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eBOOK

# 10 top technology trends for the public sector in 2021

Emerging more resilient post-pandemic





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## Introduction

If 2020 was a year that no one could have foreseen; the response from government would have been almost as unpredictable for many. As horrendous as the pandemic is, the public sector has shown incredible resilience and flexibility. It has quickly pivoted, breaking down barriers, sharing information and continuing to deliver excellent services to its citizens.

Technology has been the foundation stone of this achievement. Forward-thinking governments and agencies understood the importance of digital solutions to deliver citizen benefits. Remote working technology, IT modernization and cyber security all became vital in 2020. Yet, public sector organizations know they have to do more. Research<sup>1</sup> found that 60% of U.S. government officials felt the pandemic has accelerated digital transformation in their organization.

As the digital transformation of government carries on at pace in 2021, here are 10 technology trends likely to drive the public sector.

**“The story is similar around the world,”** says Brian Chidester, head of worldwide industry strategy for the public sector at OpenText. **“COVID is forcing the public sector to rethink their operations. The ability to bring more value at a lower cost is one of the primary drivers, as well as remote work and the security around that. They have to be ready for this and do it in the right way. The pandemic was bold and radical, and it changed everything. It’s going to take public organizations also being bold to rebound and advance their mission in the ways that are necessary on behalf of their citizens.”**





## Trend 1: IT modernization is task number one

During 2020, it very quickly became apparent that public sector organizations still heavily reliant on legacy systems were likely to struggle to meet the new demands placed upon them. The sudden need for remote working, enhanced digital services and increased inter-agency cooperation and collaboration exposed the need to rapidly accelerate IT modernization programs.

Greater focus has been placed on the role of technology in delivering strategy. In fact organizational and technological strategies are inseparable. The pandemic has transformed strategic development from a slow and sometime unwieldy process into something that's rapid, continuous and dynamic. Government and agencies must make judicious use of what have previously seen as 'disruptive' digital technologies as part of their daily mission.

To facilitate modernization and technology adoption, public sector organizations will increasingly look to digital platforms to allow new systems to be quickly developed and information shared between employees, agencies and citizens. By embracing the transition to digital platforms in 2021 and beyond, government can deliver effective, connected public services in a challenging time of heightened demand and shrinking budgets.

Listen to Suzette Kent, Former CIO for the United States Government, discuss the importance of public/private partnerships in successful IT modernization.

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## Trend 2: Cloud is the key enabler

If it was required, COVID-19 emphasized the importance of the cloud. It was essential to support the systems, tools and apps that enabled the resilience of business operations in areas such as the implementation of home working and the pivot to digital services in only a few short weeks. While even federal and national government agencies had previously been slow to adopt the mandated 'cloud first' or 'cloud smart' strategies, there's now no doubt that the move to cloud is a key priority.

For many agencies, the power of the cloud will lie in its ability to deliver a digital infrastructure that enables advanced solutions such as remote work, digital experience, AI and edge computing. In 2021, government will use the software-driven nature of cloud services to simplify and automate what is increasingly complex and distributed infrastructure, while ensuring that resilience continuity and security are baked in.

Whether public, private or hybrid, the commercial flexibility, scalability and reliability of a cloud solution offers many benefits to the public sector. It's likely that more organizations will look towards the public cloud and cloud native services to boost innovation, agility and flexibility in service delivery.



Learn more about how eGovernment in the Cloud solutions from OpenText are helping to increase the versatility and value of services in the public sector.

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## Trend 3: Remote working is here to stay

Perhaps the biggest achievement of government during the pandemic was how quickly it could pivot to a remote working model without adversely affecting service delivery to any great extent. The US Department of Defense successfully went from over 24,000 on-site employees to 5300 in a matter of weeks<sup>2</sup>.

Remote working is here to stay and government has now to adapt to the world of 'anywhere, any time' operations. This is a fundamental shift in how organizations work and involves a set of technologies that can maximize employee and team productivity, enhance communication and collaboration and enable effective and secure business services across a distributed IT infrastructure.

In 2021, government organizations will evolve their business models to embed work processes that connect offices with offsite workspaces. To realize the full benefit of these new models, the citizen experience has to become more integrated with the employee experience as part of the organization's end-to-end digital ecosystem.

Listen to Chris Traylor, Director of Government Solutions at Avature discuss the human capital issues most critically impacting the ability of governments to recruit and retain the next-generation workforce.

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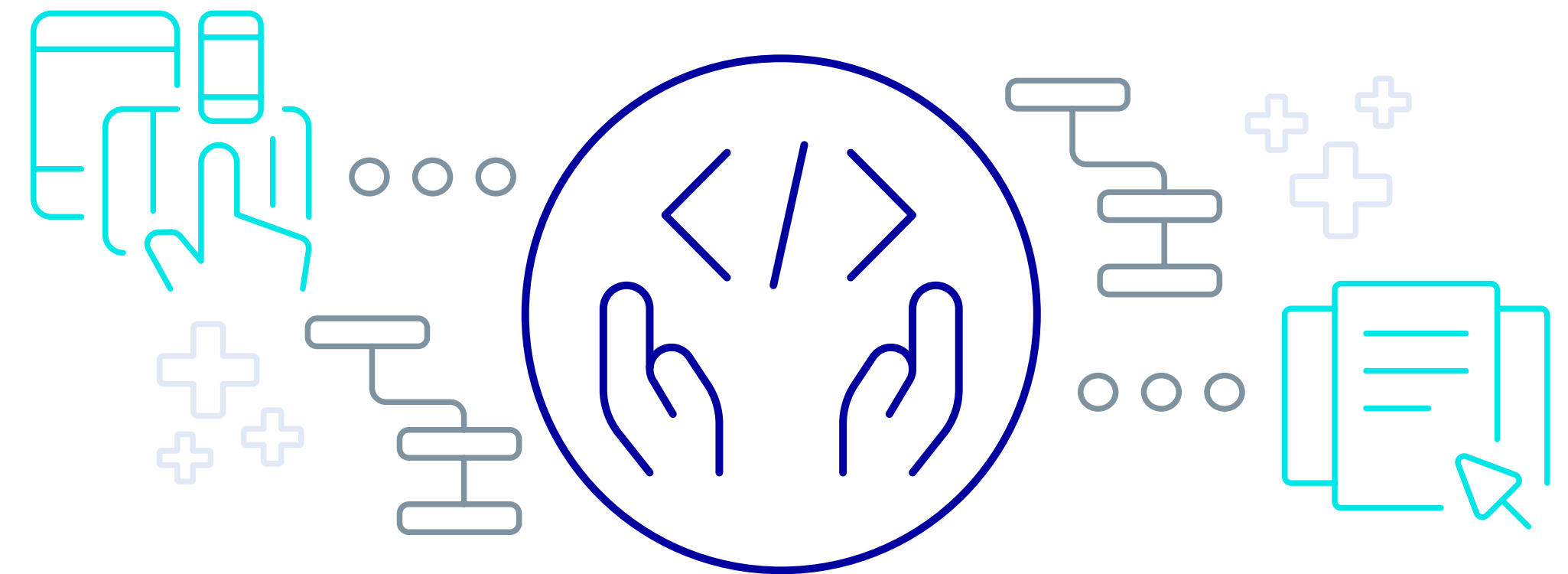


## Trend 4: Citizens expect better digital experiences

Over the next year, any digital transformation within the public sector is likely to be deployed with the digital citizen in mind. COVID-19 demonstrated that many citizens prefer digital experiences. For example, Accenture found that about two-thirds of people prefer to engage with a virtual agent if the government agency offered it<sup>3</sup>.

Government will begin to focus on Digital Experience (DX) that brings together disciplines including customer experience, employee experience and user experience that have been previously isolated. This integrated approach covers the tools that are necessary to deliver exceptional digital citizen experience as well as the tools required for agencies to create those experiences.

Moving even more digital services online in 2021 will help boost productivity, reduces government backlogs, and frees up talent and resources for other priorities. For the citizen, they have more ease, flexibility and security when accessing government data online or providing confidential information as well as more control around how and when they access public services.



Find out more about how the Canadian government is using AI to listen and react to the 'voice of the citizen'.

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## Trend 5: Government is entering the era of hyperautomation

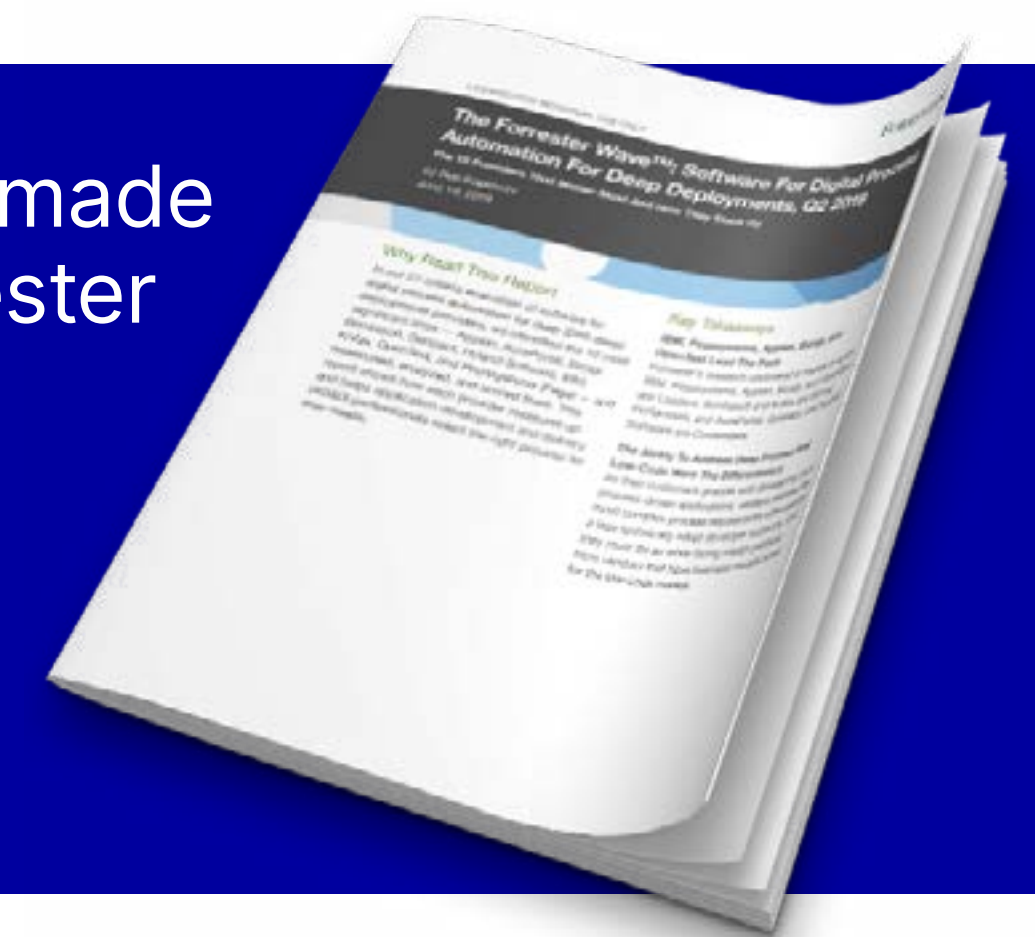
COVID-19 rapidly forced government organizations to towards remote, digital first business models. Organizational resilience and digital operational excellence were required in a situation where most agencies were forced to do more with less. As a result of the pandemic, Forrester suggests that new forms of automation will support one in four remote workers either directly or indirectly by 2022. This is accelerating another trend that was already in progress: hyperautomation.

Hyperautomation is a process in which businesses automate as many business and IT processes as possible using tools such as digital process automation, AI, machine learning, and robotic process automation. In 2021, organizations will speed up efforts to ensure their business and IT workflows are digital to allow tasks and processes to be automated and orchestrate automates across business functional areas and the entire digital ecosystem.

In addition, lost revenue from the pandemic means agencies will likely see a decrease in funding. But at the same time, demand for new and improved digital services will continue to grow. This combination will make automating digital processes at government departments and agencies crucial in the year ahead, as they work to continue to meet their mission with limited resources.

Find out more about what has made OpenText a leader in The Forrester Wave™: Software For Digital Process Automation For Deep Deployments, Q2 2019.

[Read The Report](#)





## Trend 6: 5G expands the possible

Telecoms companies started rolling out 5G in earnest in 2020 but it is much more than simply the next stage of mobile connectivity. 5G is likely to be the catalyst to new digital innovations that can transform public services in areas such as health care, law enforcement, mobility, and many more. By understanding 5G, government organizations can prepare to exploit the technology to drive innovation for everyone.

Up to 100 times faster than 4G, 5G makes incredibly fast and easy to share data and to do it for a huge number of devices, perhaps up to one million connected devices per square kilometer. The technology has the potential to transform government operations, facilitate the deployment of advanced technologies such as AI and dramatically improve public infrastructure creating smart, hyper-connected cities and communities.

The public roll-out of 5G may still be some time down the track but the creation of private 5G networks—needed for the creation of smart cities—will be possible in 2021 for forward-thinking government agencies.

Watch Katherine Arrington, CISO at the US Department of Defense (DoD) outline the security implication of 5G adoption within government and its partners.

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## Trend 7: IoT helps the digital and physical worlds merge

To date, surveillance has driven government adoption of IoT technologies. Outdoor surveillance accounts for nearly half of all global government spending, according to Gartner<sup>4</sup>. In 2021, things may be about to change. The growth of cloud and edge computing will combine with IoT to unlock the possibilities to create smart cities and improve supply chain and digital service delivery.

COVID-19 enforced a rapid transition to digital service provisions. While most citizens have been happy with the results, there is still a good deal of evidence that people still value the human experience. When delivering service, government organizations have to strike the correct balance between physical and digital to create more integrated citizen experiences. IoT can help bridge the gap between the physical and digital worlds.

In addition, the data captured from IoT devices can be used to develop what Gartner has termed the Internet of Behaviors (IoB)<sup>5</sup> that lets organizations capture data on citizens from a variety of sources. The technology can bring all data together to give a complete view of the individual and more accurately target or develop a service. Government agency will begin to look to the insight they can gain from IoT data.

Learn more about the 7 ways that the Internet of Things (IoT) is transforming law enforcement.

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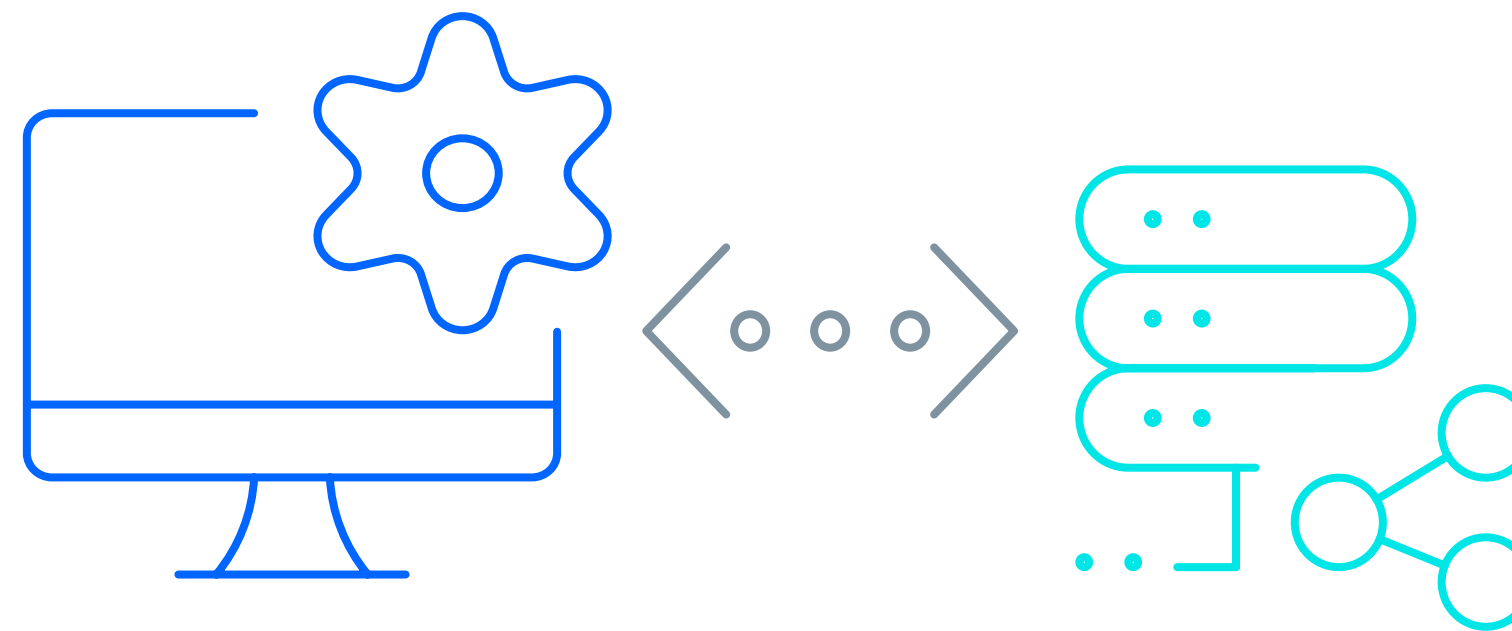
## Trend 8: Agencies explore the potential of Edge computing

As cloud become foundational, 2021 will see an increased focus in edge computing. In 2020, innovations in next-generation communications such as 5G, cloud-native technologies, and edge computing architectures have come together. This is enabling organizations to quickly create and deploy distributed services as well as using AI to quickly generate insight locally.

Edge computing brings the power of high-level computing directly to mission-critical users, whether they're in an office, at home or in the field. With an edge computing setup, robust data analytics and processing no longer needs to route through the cloud or remote data centers—reducing cost, latency and bandwidth issues.

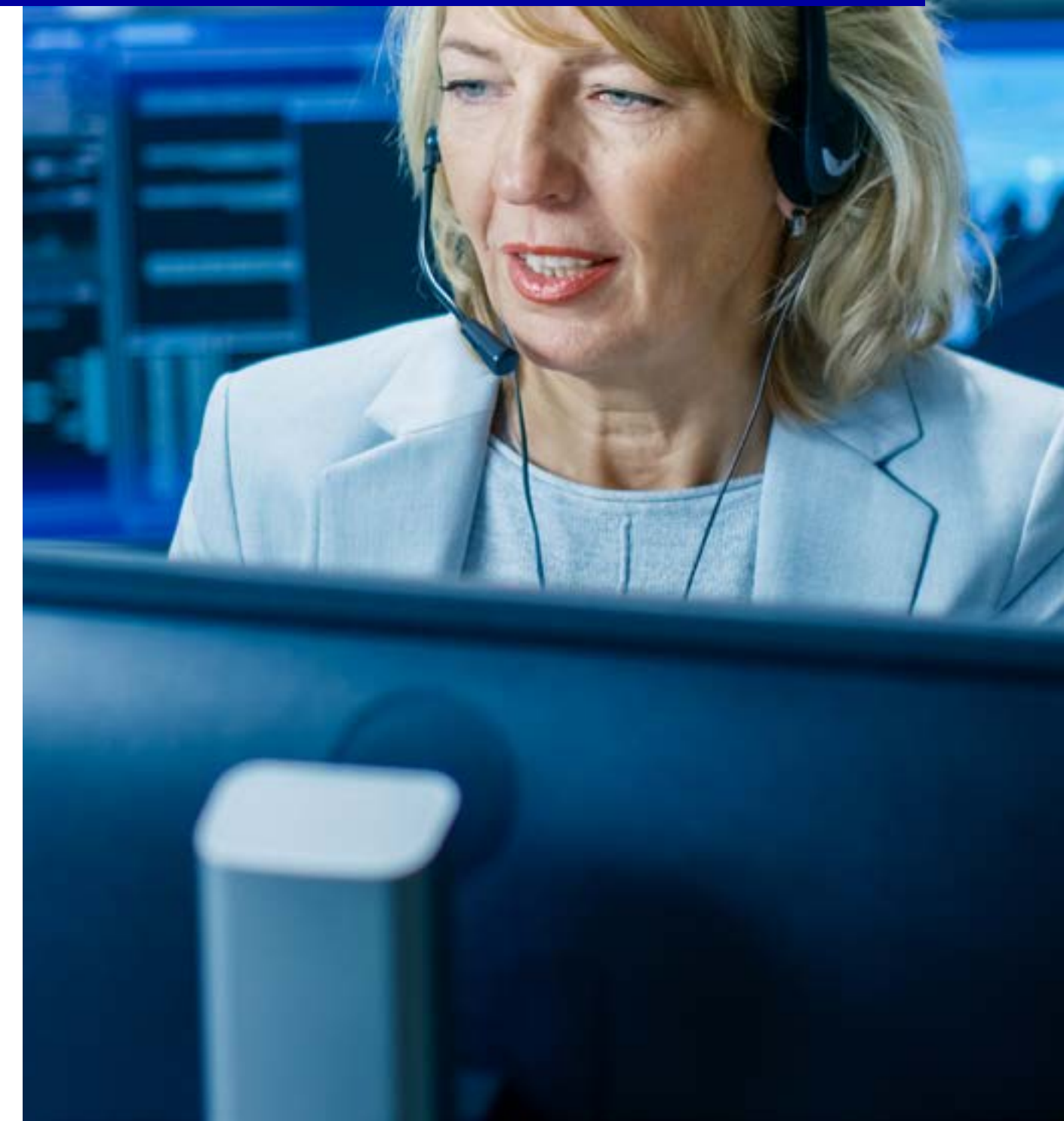
Early adopters such as FEMA and Department of Health and Human Services in the US are benefiting from edge computing. The move towards remote working and digital service delivery during COVID-19 will accelerate interest in the potential of edge computing in the public sector.

Part of the power of edge computing lies in its ability not to deploy a brand new edge node for every mission. Instead, new applications are quickly built on the existing node to meet changing demands. The same edge infrastructure is efficiently re-purposed for different applications.



Find out how City of Dallas police force is protecting information at its network end points from internal and external exposure.

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## Trend 9: AI and analytics drive better insights from government data

The volume and variety of data that every public sector organization faces is extraordinary. As agencies deliver more services digitally, increase their mobile capabilities and look to IoT to bring intelligence at the network edge, that data grows exponentially. This represents both a benefit and a challenge.

There is a famous statistic that less than 1% of data is analyzed. This figure is about a decade old but IDC research from 2020 suggests that, currently, only 37% of data is analyzable<sup>6</sup>. There is work to be done to capture, integrate and manage data in ways that allow for AI and machine learning to be applied to drive better insight and outcomes.

AI and analytics have the potential to increase employee productivity and decision-making while improving service delivery. To achieve these benefits, government organizations will begin to take an 'industrial engineering' approach to AI and analytics that looks to enhance or create operational disciplines around data management, modeling, analytics development and machine learning. MLOps (Machine learning operations) is a word we'll see a lot in 2021.

Learn more about six areas where governments are improving the way they work with AI.

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## Trend 10: Cyber security is the foundation of everything

The COVID-19 pandemic saw a massive increase in cyber attacks as hackers looked to take advantage of security gaps as people, processes and technology in government moved to a more remote environment. In truth, the pandemic only accelerated a trend for more and more assets and devices to exist outside the traditional security parameters. What was exposed was how much security teams struggled to cope.

The challenge is not just the number and sophistication of attacks, it's also the constantly increasing threat surface. In addition to an increasingly remote workforce and the need to deliver services digitally, trends that involve the increasing use of IoT and edge computing places the focus on the end point. An 'outside in' approach to security requires the creation of a 'zero trust' environment based on a strict identity verification process.

Whether citizen, employee or partner, only authenticated and authorized users and devices can access applications and data. Government organizations will increasingly turn to enterprise Identity and Access Management (IAM) platforms to build zero trust capabilities. However, these solutions must be able to encompass partners and contractors to protect against attacks at every level of the supply chain.

Listen as Katherine Arrington, CISO at the US Department of Defense (DoD), and head of the CMMC program, explains why security is the foundation of everything the agency does.

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## Summary

There is no doubt that technology will continue to transform the public sector in 2021. As government agencies look ahead, they can use the pandemic as a long-term catalyst for technology advancements. By continuing to go digital, agencies can streamline operations, become more agile and better meet the needs of employees and citizens.

It's essential that public sector organizations look to quickly embed new technologies and business models, rather than egressing back into previous ways of working when faced with difficult operating environments and budget decisions. There is opportunity to improve the lives of citizens and employees. Those who grasp it will be more resilient, more agile and better place to execute their mission.



### About the Author

Brian Chidester is the Head of Worldwide Industry Strategy for Public Sector at OpenText and the host of “The Government Huddle with Brian Chidester” podcast from Government Marketing University. He is responsible for growing OpenText’s Public Sector practice while also ensuring the success of our public sector customers.

Formerly, Brian served as the Industry Marketing Lead for Public Sector at Appian. He also has held product marketing roles with Monster Worldwide, Arrow ECS and IHS Markit, where he was awarded Best in Show - Lead Generation at the 2014 MarketingSherpa Email Awards. Mr. Chidester holds a B.S. in Communications Studies from Liberty University.



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