maturity for hybrid cloud
- Data science skills

### Rest of Latin America

- IT skills transfer
- IT operations maturity
- Data science skills

### Argentina

- IT skills transfer

Source: IDC Americas, Nov 2020

# Industry Use Cases

Each industry will need to determine the outcomes that it has in mind, as intelligent automation and operations expand in priority. The following common strategic priorities are categorized per industry and each are key to your enterprise-wide transformation.

## Banking

- Omni-Experience Customer Engagement
- Next-Generation Payments
- Connected Corporate Banking
- Digital Trust and Stewardship
- Efficiency and Agility
- External Ecosystems

## Communications Service Provider

- Omni-Experience Customer Engagement
- Operational Scale & Agility
- Omni-Channel Commerce
- Digital Supply Chain Optimization
- CSP Platform Availability

## Federal Government

- Civic Engagement
- Modernized Security/ Justice
- Data-Driven Services
- Revenue/Monetary Management
- Sustainable Energy and Resources
- Intelligent Transportation

## Utilities

- Connected Assets
- Connected Customer
- Digital Grid
- Next-Gen Safety

## Retail

- Omni-Channel Commerce
- Omni-Channel Customer Experience
- Digital Supply Chain Optimization
- Operational Scale and Agility
- Curated Merchandise Lifecycle Management

Source: Planning for Enterprise-wide Transformation — Future Enterprise Planning Guide, Oct 2019, Doc #US45555219

# Conclusion

- **The Future Enterprise** value chain will no longer depend solely on best-in-class functional operations, but on competencies that encourage digital innovation, cybersecurity, and automation
- Agile and DevOps teams have a large role to play and will leverage even more software capabilities to **automate the development of lifecycle and IT operations**
- **Intelligent assistants** will live among us to increase the speed and reliability of work and tasks
- **IT security does not operate in a silo**, but in lockstep with a business use case or metric that enhances trust outcomes
- Basic automation is just a start; Future Enterprises will grow in knowledge and skills to embrace **advanced orchestration and event processes through AI/ML**
- **Data pipeline process excellence** will help businesses discover and analyze where data comes from, how data flows in support of business operations and strategic decisions, and how data is transformed and ultimately consumed

> *"Software-based automation and innovation lets organizations create evocative customer experiences, obtain intelligence, and create platforms for future products and services."*
>
> **Linus Lai**
>
> Vice President,
> Software and Services
> Research Group,
> IDC Asia/Pacific

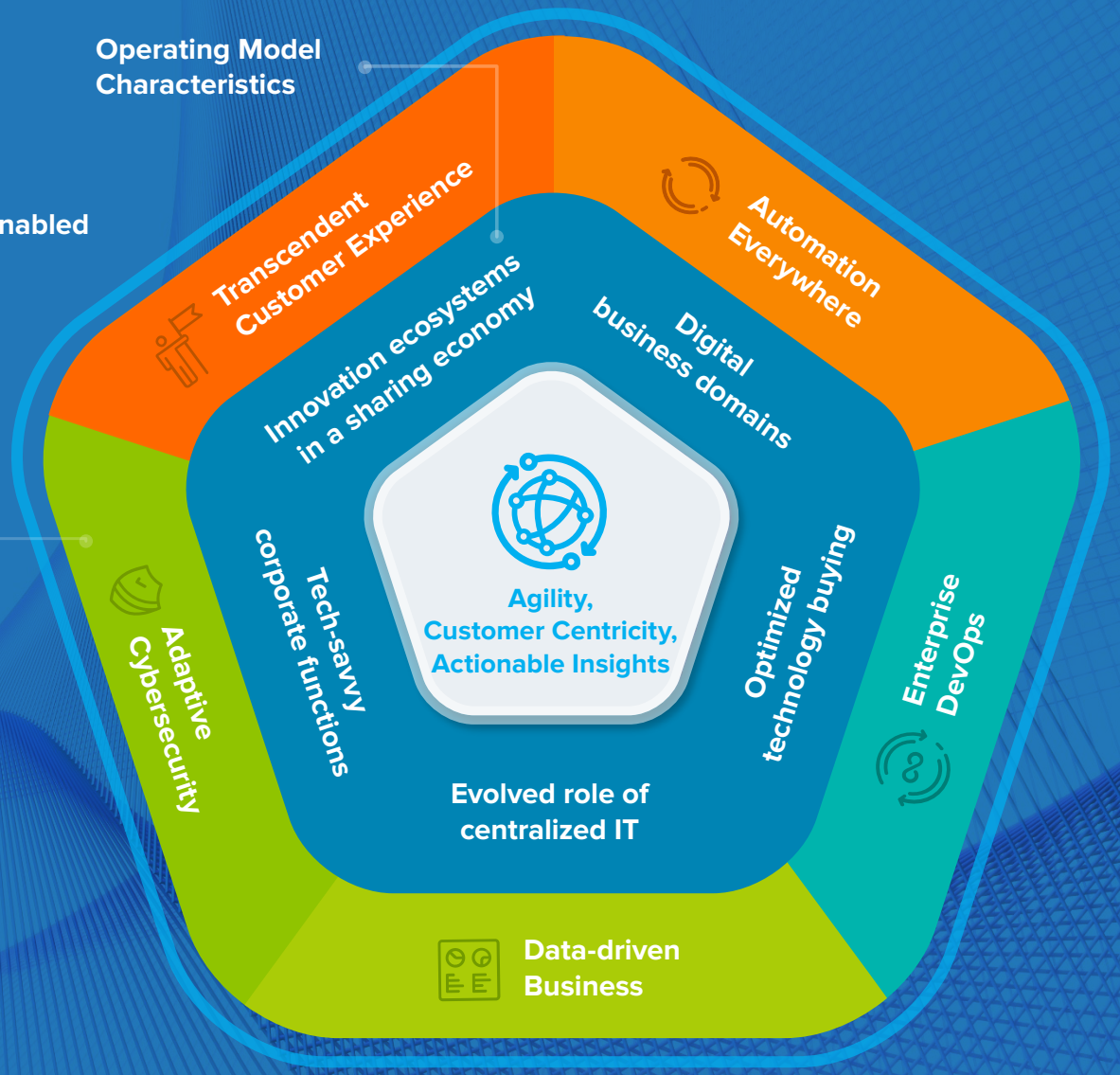
Message from the Sponsor

# Autonomous Digital Enterprise

Every company will be a tech-driven company by 2025, aspiring to evolve to an Autonomous Digital Enterprise

## Start or accelerate your journey with BMC

| | | |
|---|---|---|
| **BMC Helix** | The end-to-end, intelligent service and operations software-as-a-service (SaaS) platform that offers choice and flexibility. | Supports:<br>1. Transcendent customer experience<br>2. Automation everywhere<br>3. Enterprise DevOps |
| **TrueSight** | Intelligent IT and cloud operations for a more agile enterprise that delivers fast, secure, and cost-effective services. | Supports:<br>1. Automation everywhere<br>2. Enterprise DevOps |
| **Control-M** | Application workflow orchestration and automation to transform your business and accelerate IT modernization. | Supports:<br>1. Automation everywhere<br>2. Enterprise DevOps<br>3. Data-driven business |




Learn more about ADE and how you can transform your enterprise to a digital enterprise. Please visit: **http://www.bmc.com/ade**

bmc