Government transformation in tumultuous times
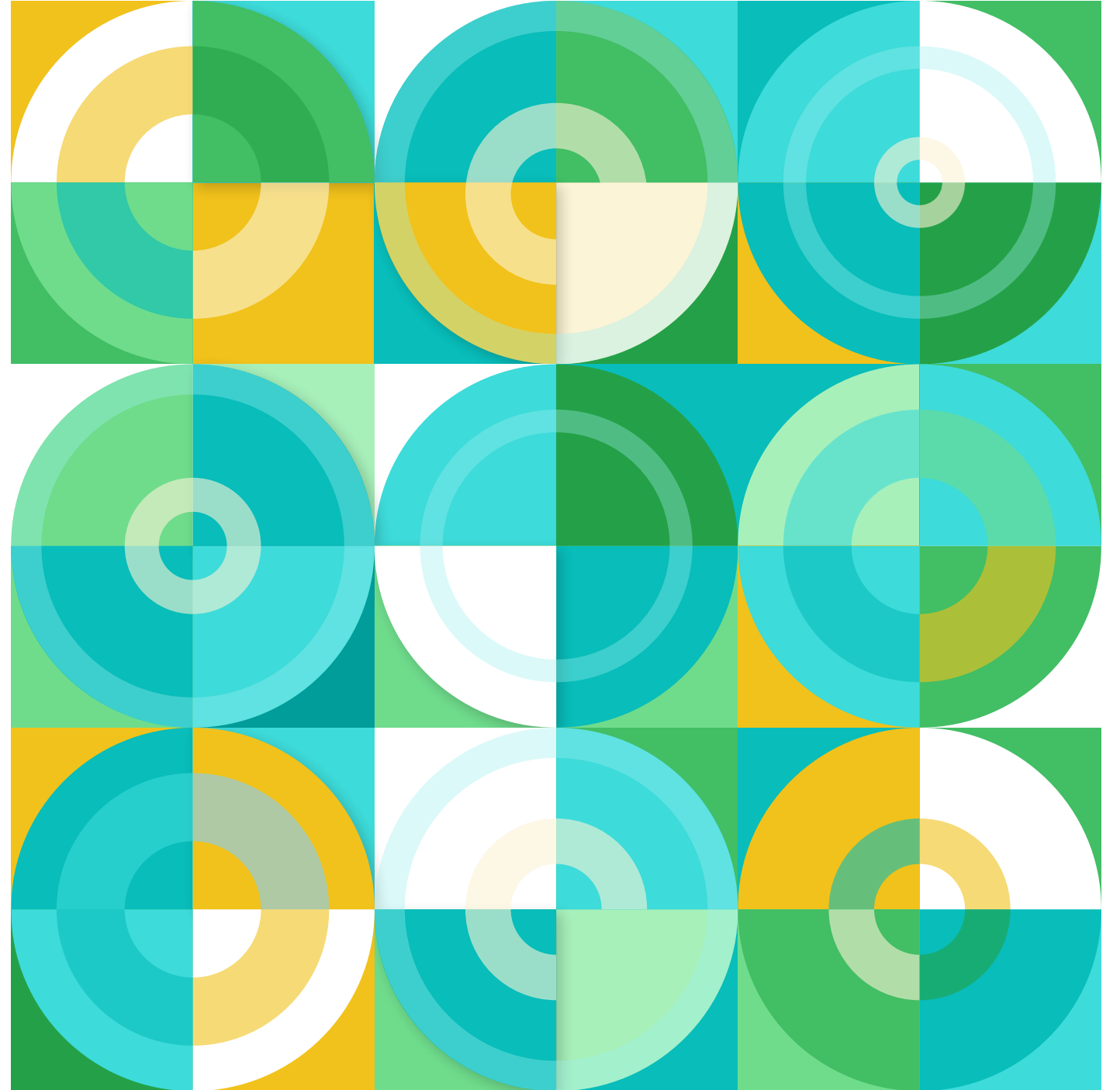
5 strategies to emerge stronger and more resilient

In collaboration with

IBM Center for
The Business of Government

A time for urgent action

In the face of economic volatility, extreme weather events, and rapidly shifting demographics, the demand for public services has skyrocketed. The chasm between what citizens need and what governments can provide has widened.

Trust in public organizations is also on the decline, continuing a trend we've seen for decades.[1] In 2022, only half (52%) of citizens trust their governments globally, according to Edelman.[2] The Organisation for Economic Co-operation and Development (OECD) has measured a similar level of trust (51%) across its 38 member countries.[3]

In response to massive disruption, government leaders have had to act quickly and decisively to show citizens they're capable of navigating crisis and change. For example, when COVID-19 emerged as a global threat, governments had to roll out new programs almost overnight, while also creating and enforcing public safety protocols. And not every government was prepared to scale.

Public organizations that were still in the early stages of digital transformation had to prioritize IT investments to facilitate new public services and keep essential workers online—and much of that work is ongoing. In 2022, Gartner predicts global government IT spending will grow 6.5% to $557.3 billion. That figure is up roughly $100 billion over 2020.[4]

How will government organizations need to evolve in the wake of this tech transformation? Where do they have opportunities to strengthen public trust? To gain a better understanding of how governments can succeed in a time of upheaval, the IBM Institute for Business Value (IBV) worked with the IBM Center for The Business of Government (CBG) to host the Gov 2025 Jam in November 2021.

In an open forum held over 2 days, hundreds of public and private sector leaders brought their perspectives, ideas, and expertise on what it will take to protect, support, and empower citizens in an uncertain future (see "Inside the Gov 2025 Innovation Jam" on page 19).

"We essentially saw 10 years of innovation in 2 years. The key now is to maintain the momentum and pace of innovation."

Participants from 6 continents and 52 countries came together to identify innovative solutions to persistent public sector problems, not just those highlighted by COVID-19. Jammers discussed how to modernize government operations, empower and develop talent, and keep public data and systems secure. They also highlighted the importance of transparency, ethics, and sustainability in every aspect of government work.

The expert opinions and solutions Jammers presented were complex, but their overall sentiment was positive—79% positive according to IBM Watson® Natural Language Understanding. While they were concerned about the challenges in front of them, they demonstrated a hopeful outlook on what could be achieved, especially with the right blend of principles, technology, and leadership.

"Government leaders surprised even themselves by how fast they could move when under pressure," said one Jammer. "We essentially saw 10 years of innovation in 2 years. The key now is to maintain the momentum and pace of innovation."

What will it take to get there? While each country comes with its own unique challenges and constraints, the IBV and the CBG have analyzed the conversations from the Jam to identify 5 urgent issues that government organizations must address to continue the steady march of progress:

1	Scale services while prioritizing user experience
2	Achieve sustainability goals through collaboration
3	Empower the workforce of the future
4	Modernize cybersecurity
5	Develop ethical data and technology practices
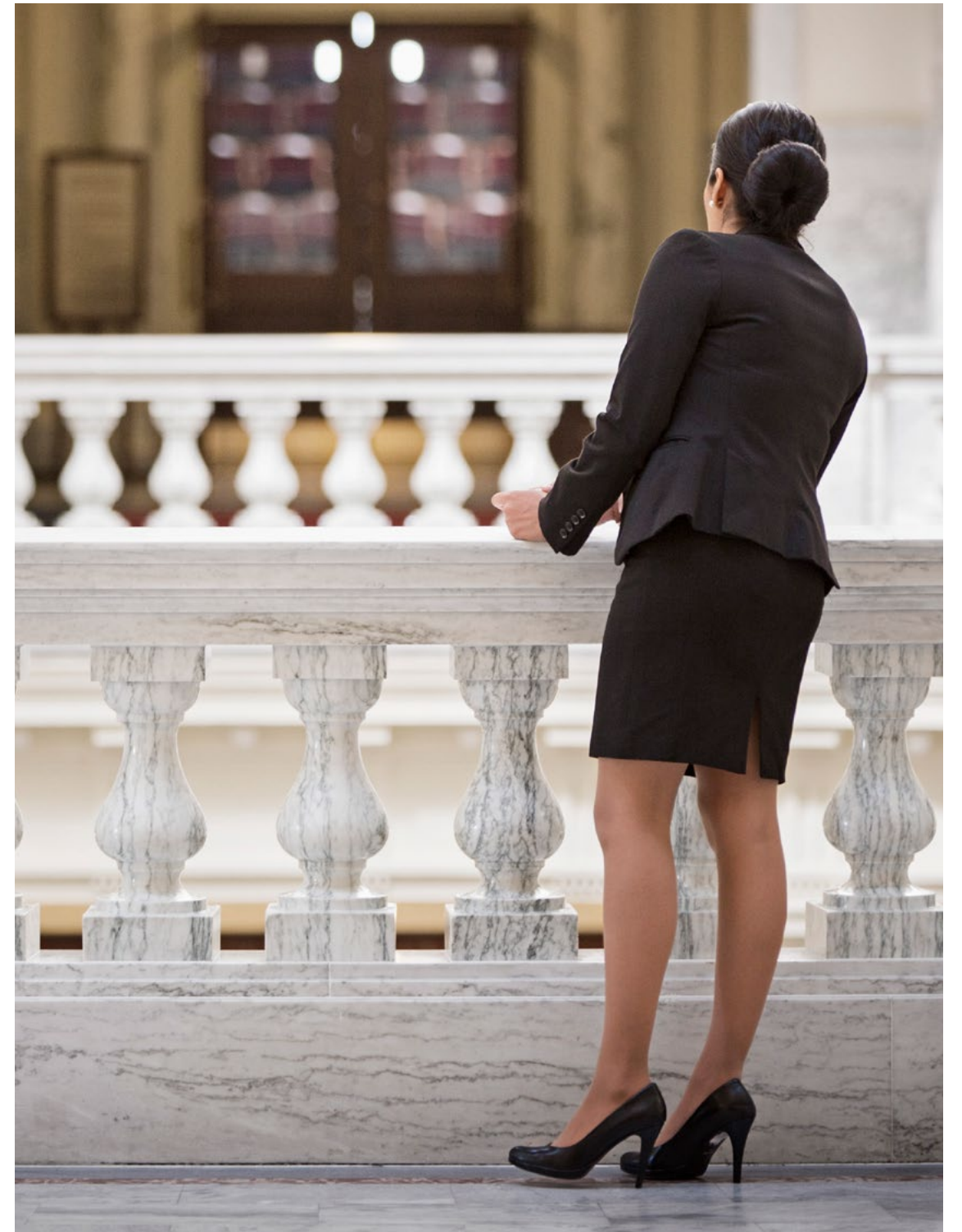
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1. Scale services while prioritizing user experience

Governments exist to serve the people. They must deliver what citizens need—when they need it—to keep society running smoothly. Especially in times of crisis, government organizations are often the last line of defense against economic hardship for vulnerable populations.

To protect their people in an emergency, government organizations need to be able to scale services quickly—but speed and responsiveness are not historically the public sector's strong suits. "When there are failures, governments put added rules, checks, balances, policies, and standards in place in an attempt to learn lessons and rebuild trust," said one Jammer. "The cumulative burden can slow delivery of government services."

While rules and processes are necessary to help governments operate fairly and legally, there are plenty of opportunities for public organizations to pick up the pace. For example, the National Academy of Public Administration's Agile Government Center provides guidance to help them find ways to work faster and more effectively using agile government principles.[5]

Not every government organization can use agile methods, but user-driven design, evidence-based solutions, and iterative workflows can help many agencies and departments improve the outcomes of their policies, regulations, and programs. And producing better results is key to shoring up eroding public confidence.

Jammers speak

"The digital experience is a key to building the broader public trust—and can lead to more engaged citizens who contribute in meaningful ways to advancing the public good."

"There is an amazing amount of legislation integration and, in some cases, relaxation work required to allow the scaling and alignment to enable a [crisis] response which citizens would recognize as adequate and non-discriminatory."

Key findings

only

52%

of global citizens say they
trust their government

and only

42%

of global citizens say they believe
their governments can successfully
deliver results

In 2022, only 42% of global citizens say they expect their governments to successfully deliver results, according to Edelman. In the same vein, only 42% say they trust government leaders.[6] This is concerning, as trust is the foundation for the legitimacy of public institutions and crucial for maintaining social cohesion.[7]

Looking toward a more digital future, investing in the right technology can help government organizations develop the responsiveness, reliability, and openness needed to boost public confidence and trust. During the Jam, leaders from the European Social Network and the American Public Human Services Association led a thoughtful conversation on improving the lives of vulnerable members of society. Jammers highlighted the importance of user experience in serving high-cost, at-risk populations.

"Adaptability to community needs is critical and requires that we leverage community leadership and data sharing, and provide regular forums for citizen input," said one Jammer.

Moving to more flexible systems, such as open hybrid cloud platforms, can enable better collaboration and faster innovation while also helping to provide the security citizens expect. They can enable public organizations to quickly move resources where they're most needed, facilitating swift responses to critical situations.[8]

As private companies, including Amazon, Netflix, and Apple, continue to evolve expectations of digital experiences, governments need to be prepared to keep up. "The digital experience is a key to building the broader public trust," one Jammer said. "And it can lead to more engaged citizens who contribute in meaningful ways to advancing the public good."

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Jammers speak

"When government systems that citizens use to interact with their governments are visibly less reliable and less competent than those we experience each day in dealing with the private sector, trust is eroded."

"Communities had to fill in the gap where public services could just not reach during the pandemic. We should prepare social services to be more resilient in the future while also nurturing the community initiatives that can drive meaningful change."

Take action

Integrate technologies that make it possible to scale public services faster in times of crisis.

Adopt agile government principles and processes to make public organizations more responsive to citizen needs and more capable of handling surges in demand for services.

Create digital user experiences that increase public confidence in the competence of government organizations.
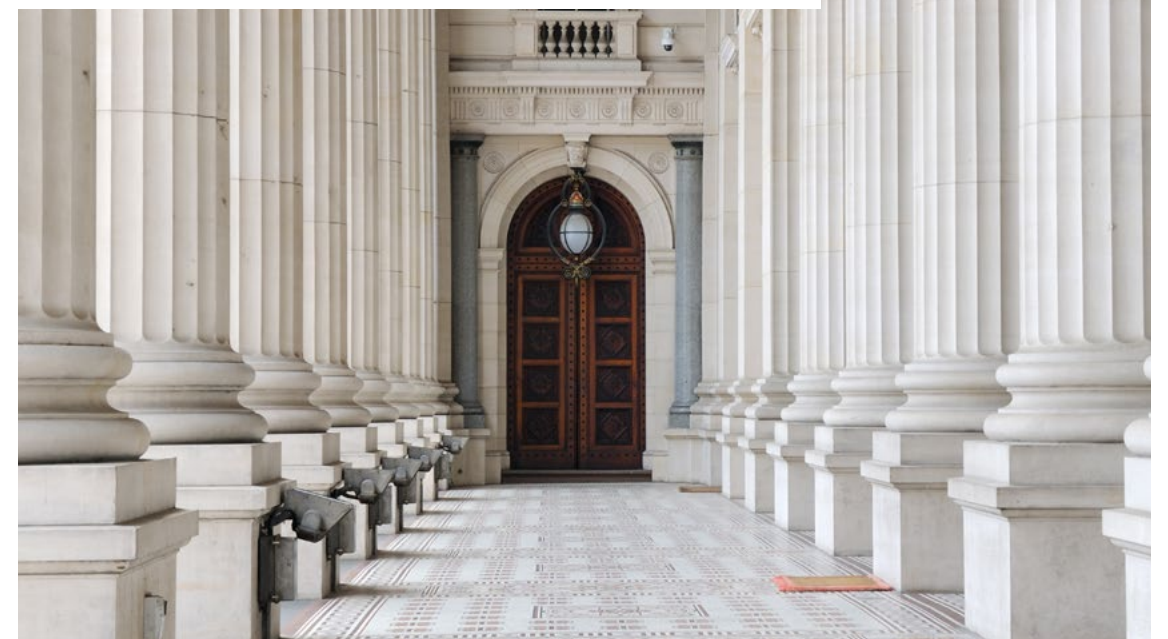
2. Achieve sustainability goals through collaboration

Governments need to make fast progress toward sustainability targets to manage a host of existential threats.

Over the next decade, 8 of the top 10 global risks identified by the World Economic Forum (WEF) are environmental or societal, with climate action failure, extreme weather, and biodiversity loss topping the list.[9]

Yet, progress toward sustainability goals has been slow. In fact, recent IBV research found that fewer than 1 in 5 (18%) government leaders said their organization or agency is addressing environmental sustainability initiatives in the way their citizens demand.[10] To make faster, more effective decisions, governments need reliable, real-time environmental data and analytics.

But the necessary data is difficult to come by. Satellite imagery, scientific research, and inputs from millions of IoT sensors all need to be analyzed to set baselines and measure progress toward sustainability goals.[11] And many governments still do not have the technology needed to deliver meaningful insights.

According to the United Nations, only about 1 in 6 countries can provide data to demonstrate their progress toward meeting climate action targets.[12] And recent IBV research found that almost half (49%) of government leaders cited a lack of transparency in their sustainability reporting.[13]

"Transparency and auditability will be the key factors to improve sustainability goals," said one Jammer. "Transparency will create a competitive factor, which will involve digital innovation to stay in the race."

The evolution toward the Virtual Enterprise—the application of next-gen technology at scale— can help governments increase transparency and gain the insights needed to support sustainability.[14] Architectural innovations, such as collecting and processing data at the edge, can help governments quickly measure where targets are being hit and missed—and enforce regulations through regular environmental monitoring.

Jammers speak

"Can transparency be a catalyst for transformation?"

"If we make environmental data accessible and share it widely, we can break down barriers to collaboration, highlight areas of common interest, and facilitate open innovation."
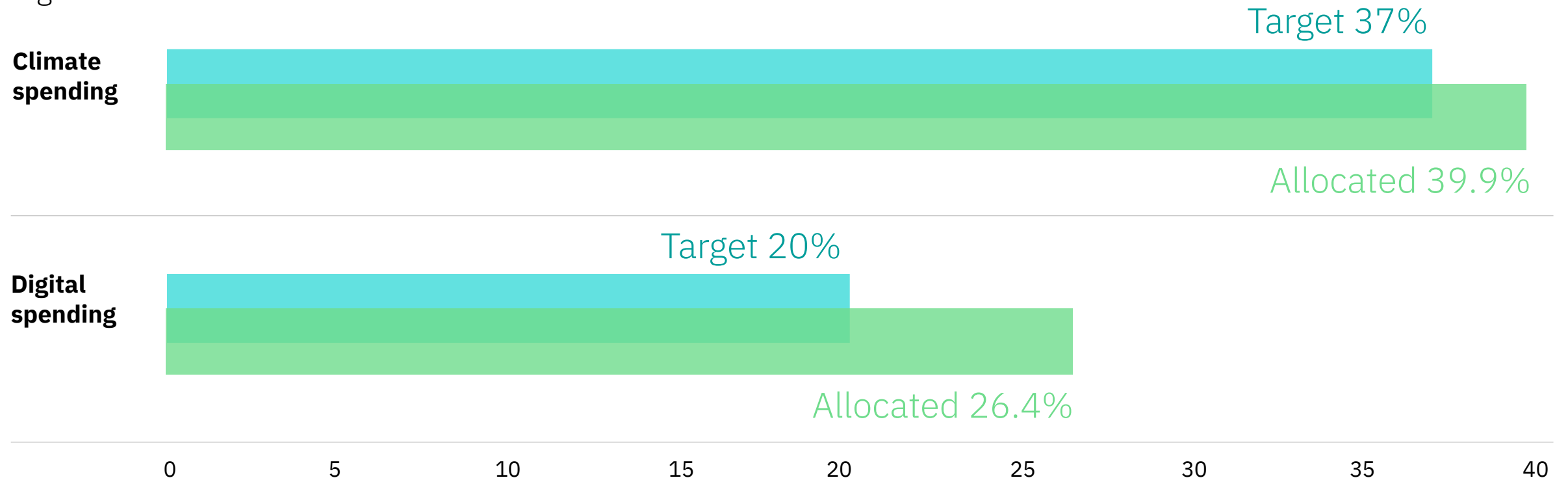
"Progressing carbon capture and sequestration before it's too late requires a faster discovery process."

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FIGURE 1

Parallel transformations

EU countries have exceeded budget targets for
digital transition and climate action

Source: European Commission, Recovery and Resilience Facility

Next-gen technologies can also enable the programs, partnerships, and ecosystems required to solve the world's biggest problems.[15] For example, the European Council has set a goal for the EU to become climate neutral by 2050.[16] To meet that goal, the EU's 27 countries must meet specific targets in 8 key areas, including renewable energy, greenhouse gas removal, and energy taxation.[17]

To meet these targets, while also helping European economies grow, the European Commission rolled out a €723.8 billion program in 2018 that pairs climate action with digital transition. As part of the program, member states agreed to allocate a minimum of 37% of the funding they received to climate spending and 20% to digital spending—and the

member nations have submitted budgets that surpass those targets. In 2022, states had allocated 40% of spending to climate initiatives and 26% to digital transitions (see Figure 1).[18]

Open innovation, powered by digital platforms, can enable the rapid discovery needed to preserve the planet for future generations. For example, capturing and reusing atmospheric carbon dioxide at a scale large enough to slow climate change requires new materials and processes—and dismantling data silos can speed innovation and discovery.[19]

The right digital platforms can also encourage more engagement among citizens, businesses, and the government agencies responsible for enacting environmental policies. A collaborative and inclusive dialogue is needed to drive behavior changes that can build a more sustainable future. "If we make environmental data accessible and share it widely, we can break down barriers to collaboration, highlight areas of common interest, and facilitate open innovation. It can also help harness the collective intelligence of communities, and private and public sector actors," said one Jammer.

Jammers speak

"When [stakeholders] know or feel their best interest is in mind, they will then trust and engage in new ways through shared insight."

"Transparency and auditability will be the key factors to improve on sustainability goals."

Take action

Set specific sustainability targets and use technologies such as edge computing to derive insights from environmental data in near real-time.

Make data accessible and digestible to increase transparency and build public trust.

Collaborate with partners and citizens across sectors and communities by adopting digital platforms that enable open innovation.

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3. Empower the workforce of the future

The pandemic hit the global workforce with a one-two punch. As lockdowns shuttered some businesses and forced others to go remote, new ways of working rapidly emerged.

Next-gen technologies were ramped up to help organizations adapt—and employees across sectors were asked to elevate their technical acumen.

At the same time, the physical and emotional toll caused many skilled workers to reevaluate their professional lives. Especially in the US, workers have become less willing to cling to stressful, unfulfilling jobs.[20] American workers left their positions in record numbers throughout 2021[21]—and 59% of local government heads say hiring has become more difficult since the start of the pandemic.[22] This trend extends globally, as well. Of the 20 million people out of work across the OECD's 38 member countries, 14 million are not currently seeking work.[23]

To keep the global economy running, governments need to empower the workforce on multiple fronts—including supporting people whose jobs are at risk due to ongoing digital transformation. According to the latest Future of Jobs Report from the WEF, 43% of businesses say they're set to reduce their workforce due to technology integration—compared to just 34% that plan to expand to make the most of new tech.[24]

Jammers speak

"Hiring and promoting diverse talent is not enough. Workplace experiences and culture influence employees to feel safe and thrive within an organization."
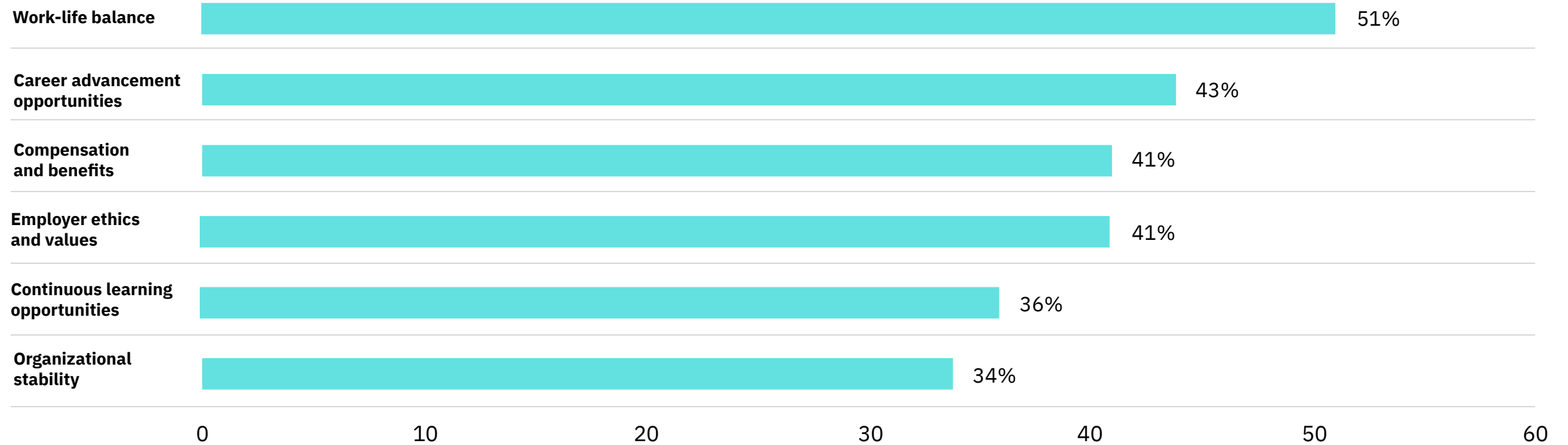
"Most government hiring and training processes still rely on 20th century models. Government should partner with gig firms to provide term contract hires in key areas."

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FIGURE 2

Workers want it all

Employee expectations extend
well beyond compensation

Work-life balance	51%
Career advancement opportunities	43%
Compensation and benefits	41%
Employer ethics and values	41%
Continuous learning opportunities	36%
Organizational stability	34%

Q: What organizational attributes do you think are most important for an employer to engage employees?
Source: What employees expect in 2021, IBM Institute for Business Value

By 2025, however, the WEF estimates that a net 12 million new job roles will be created to accommodate the new division of labor between humans and machines. These "jobs of tomorrow" will likely require new skill sets, which workers must begin developing today. Even for workers who remain in their roles, the WEF expects that 40% of core skills will change—and 50% of all employees will need reskilling.[25]

"Governments can help by better enabling job-to-job transitions, to help workers move from one job to the next with less time out of work," said one Jammer. "And they can help with reskilling and upskilling workers to adapt to change. With greater digital transformation across the economy affecting more workers, this need will only grow."

Some governments are already investing in the workforce transition. In Singapore, for example, the government has rolled out a program to help workers in 5 hard-hit sectors adapt to the changes created by COVID-19.[26] The European Commission has built a coalition of 450 organizations that have pledged to reskill 1.5 million workers across Europe.[27] And in the US, President Joe Biden's administration included a $40 billion job training plan in its recent $2.3 trillion jobs and infrastructure package.[28]
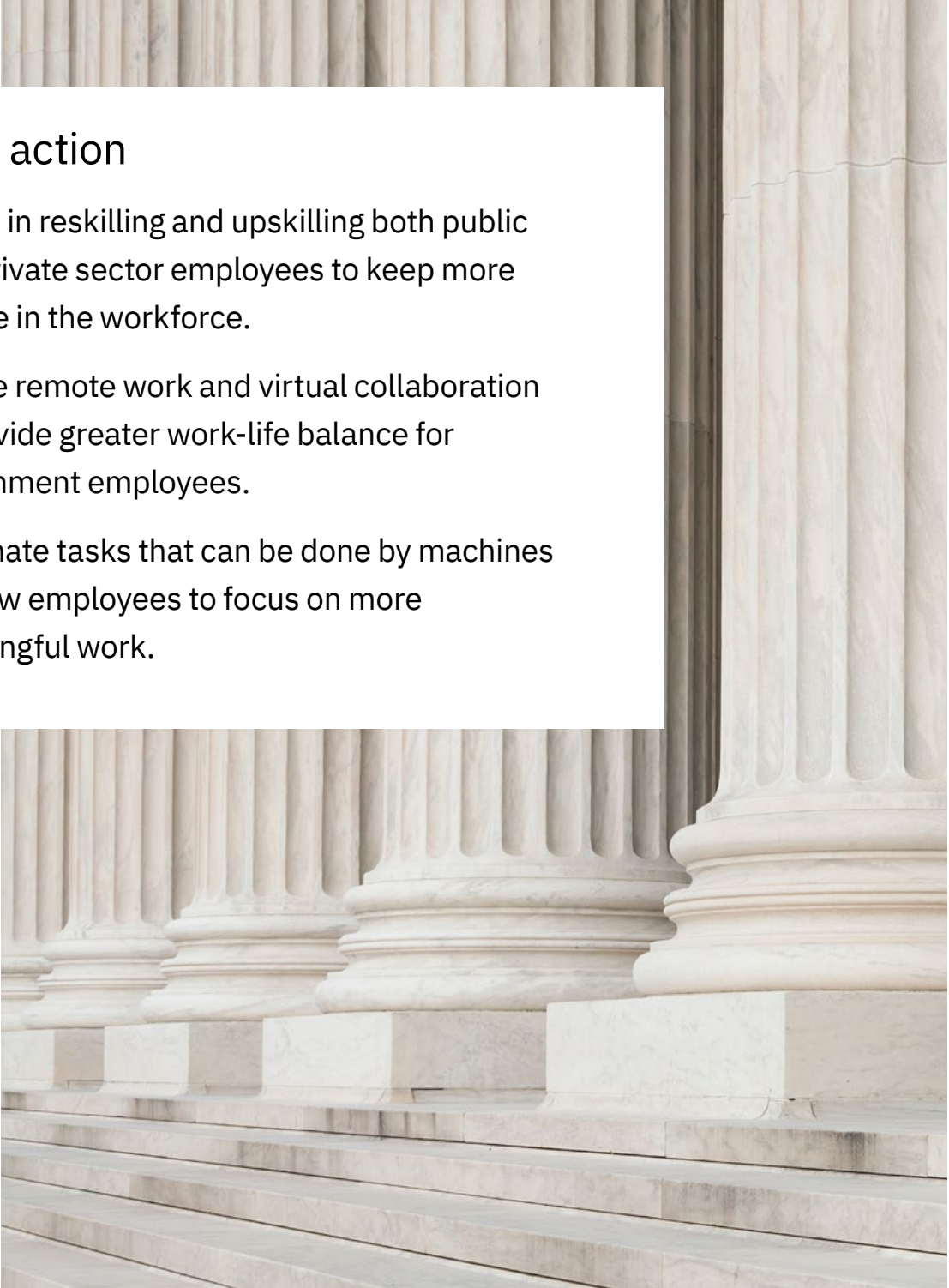
But skill development is only one part of the story. To stem the 'Great Resignation,' public organizations need to do more to support the overall well-being of their workers. According to recent IBV research, work-life balance—not compensation—was the top priority for more than half (51%) of global workers (see Figure 2). The same study found that the need for more flexibility in work schedule and location was the top reason workers changed jobs in 2020 (32%), followed by the desire for more purposeful work (27%).[29]

Enabling remote work is one way government organizations can help workers balance personal and professional responsibilities while also keeping them engaged in meaningful public service. "I think it will be rare to see a government agency or department require their employees to have to work from a single site," said one Jammer. "With more cloud solutions becoming more attractive to the public sector, their resistance to technological change will continue to diminish."

Plus, remote work makes it easier for public organizations to pull from a broader talent pool— and helps them attract top talent in tight labor markets. "The ability to work from home will close the skills gap as people value work-life balance over pay," one Jammer said.

Jammers speak

"The ability to work from home will close the skills gap as people value work-life balance over pay."

Take action

Invest in reskilling and upskilling both public and private sector employees to keep more people in the workforce.

Enable remote work and virtual collaboration to provide greater work-life balance for government employees.

Automate tasks that can be done by machines to allow employees to focus on more meaningful work.

4. Modernize cybersecurity

2021 was a record year for cyberattacks. Data breaches were up 23% over the previous all-time high, which was set in 2017.[30]

Ransomware attacks have doubled the past 2 years in a row.[31] High-profile attacks via SolarWinds, Microsoft Exchange Server, and on the Colonial Pipeline infrastructure, to name just a few, have demonstrated how closely cybersecurity is tied to business continuity and operational resilience. And the average cost of a data breach has jumped, rising to $4.24 million in 2021 (see Figure 3).[32]

In response, US President Joe Biden brought together leaders from both the public and private sector, including CEOs from the country's largest tech firms, to discuss how stronger collaboration could raise the bar on cybersecurity. In advance of the meeting, IBM CEO Dr. Arvind Krishna said he hoped it would lead to more "coordination on how both government and private industry can work together in cybersecurity. It's the issue of the decade."[33]

This meeting came on the heels of an executive order President Biden signed in May 2021, which directed all US government organizations to take decisive steps toward modernizing their approach to cybersecurity. His directives included accelerating movement to secure cloud services and advancing toward a zero trust architecture.[34]

One Jammer explained zero trust as, "a culture change in how we validate users, whether in or outside an organization's network, to be authenticated, authorized, and continuously monitored for security configuration and posture before being granted or keeping access to applications and data. Implementation of a zero trust architecture combines technologies such as multifactor authentication, identity and access management, identity protection, and some form of endpoint security technology to verify the user's identity and maintain system security."

Jammers speak

"The role of government is ever more important with the increasing convergence of cybersecurity with national security and public safety."

"Cybersecurity measurement must be relevant. The ability to quantify the consequences of not doing cybersecurity right is essential."

"By making trust less about perimeters and permissions and more about who I am and what I am trying to accomplish, we can foster a more trustworthy operations environment."

"In a multicloud environment, the overall security posture of the organization (and increasingly the ecosystem of partners enabling each other) is based on getting the shared responsibility model right."
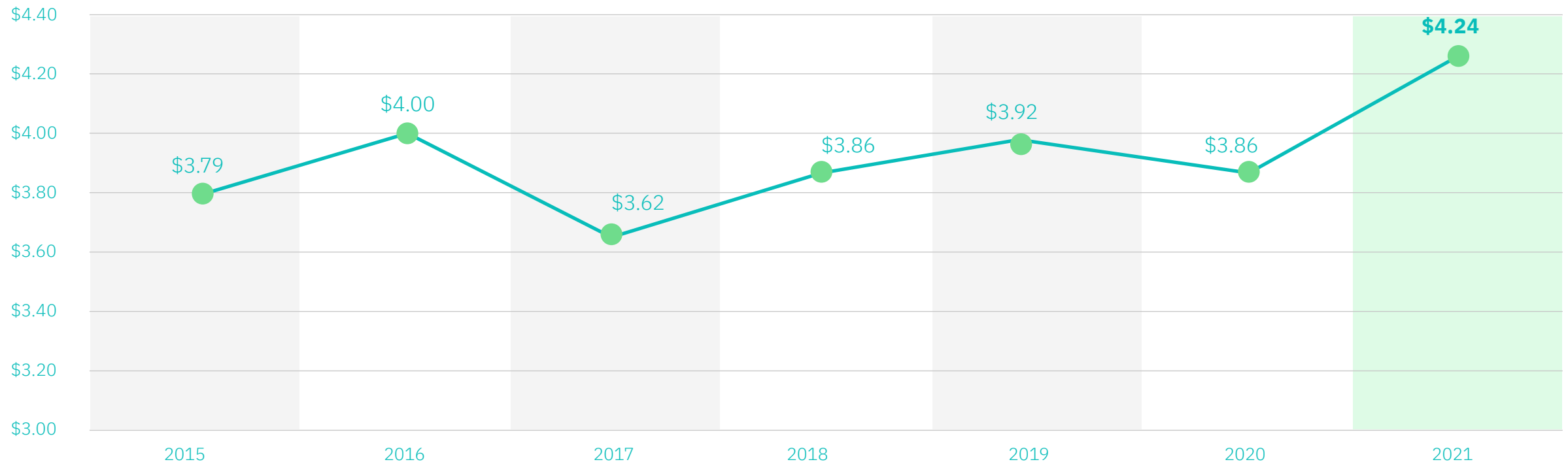
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FIGURE 3

Financial risk on the rise

In 2021, the average cost of a data breach increased by the largest margin in 7 years

Average total cost of a data breach (US$ million)

Source: Cost of a Data Breach Report 2021, IBM Security

Jammers agreed that modern cybersecurity approaches, including zero trust, will be critical as cyberattacks occur more frequently and government organizations migrate workloads to the cloud. They were also focused on protecting existing supply chains and searched for solutions to cybersecurity problems by borrowing from already established practices.

For example, Jammers discussed modeling cyber-incident response after the National Transportation Safety Board or creating a Software Bill of Materials comparable to the ingredients list on packaged food.

As new models are developed, however, managing complexity is key to building resilience. "We should push simplicity as part of the design foundation so the model can be implemented and sustained," one Jammer said.

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Jammers were also focused on developing a shared responsibility model. Stakeholders must collaborate to "eliminate the barriers to building the necessary trust and cooperation between the public and private sector. Government must lead," said one Jammer. "New laws will be necessary, but private sector stakeholders should work in partnership to develop the model."

However, virtually all Jammers recognized that the ideal future is still a long way off. And one of the biggest obstacles to overcome relates to human behavior. Because users introduce a whole host of vulnerabilities, governments must do more to offer cyber-education.

"Cybersecurity education needs to consider experience-based [approaches], such as simulated attacks in a live-fire environment," said one Jammer. "Cybersecurity education also needs to start early and include a diverse set of learners."

While the road ahead may be rocky, governments have a lot to gain by getting things right. Stronger cybersecurity is often accompanied by upticks in functionality and value, as public organizations use data and technology in new ways to improve people's lives and make services more efficient. But this foundation must be built from the ground up.

"We must demystify the complexity of cybersecurity to remove resistance and fear," said one Jammer. "Cybersecurity is about actions, and policy has to drive tangible actions to raise our security maturity."

Jammers speak

"Cybersecurity indeed is an urgent matter that our government, organizations, and citizens all need to step up to solve."
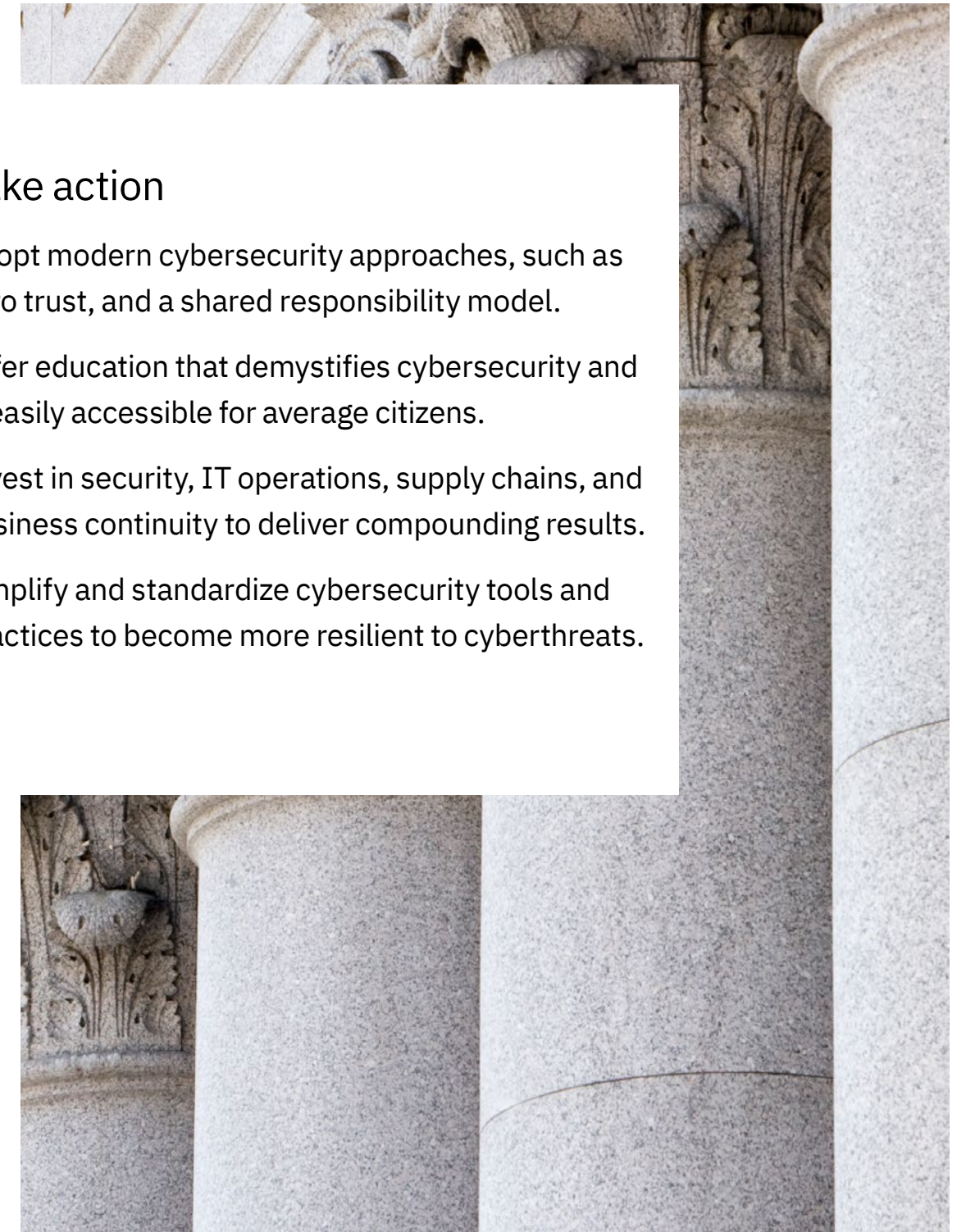
Take action

Adopt modern cybersecurity approaches, such as zero trust, and a shared responsibility model.

Offer education that demystifies cybersecurity and is easily accessible for average citizens.

Invest in security, IT operations, supply chains, and business continuity to deliver compounding results.

Simplify and standardize cybersecurity tools and practices to become more resilient to cyberthreats.

5. Develop ethical data and technology practices

AI has the potential to revolutionize the way society operates. Its myriad applications promise to change everything from how daily tasks are completed to how entire industries are run.

And the race to see who will lead this revolution is on. The number of AI patent filings soared to more than 140,000 in 2021—30 times more than were received in 2015 (see Figure 4). By region, East Asia and Pacific led the rest of the world with 62% of all patent applications, followed by North America (17%) and Europe and Central Asia (4%).[35]

As the potential applications of AI grow exponentially, governments must move quickly to consider the far-reaching effects it could have on society. This includes answering difficult ethical questions about how AI can be used, who may benefit—and who might bear the cost.

In the interest of promoting trustworthy AI that respects human rights and democratic values, the OECD member countries adopted a core set of AI principles in May 2019.[36] These standards, which were the first to be adopted by governments, include concrete recommendations for public policy that are both practical and flexible.

"Transparency and explainability" is one of the 5 key principles outlined by the OECD. Responsible disclosure around AI systems, including where, when, and how they are being used, is key to building public trust in AI.

But one-way communication isn't enough. Organizations rolling out AI systems must also enable those who are adversely affected by AI to challenge its outcomes.[37] However, some Jammers also noted that there are opportunities to deploy precision regulation, where oversight and restrictions are calibrated to match the potential for societal harm.

Jammers speak

"Technology can play a role in allowing governments to regain a reputation for diligence and responsible action, which is the basis for public trust."
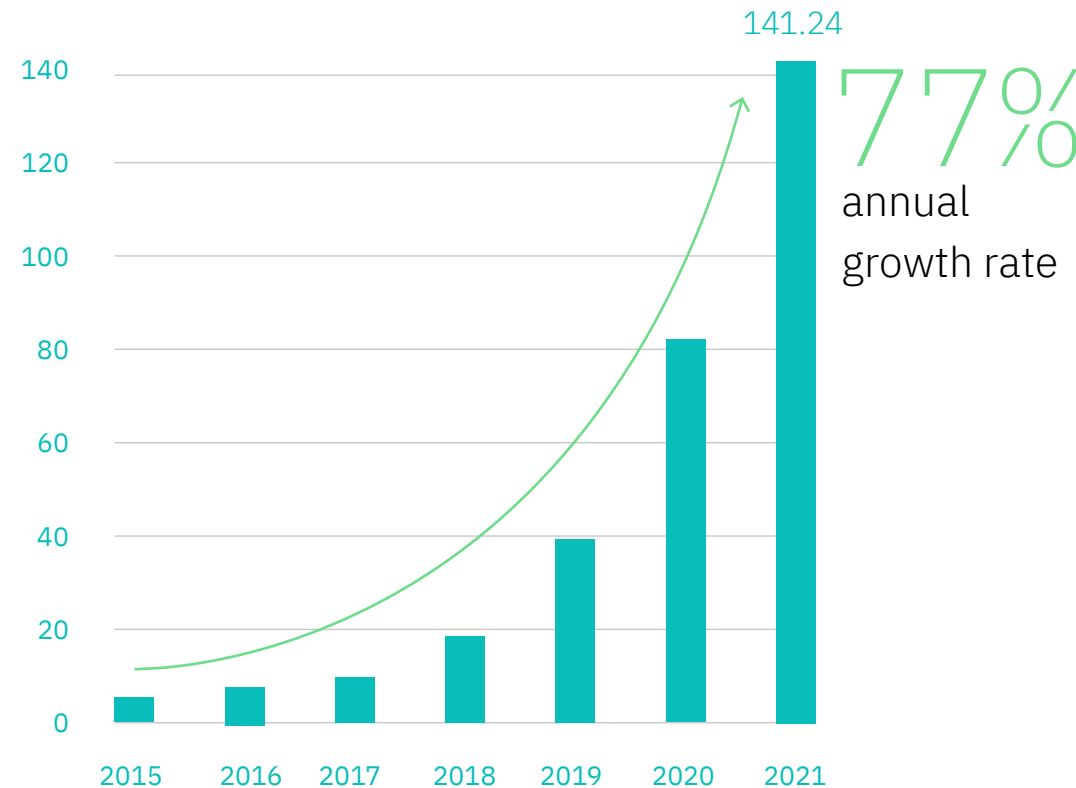
"We need to ensure that this technology can become a fully trusted part of our way of working and living together."

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FIGURE 4

AI on the rise

AI patent filings saw a compound annual growth rate of 77% between 2015 and 2021

Number of AI patent filings (thousands)

141.24

77%

annual growth rate

Source: Artificial Intelligence Index Report 2022, Stanford University Human-Centered Artificial Intelligence

Engaging a diverse set of stakeholders can help governments test and assess specific use cases—and identify where biases or inequities might exist within an AI system. Honest and informed conversations are necessary to separate unacceptable shortcomings from acceptable imperfections.

The Jam spurred some of these conversations. Hosts moderated discussions on "appropriate guardrails that government and industry can set that recognize opportunities as well as risks, including the harm that could come from setting a standard that is tougher than what we set for human beings."

Some of the guardrails Jammers suggested included:

– Strengthening oversight and governance mechanisms
– Using interdisciplinary groups to conduct risk assessments
– Requiring responsible engineering practices
– Testing systems that promote privacy and fairness, possibly including third-party testing for high-risk systems
– Creating stronger limitations on how data can be used

Whatever rules are adopted, governments also need to define related compliance reporting and enforcement processes. "We need to ensure that this technology can become a fully trusted part of our way of working and living together," said one Jammer. "Countries that are working on artificial intelligence can learn a lot from each other in this respect."

To this end, Stanford University's Institute for Human-Centered AI leads multidisciplinary research focused on developing AI technology and understanding the societal impact of AI. It brings together industry, government, and academic experts to discover new ways AI can augment human capabilities—and to foster discussions that influence public policy and legislation.[38]

And this is just one organization taking action globally. Other notable examples include the OECD AI Policy Observatory, the Global AI Action Alliance from World Economic Forum, and the Montreal AI Ethics Institute.

"Technology can play a role in allowing governments to regain a reputation for diligence and responsible action, which is the basis for public trust," said one Jammer. "Likewise, decisive and responsible regulation...can build an image of a government informed and aware of digital challenges—and engaged to enhance services while protecting rights and freedoms."

Take action

Provide guidance and education to help entities navigate the complexities of developing fair and ethical data practices and technology.

Encourage transparency and accountability in data collection and usage, as well as the deployment of AI-based technologies.

Identify and mitigate bias in AI solutions through interdisciplinary impact assessments and testing with diverse groups of users.
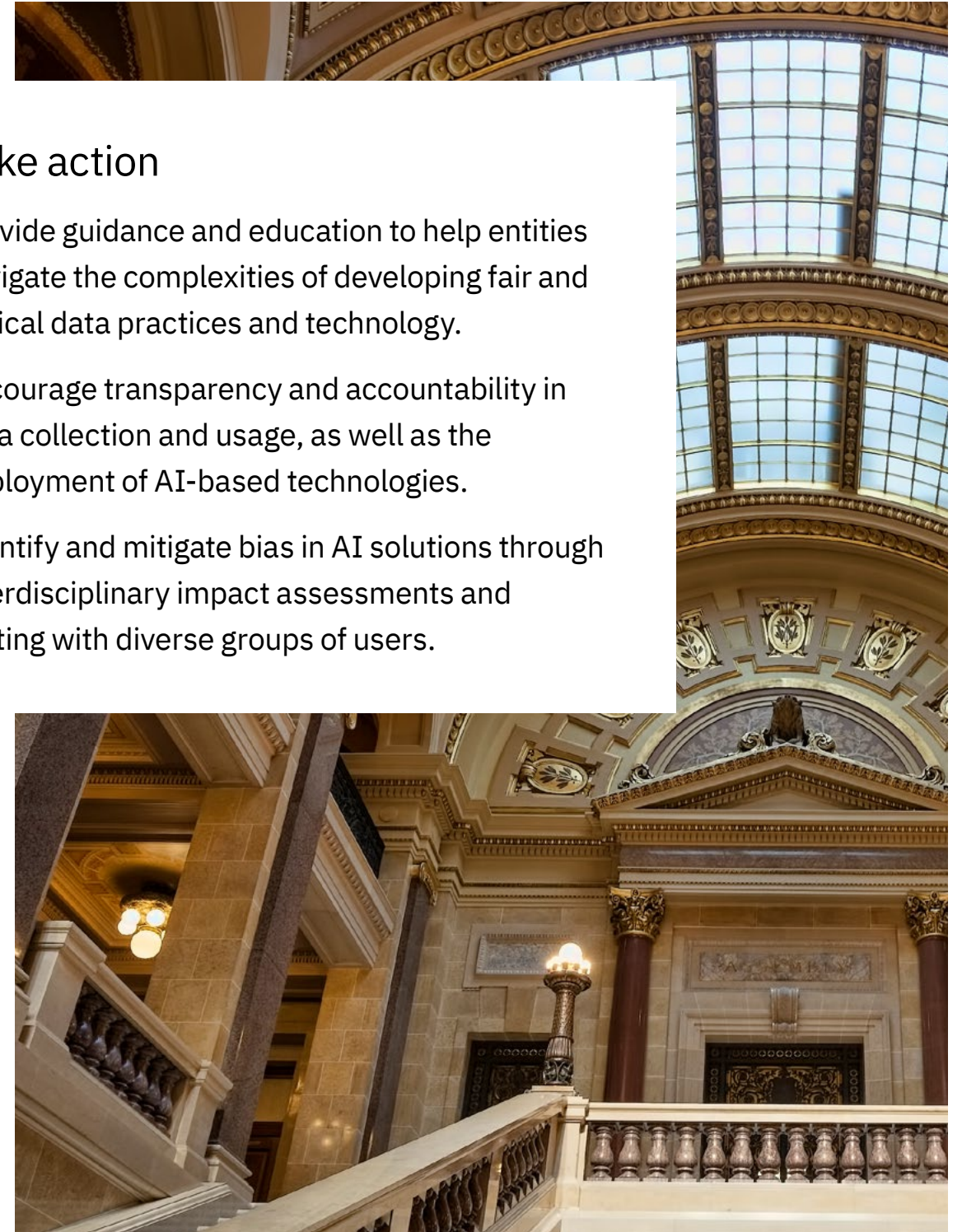
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Inside the
Gov 2025 Jam

Virtual Jam facts:

– 33 consecutive hours of virtual jamming

– 8 hosts, 21 facilitators, and 22 VIP guests

– 620 registrations, 301 unique logins

– 52 countries were represented from
  6 continents

– The average Jammer returned 8 times and
  spent 6 hours in the Jam

– 114 Jammers posted 643 comments, which
  generated 55,154 words

– 2,057 unique data points from poll responses

Jam hot topics:

– Building a resilient workforce

– Scaling to meet demand

– Digital sustainability

– Protecting critical systems
  and information

– Ethical use of data and
  technology

Jam technology uses Watson Personality Insights in an experimental approach to
define a Jammer "persona" based on the psychology of language in combination with
data analytics algorithms. Watson analyzes the Jam content and returns a personality
profile of the Jam collective. Here's what we learned about the global government
Jammers. They are:

– Clever, direct, confident

– Authority-challenging; to bring about positive changes

– Philosophical; open to new ideas

– Assertive; quick to take charge, speak-up
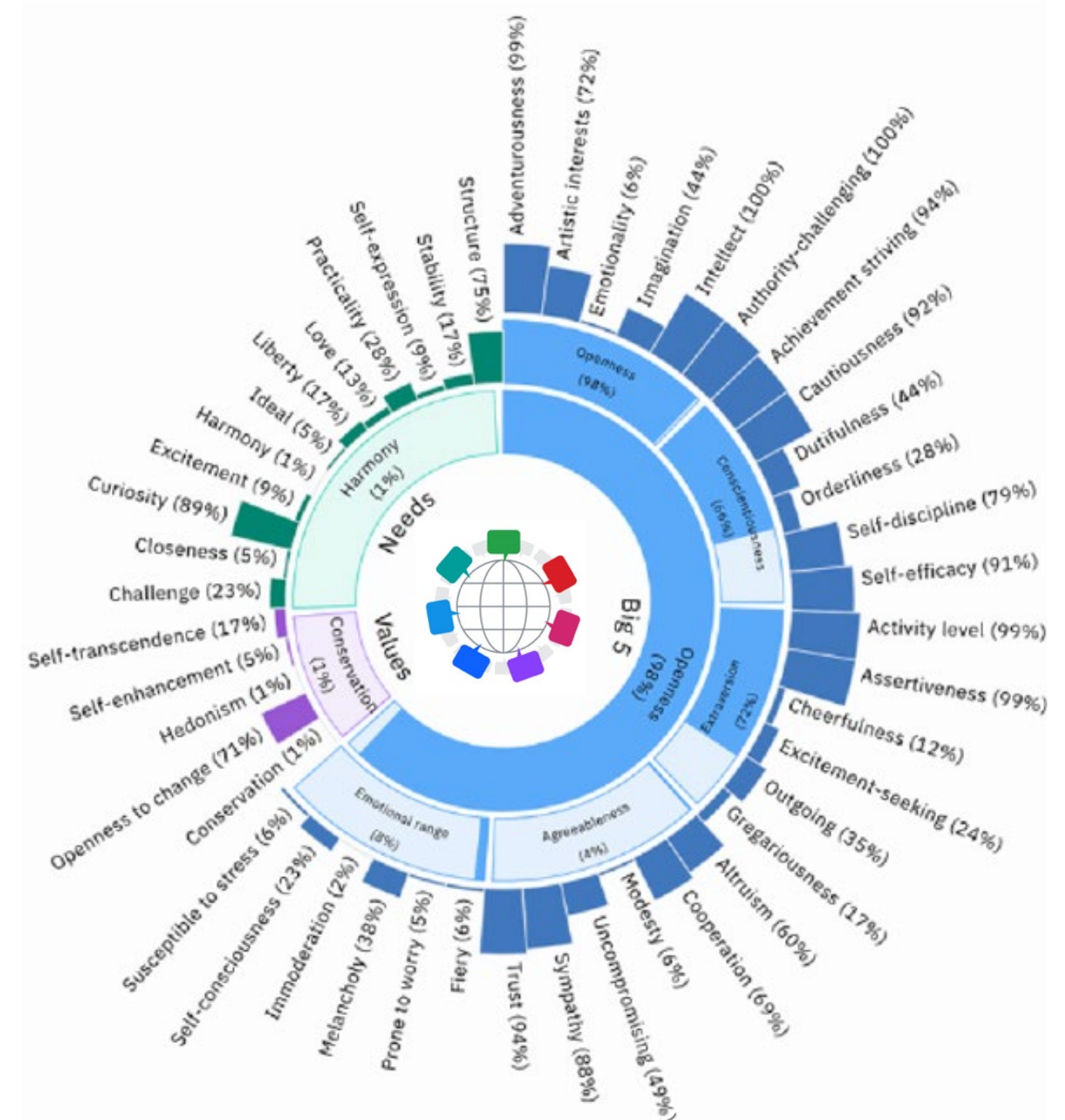
We would like to thank

Our colleagues at the American Public Human Services Association, the Center for Internet Security, the Center for Organizational Excellence, European Social Network, International City/County Management Association, MITRE, the National Academy of Public Administration, and the Partnership for Public Service for their support of and partici-pation in the Gov 2025 Jam.

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Jam VIPs
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About IBM Innovation Jam

The IBV hosted a global 2-day virtual jam—the Gov 2025 Innovation Jam—in cooperation with the Center for The Business of Government. 5 concurrent sessions covered topics ranging from building a resilient workforce to supporting sustainable development. With more than 55,000 words generated over the course of 33 hours, we used the IBM Innovation Jam AI Dashboard with Watson Natural Language Understanding (NLU) and IBM Research® Project Debater Key Point Analysis to identify conver-sation themes, sentiment, and insights for suggested improvements. To learn more, visit https://www.collaborationjam.com.

About the IBM Center for The Business of Government

Through research stipends and events, the IBM Center for The Business of Government stimulates research and facilitates discussion of new approaches to improving the effectiveness of government at the federal, state, local, and international levels. For more information, visit https://www.businessofgovernment.org

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