

# Government Digitalization: Enabling a Prosperous Nation

The need for increased mobility,  
resiliency, and sovereignty in  
meeting geopolitical and  
environmental challenges

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## Digitalization is poised to revolutionize the public sector.

In the wake of the mass shift to remote or hybrid working, and facing an alarming increase in malicious cyberattacks, government officials, policymakers, and other public sector organizations are feeling the pressure to innovate and automate – all without compromising on their compliance amid tightening data regulations.

As well as needing more control over the storage and usage of sensitive data, the public sector needs its finger on the pulse when it comes to sustainability, energy consumption, and meeting Environmental, Social, and Governance (ESG) regulations. To navigate these evolving challenges with confidence, public sector organizations need the right solutions and expertise as they embark on digital transformation.

# Mobility and resiliency for the civil service



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## Resiliency in times of emergency

No industry was prepared for the COVID-19 pandemic. And while many private sector businesses took time to find new ways of working and adjusting, the public sector, particularly the emergency services and justice system, cannot risk any downtime should another crisis emerge again and revolutionize working practices. In conjunction, the public sector's modern-day workforce, along with organizations in every other sector, are demanding more flexible and hybrid work approaches, motivated in part by these attitude changes brought about by the pandemic. Adopting a decentralized employee base not only enables the public sector (particularly government) to have team members stationed across their constituencies and areas of focus, but it also ensures that businesses can continue to attract young professionals and fresh talent with flexible working.

Ensuring the continuation of public sector services in light of future crises and the mass shift to hybrid or remote working means allowing for flexibility and resiliency through modernization. Public sector employees should be remaining secure, whichever device they're using to access their business infrastructure. As the keepers of some of the most sensitive political and citizen data, government agencies are tasked with maintaining increasingly stringent data security standards and

keeping this information safe from the ever-present and growing threat of cyber criminals. In the second half of 2022, the number of **cyberattacks targeting governments worldwide increased by a shocking 95%.<sup>1</sup>**



Enter multicloud. Eliminating the need to rely on a single public cloud provider, multicloud opens more avenues for innovation and collaboration, giving organizations greater visibility of their data processes and enabling them to effectively scale and meet regional regulatory requirements. In fact, the top two reasons why CIOs around the world are using multicloud are: to improve security (81%) and to ensure business continuity (77%)<sup>2</sup>.

<sup>1</sup>[www.csoonline.com/article/3684668/cyberattacks-against-governments-jumped-95-in-last-half-of-2022-cloudsek-says.html](https://www.csoonline.com/article/3684668/cyberattacks-against-governments-jumped-95-in-last-half-of-2022-cloudsek-says.html)

<sup>2</sup>Forbes CIO 2025 Study (EMEA)

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Expanding a multicloud footprint requires centralized visibility, which can be achieved with hybrid cloud management and cloud cost management solutions deployed across all environments, boosting stability and interoperability.

This offers organizations greater portability, interoperability, and reversibility, ultimately affording them more choice and control, including the ability to shift from on-premise private clouds to hybrid public clouds easily and securely. Above all, cloud solutions should always be adopted with a Zero Trust mindset, allowing the public sector to adapt to evolving threats, enable the identification of non-compliant or insecure actions, and offer the right access control, no matter where or when employees are accessing the network.

Over the next few years, public sector organizations and government agencies will prioritize application modernization and the implementation of cloud-native apps to configure infrastructure and replace legacy code with cloud-native services. Focus will shift to more advanced cloud practices like cloud-native tooling, containers, and virtualized applications, enabling the public sector to further enhance security, meet regulations, and optimize cloud management.



## Automation brings transformation

Paper-based tasks take up an enormous amount of time for civil servants. When Dubai became the first government to go 100% paperless, it found itself saving around 14 million working hours and 336 million papers – the equivalent of around



# 39,000

trees saved since Dubai became 100% paperless<sup>3</sup>

By automating key processes and administrative tasks, public sector organizations can free up significant time and costs, allowing individuals to spend more time interacting with citizens and tackling complex tasks. An environment augmented by automation is also crucial to allowing employees to do their jobs more effectively in any location, ensuring they are satisfied and engaged in their role.

<sup>3</sup>[www.thehindubusinessline.com/news/world/dubai-the-worlds-first-govt-to-become-100-paperless-crown-prince-sheikh-hamdan/article37942582.ece](http://www.thehindubusinessline.com/news/world/dubai-the-worlds-first-govt-to-become-100-paperless-crown-prince-sheikh-hamdan/article37942582.ece)

Frictionless digital tool access is particularly vital for public sector employees such as those in the police force and first responders, who need real-time access to data, wherever they are. For example, Antwerp Police Department in Belgium have seen their response times reduced from eight to ten minutes to just three as they minimize the need to return to the station for information.<sup>4</sup> Using the applications on their devices or through their police cars, which become moving data centers, officers are able to access real-time information on live investigations. This not only boosts productivity and reduces errors, but it also streamlines the onboarding and training of new staff.

Beyond cutting down on paper, automation offers the public sector huge potential in predicting and simulating events. By using digital twin technology to build out a virtual copy of a specific region, agencies can utilize automation to predict weather, assess climate change scenarios, and help map and model how to handle emergencies like forest fires more efficiently. The city of Orlando, Florida, has already implemented simulation technology to manage traffic, visualize planning requests, and speed up decisions on where to deploy its civil servants.

Increasingly, automation is enabling government agencies to deliver and scale more services than they thought possible. In France, La Poste is using secure mobile equipment to enable automated app updates for postal workers,

streamlining the postal system and saving time on manual upgrades.<sup>5</sup> In addition, the technology has helped La Poste diversify its portfolio of services for the public, including the distribution of food and medications to the elderly. In the UK, automation has enabled a “pop up” approach for job centers across the country, allowing the government to deploy and close public agencies wherever they’re needed within just three hours. The positive impact on citizens is tangible with



**UK unemployment**  
falling from 4.47% in 2020  
to 3.7% in 2022<sup>6</sup>

<sup>4</sup>[www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/customers/vmw-politie-success-story.pdf](https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/customers/vmw-politie-success-story.pdf)

<sup>5</sup>[www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/customers/vmw-la-poste-en-case-study.pdf](https://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/customers/vmw-la-poste-en-case-study.pdf)

<sup>6</sup>[www.capgemini.com/se-en/insights/expert-perspectives/why-the-public-sector-must-prioritize-sustainable-it/](https://www.capgemini.com/se-en/insights/expert-perspectives/why-the-public-sector-must-prioritize-sustainable-it/)



## Driving change for citizens

But the benefits to citizens don't stop with societal impacts like unemployment. With a public sector that's digital-first, citizens can trust that their sensitive data is safer, and therefore have more trust in their public sector representatives. Modernized citizen-facing applications will help build a 24/7, self-service public sector, designed to reflect the intuitive and flexible nature of citizens' day-to-day digital experiences.

For example, when the Driver and Vehicle Licensing Agency (DVLA) and the National Health Service (NHS) in the UK leveraged digitalization, they sped up decision-making processes, fostered a greater sense of trust with UK citizens, streamlined regulatory compliance, and found they were able to innovate and deliver stronger public services.

By embracing the automation, security, and flexibility of multicloud solutions, government agencies and the wider public sector can maintain centralized visibility, a governance framework, and keep cloud spend within their budgets, forming a “cloud-smart” approach.

While this requires training and process adjustments in order for civil servants to work effectively across their heterogenous environments, multicloud or cloud-smart strategies help establish trust, deliver improved services to citizens, reduce complexity, and optimize operations, acting as an extension of the work of civil servants and opening new avenues of possibility for public sector agencies.



# The impact of a sustainable ecosystem on the public sector

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## Sustainable IT: missing the mark?

As the public sector digitally transforms, organizations must ensure that all technologies and IT infrastructure implemented are aligned with the sector's sustainability targets. ESG and corporate responsibility are now mainstays of boardroom conversation in many large organizations, and this desire to improve is driving enormous change in IT teams. While accelerating digital transformation and reducing carbon emissions should go hand-in-hand, companies often don't know where to start, particularly for busy and budget-stretched public sector organizations.

Global findings show that the wider technology industry is responding to the climate emergency, but public sector organizations showed lower levels of sustainability awareness, according to a report by Capgemini.<sup>7</sup> Just 36% of public sector respondents showed an awareness of the environmental impact of their IT, compared to over 50% in the banking and consumer product industries. What's more, while 52% of public sector organizations have outlined a sustainable strategy for their enterprise as a whole, just

# 10%

have a sustainable strategy for their IT.

The state of sustainable IT in the public sector reflects a larger challenge in measuring the carbon impact of their IT infrastructure. Despite the ever-growing number of frameworks regulating eco-responsible IT, the sector still has a long way to go in the adoption of sustainable digital practices.

## The politics of cutting carbon

For government agencies, particularly government representatives, meeting policy claims and taking the correct steps towards being carbon neutral is essential to being perceived in a positive light by citizens and constituents. With sustainability top of mind for many citizens, reflecting the same environmental attitude that civil servants are motivating their communities to adopt is a key part of demonstrating integrity and trust.

In addition, reducing energy consumption is crucial for public sector budgets, especially considering the recent cost of living crisis and subsequent rise in energy prices. Given the sheer size of the offices, IT departments, and data centers used by government agencies, conserving as much energy as possible and reducing IT's carbon footprint can unlock budget for more critical public sector spending.

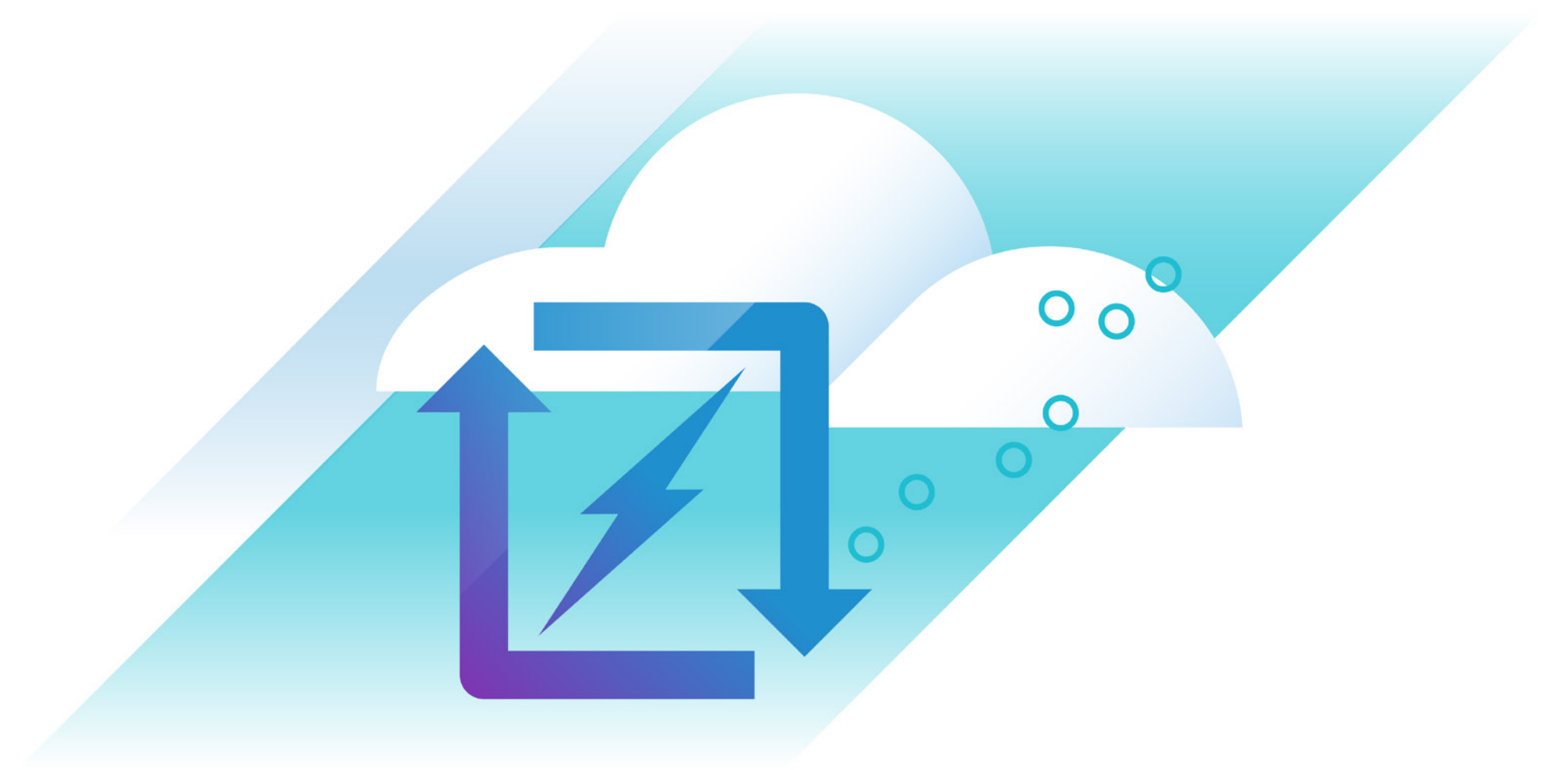
<sup>7</sup>[www.capgemini.com/se-en/insights/expert-perspectives/why-the-public-sector-must-prioritize-sustainable-it/](https://www.capgemini.com/se-en/insights/expert-perspectives/why-the-public-sector-must-prioritize-sustainable-it/)

## Virtualizing the data center

Using technologies like data center virtualization to reduce carbon emissions and create more sustainable IT architecture, the public sector can act as role model for other businesses and citizens in their community. Underpinning the capabilities of many cloud-based services, virtualization is the utilization of software to simulate hardware functionality and create multiple virtual computer systems on a single server. This enables much more computation to be done with much less hardware, using less energy as a result and, over time, allowing more capacity to be added to the data center, providing greater value for money.

In addition, the computation of digitized information is increasingly being moved to the cloud, where energy efficiency is generally higher than on-premises locations. This is due to the fact that the physical location of computing infrastructure can be optimized to cooler or less carbon-intensive electricity regions, and the cloud offers more chance to flex energy usage to meet short-term or long-term demand.

Virtualization also acts as an accelerator for other innovations such as data center cooling and immersion technologies, which use automation to optimize the server cooling process, meaning systems don't need to be replaced as often and energy is only used when necessary. Virtualization technologies also standardize operations within the data center, helping infrastructure adapt to changes faster and fuel a more sustainable future for the organization.



## VMware's commitment to change

VMware's transformative virtualization and multicloud technologies dramatically reduce carbon emissions, helping public sector organizations save significant costs and take the crucial first steps toward becoming carbon neutral in their IT infrastructure. Since 2003, VMware's product portfolio has helped customers save over



**1.2 billion**

tons of CO2 saved since 2003<sup>8</sup>

as well as providing customers and partners from all industries with data that enables informed decisions around cleaner technology. Armed with data center virtualization, public sector organizations can digitally transform in parallel with meeting climate change and green policy goals, earning the trust of their citizens and inspiring the community to act with sustainability in mind.

<sup>8</sup>[www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/company/vmware-idc-whitepaper-2020.pdf](http://www.vmware.com/content/dam/digitalmarketing/vmware/en/pdf/company/vmware-idc-whitepaper-2020.pdf)

# Sovereign Cloud and its importance to the public sector

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## The chaos of cloud

90% of organizations in Europe are now using cloud technology, with Middle East, Turkey, and Africa (META) following closely behind at 88%.<sup>9</sup> As businesses in all sectors continue the widespread shift from on-premises to cloud solutions, many are using the cloud to store even critical and sensitive data.

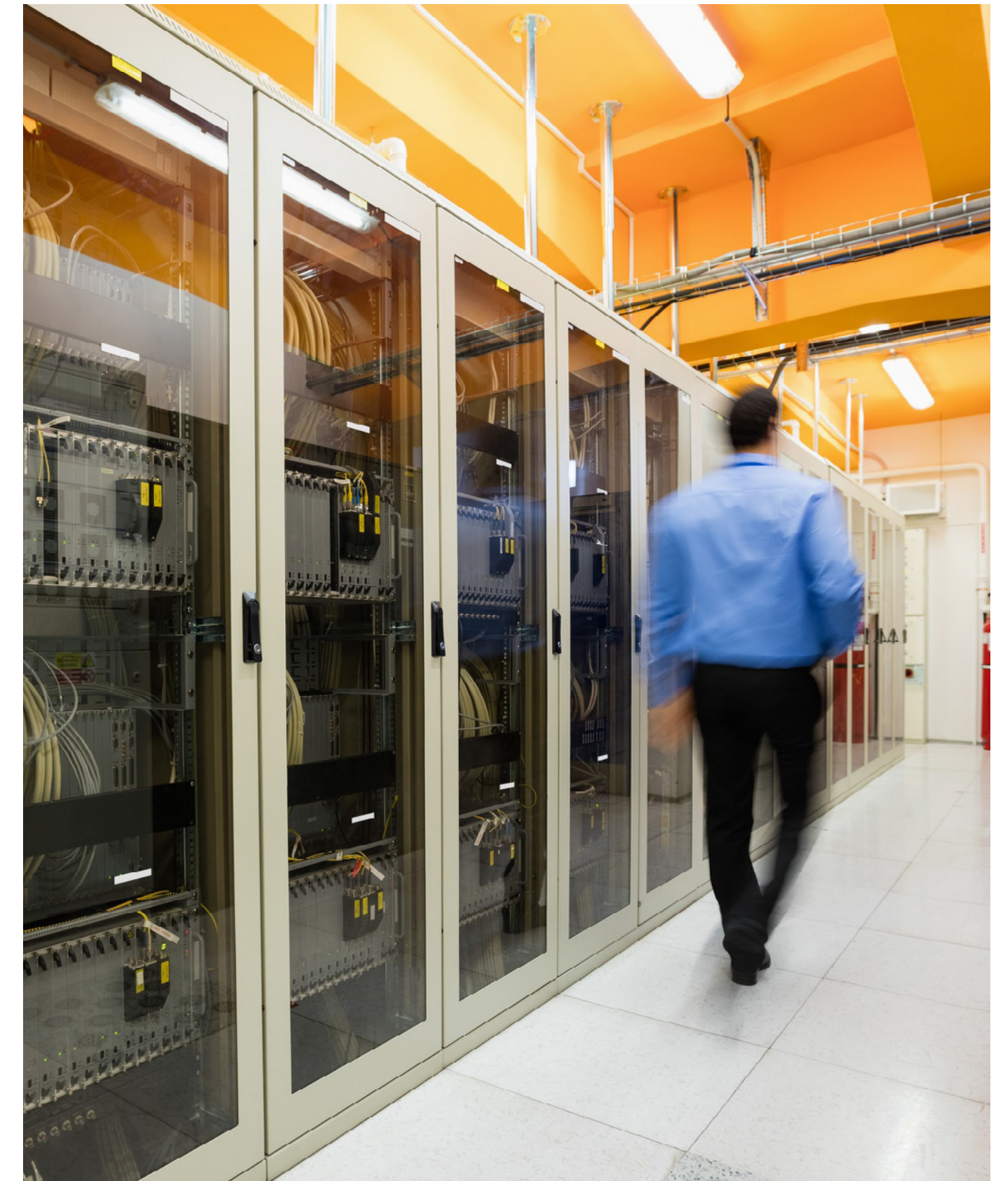
Today, **almost 50% of European companies are putting classified data on the public cloud**, with 32% of companies using global public or hyperscaler cloud providers to store confidential or highly confidential information.

However, continuing to store and manage sensitive data on the public cloud poses a risk as many organizations, particularly the public sector or regulated industries, must adhere to strict data protection laws, regulations, and compliance requirements specific to each country or jurisdiction they operate in.

Consequently, as many organisations need to scale and thereby store more data in the cloud, the challenge of keeping their data policies secure and compliant is growing.

Public sector organizations act as the backbone of the sovereign cloud initiative, taking a leading role in securing their sensitive data and therefore serving as a positive example for other industries in reconciling data sovereignty with the evolving demands of digital transformation.

<sup>9</sup>IDC EMEA, Sovereign Cloud, VMware, September 2022



## The age of cloud sovereignty

Digital sovereignty is defined as the capacity for digital self-determination by nations, companies, or individuals. Against a backdrop of growing geopolitical and economic uncertainties, organizations both in the public and private sector are starting to value their own strategic autonomy as a way of building resilience against external factors. While each organisation may define what being digitally sovereign means, the concern is growing to ensure control of their data. With such a large volume of sensitive data now stored in the cloud, sovereignty is becoming a key influence and priority for cloud strategy as data clearly become more and more important as a strategic asset for governments and industry alike.

Driven by the need for continuous compliance, as well as heightened customer confidentiality expectations 63% of all EMEA organizations cite data sovereignty as either “very important” or “extremely important”<sup>10</sup>

with sovereignty concerns only growing in organizations with a greater cloud footprint.

<sup>10</sup>IDC, Implementing Digital Sovereignty in the Journey to Cloud, VMware, February 2023





## Control & choice

The key advantage of implementing sovereign cloud for governments and other public sector organizations is '**control & choice**'

Having more and better **control** over their sensitive national data ensures that they can continue to drive digital transformation initiatives while maintaining visibility of data storage and processing. As data privacy and protection regulations continue to evolve, public sector organizations benefit from this visibility to better monitor their compliance efforts, control data transfers, and become future-ready for upcoming regulations and security principles.

By implementing multi-cloud environments, public sector agencies can take full advantage of the agility and affordability of cloud, optimizing consumption and resource to fit their specific needs – ultimately providing them with greater **choice**. Multi-cloud offers the freedom to host workloads wherever it makes the most sense, based on the criticality of data and not affected by technical limitations or vendor lock-ins. The VMware sovereign cloud framework recommends highly critical data to be stored in a dedicated sovereign cloud on-premise, while less critical data should be hosted on a sovereign public cloud in the public sector's own jurisdiction, offering all the benefits of cloud while keeping workloads safe.

### Sovereign cloud in use

In addition, sovereign cloud allows government agencies and other public sector businesses to provision more services for citizens, fuelling economic growth and building a safe economic and digital environment for the public. For example, the Croatian administration implemented a private sovereign cloud to consolidate state information securely, migrate existing infrastructure, and introduce new horizontal services for citizens and employees.



## A trusted foundation for sovereign cloud

The implementation of sovereign cloud is not without its challenges, with almost half of organizations concerned about high implementation costs and increased cloud management complexity. Other roadblocks for sovereign cloud implementation are correctly aligning IT processes with business processes, maintaining regulatory compliance, and the lack of technical skills required to integrate with existing hybrid and multi-cloud solutions.

To successfully prepare for and implement cloud sovereignty, organizations must start by building an understanding of which types of data are held, how it flows through the organization, and what the most suitable venues for each workload are. Implementing sovereignty principles is a long-term process – one that involves adapting to new requirements, frameworks, and adopting new skills. To ensure that a sovereign cloud fits into an organization's multi-cloud strategy, public sector organizations must work with partners that offer adaptability, flexibility, and control, avoiding vendor lock-in and, most importantly, providing trust and resilience.

VMware is well recognized for its data sovereignty innovation, providing government agencies and the wider public sector with more choice and control of their data storage and processing. VMware's offering is comprised of end-to-end solutions that address the strategic imperatives for data sovereignty, including security, residency, interoperability, portability, and flexibility.

With hundreds of sovereign clouds operated in governments in EMEA, VMware offers the public sector a cloud-agnostic platform that ensures continuous compliance, minimizing complexity and simplifying the path to acquisition. VMware Cloud Providers within the VMware Sovereign Cloud initiative are committed to building and maintaining cloud solutions based on modern architectures that embody the major principles and practices of data sovereignty.

## Giving control and choice, enabling national prosperity

VMware's comprehensive solution acts as a trusted foundation for public sector organizations looking to modernize their IT infrastructure, enabling government and public sector agencies to increase their data and workload mobility and resiliency - mirroring the digital-first, convenient experiences provided by the private sector.

By embracing VMware's virtualization and multicloud technologies, public sector agencies can also make positive advancements in minimizing their carbon footprint and meeting tightening sustainability regulations. And with VMware's sovereign cloud framework, organizations are able to enhance data protection and portability with full choice and control, and no vendor lock-in.

Armed with these capabilities, government officials, policymakers, and all other public sector organizations can transform their IT infrastructure and services securely and confidently, embracing a digital-first future that can evolve as citizen expectations do. Government digitalization boosts reliability and security within a country's most critical ecosystems, enabling a data-driven economy that provides democratic, societal, and economic benefits to its citizens.





# Thank You



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