

Technology Vision 2021 for Public Service

Public service leaders wanted

Experts at change at a moment of truth

Voices of **Change**

From insights to action, the path to extraordinary value starts here.

accenture

The world is hungry for a new kind of leadership.

Amid the challenges of 2020, two truths became evident.

More public and private enterprises than ever have embraced the axiom that every business is a technology business, and they have ignited a new era of exponential transformation as technology continuously reshapes agencies, industries and human experience.

As they begin shaping their post-pandemic reality, the private and public sectors must learn to become skillful in change.

The latest Technology Vision 2021 for Public Service explored the challenges and opportunities now facing public service organizations and leaders around the globe.

Our findings and analysis point to five key trends government agencies can harness to shape a new—and better—future.



During the pandemic, it became starkly clear how critical leadership is. A year ago, many public service technology leaders were working hard to keep the proverbial lights on.

In the last 12 months, however, they have been forced to rethink how they make technology decisions and investments. Fifty percent of public service respondents reported ramping up their use of cloud technologies in direct response to the crisis.

91%



of respondents agree that their organization needs to fast forward digital transformation with cloud at its core

The rapid rise in fully online citizen services—from updating eligibility for public benefits to renewing licenses and registrations—has opened public service organizations' eyes to a new reality.

Cloud platforms should become part of the core, not just the periphery, of most public agencies' digital capabilities.

Technology is no longer just one vehicle for success—it is increasingly fundamental to

organization effectiveness. In fact 93% of public service leaders agree that their organization's ability to generate value will increasingly be based on the limitations and opportunities of its technology architecture.




Public service leadership demands technology leadership

Rapid digital acceleration during the pandemic has cemented technology as the cornerstone of leadership. The gap between digital leaders and laggards grows by the day and committing to a wait-and-see approach could jeopardize the quality of services that governments deliver to their constituents.

Leadership demands that government organizations prioritize technology innovation in response to a radically changing world.

88%



of public service leaders agree that their organization's business and technology strategies are becoming inseparable—even indistinguishable.

The Technology Vision 2021 for Public Service survey explored the challenges and opportunities now facing public service organizations around the globe. Our findings and analysis point to five key trends governments can harness to shape a new—and better—future.

Stack Strategically

Architecting a Better Future

The technology choices public service organizations make today will determine what they can or cannot do long into the future.

Mirrored World

The Power of Massive, Intelligent, Digital Twins

In building and connecting intelligent twins, public service organizations are unleashing the next generation of citizen service delivery.

I, Technologist

The Democratization of Technology

Government agencies can now equip every employee with the tools and skills to build technology solutions at the point of need.

Anywhere, Everywhere

Bring Your Own Environment

Post-pandemic, no one is going “back to work” as they remember it. Public service is moving into a new future in which work can be done from anywhere.

From Me to We

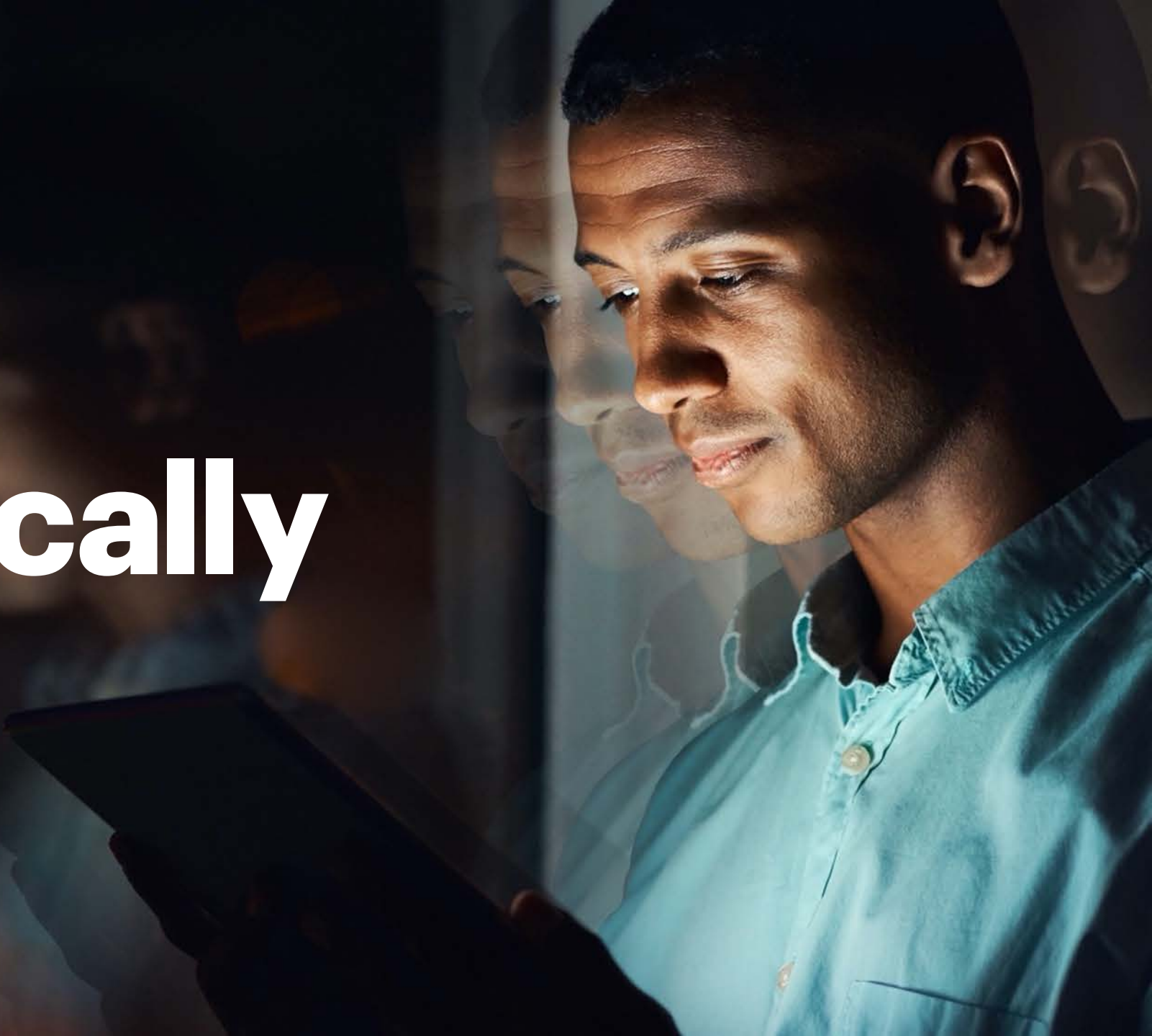
A Multiparty System’s Path Through Chaos

Government agencies are changing how they partner—from supply chains to digital ecosystems.

Trend 1

Stack strategically

Architecting a better future





Becoming an expert at change begins with recognizing that business and technology strategies are increasingly indistinguishable.

Architecture has increased dramatically in importance as the technology choices public service organizations make today will determine what they can or cannot do long into the future.

Business strategies and technology strategies have now converged even sooner than expected.

While technology augmented parts of government operations, few approached their technology and business strategies as one. Now, all of that is changing.

In response to the COVID-19 pandemic, governments across the globe made rapid digital transformations, accelerating their journeys to the future.

Government agencies' strategies can only be achieved by supporting technology strategies.

Thus, there can be no leadership without technology leadership.

The opportunity—and challenge—that is present allows leaders to tailor every layer of technology architecture to serve citizens with a truly differentiated approach.

As public service and human services agencies begin to work together more, public service leaders must decide how—and which—technologies will work together.

These rapid transformations and the sudden influx of new technologies have ignited a [new era of public service](#)—one where architecture matters more than ever, and better outcomes start in technology stacks.



75%

of public service leaders agree that technology architecture is becoming critical or very critical to the organization's overall success.



Government enterprises are weighed down by technical debt as outdated technology holds them back.

Instead, they need to build technical wealth—establishing a clear path away from outdated systems and develop an adaptive, reusable approach to technology.



Stacking strategically around the globe.

Look at the UK Department for Work & Pensions (DWP), which prior to the pandemic had begun a cloud transformation including both microservices and the creation of an API library.¹

During the pandemic, when demand started surging, DWP was able to identify and quickly scale up critical services.² What's more, their API library, full of reusable templates and code, allowed developers to rapidly string together new services for citizens to address the unique circumstances they faced.

In record time, employees were able to create automated systems for uploading medical records, requesting universal benefits checks, and issuing free school meal vouchers.



Trend 2

Mirrored World

Unlocking the power of massive,
intelligent, digital twins



As public service leaders thread technology through all aspects of public service,

the valuable trove of data generated can be used to build massive networks of intelligent digital twins.

The mirrored world these next-generation twins create is fuelling change by unlocking the trapped value of data and making it possible to simulate, predict and automate by seamlessly bridging the digital-physical divide.



When initially adopted, digital twins were championed for their ability to monitor, simulate and streamline the data of discrete devices. And recently, the scale of the models, layering in of artificial intelligence (AI) and increase in adoption has transformed the equation.

Public service innovators all across the industry—particularly in postal organizations, border agencies, public infrastructure, defense and public safety—are starting to connect massive networks of intelligent twins, linking many twins together to create living models of ports, cities and delivery networks.



They are creating unbroken threads of data—fabrics that will soon be essential to every public service enterprise’s digital strategy.

The mirrored world is the amalgamation of these threads; as more public service organizations build and connect intelligent twins, bringing more of their organization into digital space, they are opening a cornucopia of new opportunities and [next-generation citizen service delivery models](#).

86%



of public service leaders agree that COVID-19 has punctuated the importance of digital twins to better support enterprise-wide agility at every level of the organization.

91%

of public service leaders believe their organization requires a mission control, or central intelligence hub, to gain insights into complexities and model their organization's processes, people and assets compared to 90% of commercial leaders responding to the same question.

Digital twins around the globe

The Port of Rotterdam offers a glimpse into what mirrored world ecosystems can achieve when big-picture visibility and intelligence are combined.³ The Port is the largest in Europe, serves around 30,000 ships per year, and is using an intelligent twin to provide shipping companies with a more efficient, cost-effective, and seamless experience.

In collaboration with IBM Watson, the Port equipped its expansive dock with sensors that collect comprehensive information about things like air temperature, wind, humidity, and water conditions, and even has “Digital Dolphins”: smart quay walls and buoys with sensors. Using AI to analyze all the collected data, the Port can predict best times to moor and depart, or calculate how much cargo needs to be unloaded at a deeper part of the port to allow a ship to continue sailing through.



Trend 3

I, Technologist

The democratization of technology



Public service organizations must ensure their people are empowered to become drivers of change.

That outcome is achievable through technology democratization, making powerful technology capabilities accessible and no longer requiring specialized skills.



Government agencies can ignite grassroots innovation by equipping every employee with the tools and skills to build technology solutions at the point of need.

An undeniable shift is underway:

Powerful technology capabilities are being put into people's hands, no longer requiring highly specialized skills. It's about the culmination of an array of democratizing technologies and less about a single tool or service.

Natural language processing, low-code platforms and robotic process automation (RPA) are just a few of the capabilities and services making technology more accessible. Each has different and unique applications; all are bringing the innovative power of machines into the hands of people with as little friction as possible. Democratized technology lets people optimize their work

or fix pain points on their own. Without needing to request major IT projects, people can create a custom dashboard for a group's finances, build an app to approve and automatically fulfill purchase orders and much more. Suddenly, the power to create technology solutions is entering the hands of people across the enterprise.

Organizations can teach non-IT employees to think like technologists—putting the skills gap in the past. Leaders in the future will be the ones who rethink their approach from “who can I hire?” to “how can I empower?”

This shift is coming at a critical time for public service organizations. As they seek to compress digital transformation into a rapid timeframe and reorient for new circumstances, they can use these tools to empower all members of the enterprise as agents of change.





Some public service organizations are already working on democratized capabilities.

Cloud solutions offer an opportunity to bridge the gap between complex technology and workers at every level.

Existing cloud solutions where agencies have already made investments offer a stepping stone to the use of democratized technology:

Using Amazon's Honey code, government agencies can build mobile and web apps without writing a single line of code.⁴

Agencies can further improve management of contacts, cases and workflows using Salesforce's Lightning App Builder, a point-and-click tool for creating custom pages on the Salesforce app.⁵

Social services agencies can use Microsoft Teams to directly embed Microsoft Power Apps, enabling case workers to manage caseloads more effectively.⁶




Public service leaders show a strong interest in training on technology democratization

87%



87% of public service respondents believe technology democratization is becoming critical to their ability to ignite innovation across their organization.

80%



80% of respondents expect moderate or significant investments in non-IT employees' technology democratization training next year.

89%



89% agree that such training strategies must include a focus on security and data governance.

Technology democratization around the globe

The Office of the Revenue Commissioners in Ireland (Revenue) saw the opportunity to better meet customer needs using new technology and delivered a first-in-the-world, game-changing outcome that combined the best of technology and human ingenuity.

Revenue developed technology that offers an 24/7 automated service using AI and a Virtual Digital Assistant to manage phone calls, providing the most efficient and effective experience for customers.⁷

As citizens demand more from public service agencies, including intuitive and responsive "living" services that fit seamlessly into their lives, organizations will need to drive digital transformation forward. This project is a prime example of how future systems can be designed to adapt to humans rather than expecting humans to adapt to technology.



Trend 4

Anywhere, Everywhere

Bring Your Own Environment



Bus stop
BUS STOP

MA

Public service agencies can serve citizens from anywhere and everywhere as they equip the workforce to Bring Your Own Environment (BYOE).

The single biggest workforce shift in living memory is positioning these organizations to further explore the benefits of a virtualized workforce and expand their boundaries.



In 2020, government leaders made drastic moves to keep “business” going and employees safe during the pandemic, sending swaths of their people to work from home and doubling down on technology solutions to keep them productive. Billions of people around the world changed behavior overnight. In the United States alone, research conducted by Stanford in May 2020 found nearly twice as many people were working from home than working on-site—accounting for more than two-thirds of economic activity.⁸

Many public service entities approached these changes as short-term solutions to a temporary problem.


But in fact, they’re part of a longer-term solution to some persistent challenges. Post-pandemic, no one is going “back to work” as they remember it. Rather, employers and employees—in the private and public sectors—are moving into a new future, one where work can be done from anywhere.

Three years from now, successful government organizations will be the [ones that resisted the urge to race everyone back to the office in favor of rethinking their workforce model](#)—balancing workforce benefits and mission outcomes. The most effective public service organizations will be physically distributed, creatively connected, empowered by technology and able to innovate from anywhere.



A BYOE strategy lets you rethink how you recruit new employees.

Opening up to the idea of geographically distributed employees will give public service organizations access to a truly global talent pool.



90%

of public service respondents agree or strongly agree that the remote workforce unlocks the market for **difficult to find talent** and expands the competition for talent among organizations.

Virtualized work around the globe

In the United Kingdom, NHS (National Health Service) Digital—the IT provider for social and health systems in England—partnered with Microsoft and Accenture to make Microsoft Teams available to 1,275,000 NHS staff. The platform lets doctors conduct virtual appointments, allows the NHS to host virtual town hall events, and makes it easier for staff in isolation rooms to communicate and collaborate with colleagues outside.⁹

A woman with dark hair is looking upwards and to the left, her hands pressed against a large glass pane of an aquarium. The tank is filled with numerous colorful fish, including yellow, blue, and purple ones, swimming in a deep blue environment. The lighting is dramatic, with the woman's face and hands highlighted against the dark background of the tank.

Trend 5

From Me to We

A multiparty system's path
through chaos



The challenges and opportunities ahead are vast.

Government agencies will need help to tackle them. Multiparty systems will help public service organizations lead by changing the way they partner—and who they partner with.

From supply chains to digital ecosystems, the pandemic showed just how brittle globe-spanning relationships can be. By rebuilding these partnerships with technology at the center, public service enterprises are finding ways to adapt together.



87%

of public service respondents agree or strongly agree that implementations of multiparty systems in their industry are rapidly shifting from ambitious undertakings to **desperately needed solutions.**

Multiparty systems facilitate a shared data infrastructure between individuals and organizations that drives efficiency and builds new business and revenue models.

They include blockchain, distributed ledger, distributed database, tokenization, and a variety of other technologies and capabilities.

Despite the economic hardships many companies faced, IDC forecasted blockchain to maintain double-digit year-over-year growth, with worldwide spending reaching \$4.3B for 2020.¹⁰

With the benefit of hindsight, the explosion in adoption of multiparty systems isn't all that surprising. One of the biggest impacts of the pandemic was how it unveiled global enterprise fragility, leaving companies across industries cut off from their partners and scrambling for answers. Yet government agencies were remarkably resilient, in many cases thanks to the technologies behind their partnerships.



Now public service organizations are facing an enormous imperative to forge a resilient, adaptable and trustworthy foundation for their existing and future partnerships.

There are challenges (security and privacy of citizen data and workforce sensitivities, to name a few), however, there is also opportunity. Disruption has upended previous expectations for ecosystems and ambitious enterprises are creating new standards for the industry.

Coordinated, strategic ecosystem partnerships will set public service entities up to address today's disruptions and be better prepared to weather new ones; they'll also enable ways to create new interactions or discover new ways to deliver outcomes.

These partnerships will start to converge in order to solve new problems, like the emerging collaboration between healthcare and travel, or even begin to define entirely new services.

90%

of public service respondents agree that multiparty systems will enable their ecosystems to forge a more resilient and adaptable foundation their organization's partners.


Multiparty systems around the globe

Accenture helped SkillsFuture Singapore by creating centralized, cryptographic transaction logging for tamper-proof grant processing. The organization has created an ecosystem of industry, training providers and government agencies to help develop an integrated high-quality system of education and training that's highly responsive to constantly evolving needs of the economy, creating a culture of lifelong learning.



Broaden the horizons of leadership.

In the past year, government agencies were forced to confront deep-seated assumptions about how fast they can pivot, where or how work gets done, even how they collaborate with other governmental agencies, nonprofit organizations and private players, among others.



Some froze, watching their old convictions crumble; many shattered the bureaucracies and assumptions holding them back—becoming the leaders that everyone will follow.

There is a temporary vacuum as employees, residents and partners all continue to establish a new set of preferences for the next normal. Boundless opportunity lies ahead for the public service organizations willing to break from the mentality of “that’s how we’ve always done it” and become part of crafting what comes next.

This could be reimagining partnerships and collaborations, reinventing the citizen experience, revolutionizing how data flows among agencies and partners or fostering the advantages of a virtualized workforce—even when social distancing is no longer a necessity.

As they pioneer the new normal, governments are poised to have an outsized impact on the world around them—bolstering trust and demonstrating a commitment to rebuild the world better than it was before the pandemic.

That goal will mean expanding the definition of “value” to include how well people thrive, the impact left on the environment, growing inclusivity and more. As public service organizations lean more on the capabilities of technology, they need to recognize more than just the value it provides. They must measure its impact through a wider lens.



Leaders avoid waiting for the new normal, they build it.

As the saying goes: The best way to predict the future is to invent it.

Prioritizing technology is essential to ensuring that public service agencies can keep pace with highly complex, rapidly evolving challenges and growing citizen expectations.



True leadership will require the public sector to embrace radically different mindsets and models. In the face of sweeping change, the world demands leadership that thinks boldly in response. In many geographies, this may require public sector leaders to join forces with each other—creating powerhouses of collaboration.

Indeed, thriving in this moment will require ambitious public service leaders not content to rehabilitate their operations to what they were,

but willing to upend convention and wield their vision for the future.

From the workforce, to supply chains, to technology, operating, and revenue models, leaders have spent decades building systems for static purposes. In that era, change happened slowly and expectedly. But today outcomes are being achieved by those with the audacity to reimagine it all.

Let there be change.



References

1. Trendall, S. (2020, July 28). Inside DWP's Digital Coronavirus Response – APIs, Reuse and Micro-services. PublicTechnology.net: <https://publictechnology.net/articles/features/inside-dwp%E2%80%99s-digital-coronavirus-response-%E2%80%93-apis-reuse-and-micro-services>
2. Harrison-Adcock, K. (2020, August 4). How Microservices Empowered the UK's DWP to Pivot During COVID-19. Programmable Web: <https://www.programmableweb.com/news/how-microservices-empowered-uks-dwp-to-pivot-during-covid-19/elsewhere-web/2020/08/04>
3. Boyles, R. (2019, August 29). How the Port of Rotterdam is using IBM digital twin technology to transform itself from the biggest to the smartest. IBM: <https://www.ibm.com/blogs/internet-of-things/iot-digital-twin-rotterdam/>
4. Barr, Jeff. (2020, June 24). Introducing Amazon Honeycode – Build Web & Mobile Apps Without Writing Code. AWS: <https://aws.amazon.com/blogs/aws/introducing-amazon-honeycode-build-web-mobile-apps-without-writing-code/>
5. Dimeska, Sara. Salesforce Monday. (2019, December 19). Salesforce Lightning App Builder: <https://salesforcemonday.com/2019/12/19/salesforce-lightning-app-builder/>
6. Microsoft website. (2020, September 22). Overview of the Power Apps app: <https://docs.microsoft.com/en-us/powerapps/teams/overview-of-the-power-apps-app>
7. Accenture. Improving taxpayer experience: Revenue's voicebot: <https://www.accenture.com/us-en/case-studies/public-service/revenue-voicebot>
8. Bloom, N. (2020, June). How working from home works out. Stanford: <https://siepr.stanford.edu/research/publications/how-working-home-works-out>
9. Hughes, O. (2020, April 7). Microsoft and NHS Digital to provide new clinical capabilities through Teams. Digital Health: <https://www.digitalhealth.net/2020/04/microsoft-and-nhs-digital-to-provide-new-clinical-capabilities-through-teams/>
10. Soohoo, S. (2020, April). How Will COVID-19 Impact Industry Technology Spend on Blockchain? IDC: <https://www.idc.com/getdoc.jsp?containerId=US46229520>

Authors



Valerie Armbrust

Managing Director – Consulting,
Public Service, North America
valerie.c.armbrust@accenture.com



Christian Bertmann

Managing Director – Technology,
Health & Public Service, ASGR
christian.bertmann@accenture.com



Timo Levo

Managing Director – Public Service,
Defence, SAP, Europe
timo.levo@accenture.com



Ahmed Hassan

Managing Director – Health & Public
Service, Cloud & Infrastructure Lead,
Australia and New Zealand
ahmed.a.hassan@accenture.com

About Accenture

Accenture is a global professional services company with leading capabilities in digital, cloud and security. Combining unmatched experience and specialised skills across more than 40 industries, we offer Strategy and Consulting, Interactive, Technology and Operations services—all powered by the world’s largest network of Advanced Technology and Intelligent Operations centres. Our 537,000 people deliver on the promise of technology and human ingenuity every day, serving clients in more than 120 countries. We embrace the power of change to create value and shared success for our clients, people, shareholders, partners and communities.

Visit us at www.accenture.com

DISCLAIMER: This document is intended for general informational purposes only and does not take into account the reader’s specific circumstances, and may not reflect the most current developments. Accenture disclaims, to the fullest extent permitted by applicable law, any and all liability for the accuracy and completeness of the information in this presentation and for any acts or omissions made based on such information. Accenture does not provide legal, regulatory, audit, or tax advice. Readers are responsible for obtaining such advice from their own legal counsel or other licensed professionals. This article makes descriptive reference to trademarks that may be owned by others. The use of such trademarks herein is not an assertion of ownership of such trademarks by Accenture and is not intended to represent or imply the existence of an association between Accenture and the lawful owners of such trademarks.

Copyright © 2021 Accenture All rights reserved.
Accenture, its logo, and New Applied Now are trademarks of Accenture.

About the Research

For more than 20 years, Accenture has developed the Technology Vision report as a systematic review across the enterprise landscape to identify emerging technology trends that will have the greatest impact on companies, government agencies and other organizations in the coming years. The 2021 Technology Vision for public service study was fielded December 2020 to February 2021, surveying over 1,000 public service leaders around the world..



Follow us
[@Accenture](https://twitter.com/Accenture)



Connect with us
[Accenture](https://www.linkedin.com/company/accenture)



Follow with us
[accenture](https://www.facebook.com/accenture)



Follow us
[@accenture](https://www.instagram.com/accenture)