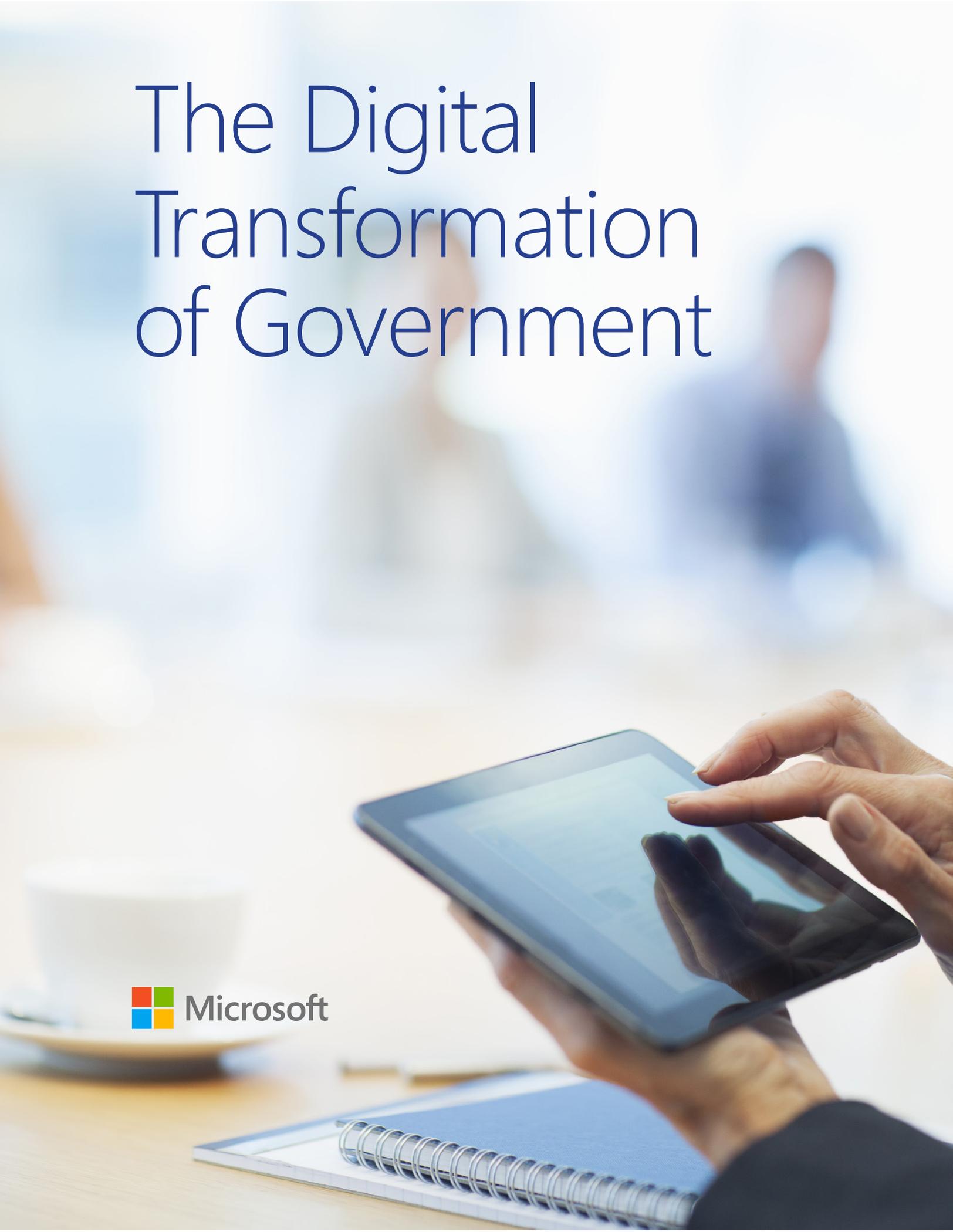


The Digital Transformation of Government



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The challenge of government digital transformation

Governments are continually under pressure to deliver greater value to their citizens, businesses and communities.

Many governments find their financial and human resources are under new and increasing pressures from changing demands and an ageing and diverse population. Some governments, particularly in cities, are experiencing unprecedented growth in population as people migrate to find new and better opportunities for jobs, health and education. These delivery challenges are compounded by citizens demanding better, more accessible engagement with governments at every level with their expectations being fuelled by the commercial sector experiences and social media.

So how can cloud technology help governments find solutions to challenges and better meet citizen expectations?

While governments have been seeking solutions to these challenges, some have been taking advantage of the rapid advances in cloud and mobile computing, big data and analytics, to begin to change the face of their government. These forward thinking agencies are looking to leave behind old manual legacy processes, disparate systems and paper-based methods. They are working towards a digital future enabled by technology as the catalyst for new business and government models, services and citizen experiences.

In this eBook we will explore some of the key features of the technology revolution that is enabling digital transformation for governments, and how those agencies are solving common challenges related to citizen engagement, worker productivity, cost efficiency and service innovation.

The technology revolution providing new opportunities for digital government

Many have compared the recent advances in cloud and mobile computing technology as a "Fourth Industrial Revolution", characterised by cost effective access to unprecedented processing power, storage, availability, scalability and security, plus the ability to readily analyse and gain insights to vast quantities of data.



These new insights help governments to better understand the performance of existing service delivery, indicating ways to improve them and opportunities to provide new services that improve the citizen experience. In the past, this level of computing capability was only available to the largest and wealthiest of organisations and agencies, but is now in use by millions of citizens every day through their mobile devices.

Technology has become omnipresent in society, and our ability to understand and embrace it represents an enormous opportunity. It's through this lens that Microsoft is focusing a mission for government: to empower digital transformation that builds economic growth, broadens social inclusion, drives good governance and achieves better citizen outcomes.

One opportunity presented by this new age of computing is the potential for governments to operate more like a digital service company, optimising operations, transforming services, empowering employees and engaging their citizens in greater depth and volume. The rapid adoption of cloud, data analytics, social media and mobility are increasing the pace of change and driving demand for innovation in government services. These technology megatrends and the proliferation of data are resetting how governments operate, from how they make decisions and create policy based on data analytics, to how they fulfil the expectations of citizens and businesses through multiple delivery channels.

Innovative governments are now embracing cloud technology; not only the web and apps, but the Internet of Things (IoT) and sensors, machine learning, digital agents, bots and speech recognition tools to better analyse and understand the data output. In this way, governments are able to deliver deeply contextual, personalised and consistent experiences to citizens by harnessing tools that allow them to increase engagement and cost efficiency.

The following pages will draw on the experiences of real governments who have embraced many stages of digital transformation and are learning more about the benefits they can deliver to citizens and government workers.

The Microsoft roadmap to achieving digital transformation

Microsoft has identified four key focus areas as the core drivers for a digital government transformation roadmap. These pillars help describe the tangible benefits of transformation, putting them into the context of digital government.

Engage your citizens

Governments can now engage with citizens at scale through connected mobile services to better understand citizen needs and increase satisfaction and participation in government. This enables governments to successfully enact mobile citizen services and



interact with citizens on a security enhanced, mobile, government-grade platform. And in turn, the Microsoft cloud platform helps drive increased productivity, protect government data from threats and reduce management costs.

Empower government workers

Government employees are now able to do their best work when mobile to increase productivity and team collaboration. Microsoft cloud technologies enable personnel to connect with colleagues and file reports from the field, gain access to real-time case information and meet and work

as a team to develop strategies – without sacrificing security and compliance.

Optimise government operations

Trusted cloud services and solutions can help optimise government operations to promote cost and operating efficiencies. Microsoft is focused on delivering a flexible, integrated and trustworthy choice of cloud and productivity solutions for government, helping to address all the key transformation challenges agencies may face to deliver improved citizen outcomes.

Transform your services

With digital transformation, an agency now has access to vast quantities of data from processes and the Internet of Thing to produce actionable analysis, insights and better decision making that can improve operations and indicate new service

opportunities. Data can now grow in value as governments take advantage of self-service data analysis tools that enable anyone to work with virtually any type of data in new and insightful ways.

Microsoft is uniquely positioned to help governments achieve their digital transformation whether the priority is on citizen engagement, worker productivity, cost efficiency or better insights into data, leading to new service improvements and innovations.



Improving the citizen experience of government

The proliferation of mobile devices, the quality of the commercial consumer experience and access to news and information via social media are all driving citizen demand for similar government services.

Multiple delivery channels are now required to meet expectations, including the need to speak to a helpful human for deeper, more complex interactions. But it's not just the multiple access and communications

channels that are needed, it's a consistent consumer experience, regardless of channel. This is vital to achieve a modern, consistent and seamless experience for high volumes of citizens who need to connect to a government process or get vital information to advance personal or commercial business.

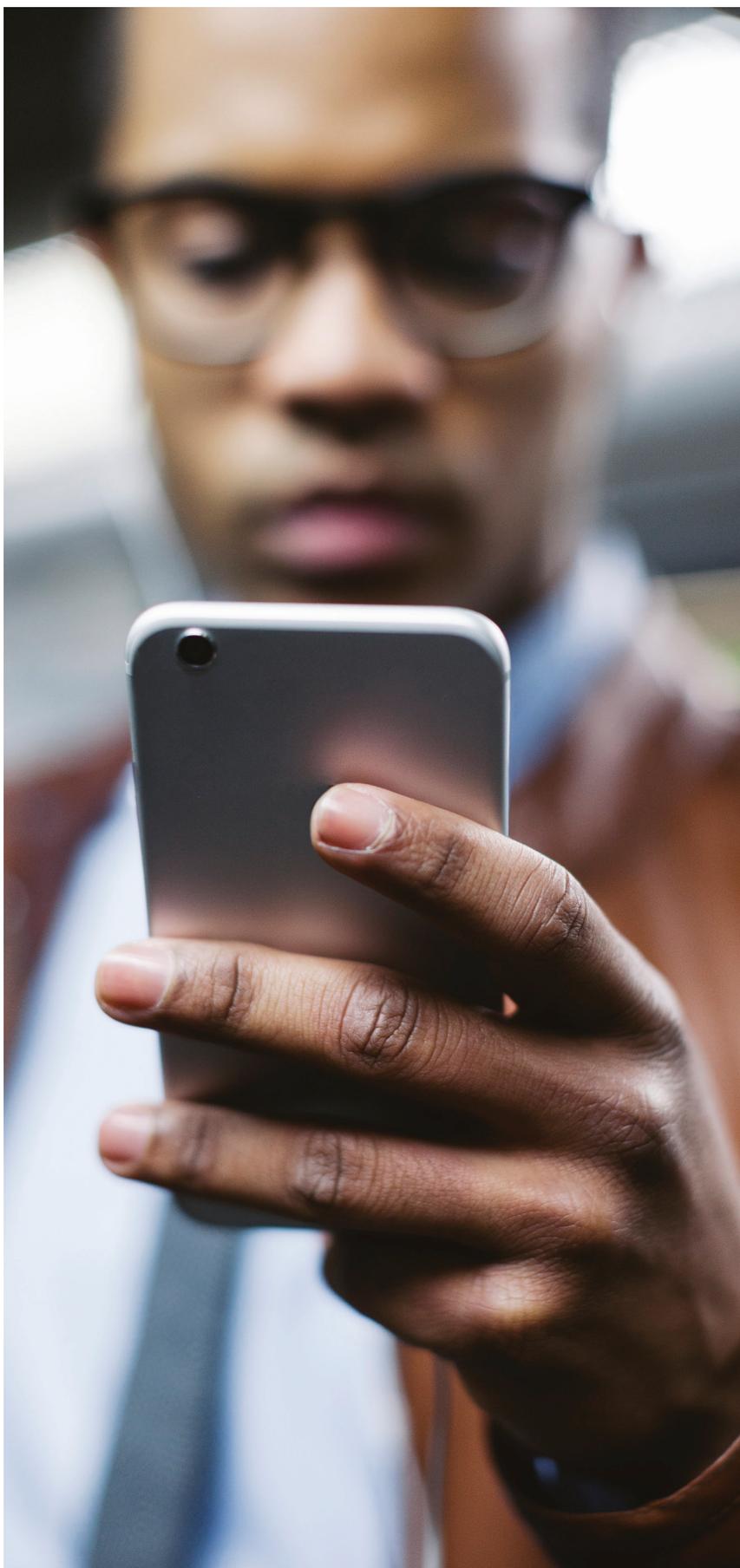
The [Tax Authority of Mexico](#) (SAT) transformed its technology infrastructure to better serve 40 million taxpayers who were required to interact online with the authority. SAT chose Microsoft Cloud technologies to deliver and improve online service levels for citizens and businesses while benefitting from increased tax control and collection, lowering processing times and helping reduce evasion.

[State of Indiana](#) in the USA sought to improve online services for business owners such as licensing, tax payment and unemployment benefits. They developed a one-stop portal resource for 100,000 business users to access an expanding array of services, helping improve compliance and cost efficiency. By taking advantage of the Microsoft cloud-based identity management system, Indiana expanded and enhanced its citizen services, easily and affordably. Information is submitted and processed more quickly and users can return to running their businesses.

"Find and Fix encourages active citizenship, and it enabled us to reduce the average time to resolve a service request from 32.4 days to less than a day."

The [Johannesburg Roads Agency](#) (JRA) understood that citizens can be their eyes and ears when spotting issues that need fixing and saw the opportunity to improve its operations and citizen satisfaction related to the maintenance of roads, bridges and other transportation infrastructure. JRA released the 'Find and Fix' mobile app on the Microsoft cloud platform, allowing motorists to easily report issues through a smartphone. The impact was a reduction in issue resolution times from 32.4 days to less than a day helping change perceptions of government efficiency.

The Microsoft Cloud is enabling government agencies to provide service, communication and citizen engagement applications to millions of citizens on their preferred devices. These flexible, integrated and trustworthy cloud technologies provide government agencies with a scalable and low-cost platform to deliver high performing, high availability web services, portals, apps and social media connections while helping to reduce hosting, data storage, security and management costs.



The next generation of government worker productivity

Many governments have made progress in finding ways to reduce operating costs and do more with less.

While scalable, omni-channel citizen services have delivered a great contribution to cost efficiencies and volume engagement, the government workers who help deliver those online and in-person services also need tools to help drive their productivity. With employment making up a substantial proportion of the costs of running a government, agencies have looked for ways to increase the productivity of staff who are needed in essential skilled roles and on the front line of service delivery.

Now governments are looking towards increased cross-departmental collaboration, teamwork, data sharing, mobile working and field work to drive productivity to the next level.

The City Council of Renton, in Washington state, USA ordered its municipal court to reduce the number of employees by 23%. That prompted a transformation to Microsoft cloud-based digital court technologies, replacing cumbersome paper forms, files and other court documents and manual work processes. As a result the court has made employees' jobs easier, adjudicates cases in less time with fewer employees and saves Renton's taxpayers US\$405,000 annually.

"Now that I can access many more of the relevant documents in advance through the cloud, my job has become much easier."





Hollands Kroon, a municipality in the Netherlands, has re-imagined what it means to work in municipal government. Staff can choose where they want to work: from home, at the office or on location. Microsoft Cloud digital solutions help them keep in touch, collaborate, share and meet without needing to be in the office. Their staff use laptops, tablets, smartphones and Microsoft Office 365 to work where they need to be and all the servers are in the cloud. Employee morale is up, absences and costs are down and the city is working to improve data-driven decision making. Having a more mobile work force means that the city can better deliver services to its citizens.

Cardinia Shire Council in Melbourne, Australia, used Skype for Business to assist them in becoming a modern activity-based workforce, which means no offices and no

desk phones. Employees can use any device to easily connect and collaborate based on the project they're working on, not their location. They can also easily reach their constituents and stay connected wherever they are located. Staff turnover has reduced by 13% and productivity has increased. In fact, 15% of the Council building is no longer needed, further reducing costs.

Microsoft Cloud technologies are enabling more secure mobile access to the cloud-based data and information that government workers need to be productive. Agencies can take advantage of apps like Office 365, Dynamics CRM Online, Yammer and Skype for Business to deliver citizen services, collaborate and communicate with colleagues, streamline case management, automate processes and drive productivity with the flexible workstyle they need.



Improving operating efficiency through transformation

In the customer stories referenced so far, the Microsoft Cloud has been the technology enabler of beneficial change. However, it's clear that legacy systems still exist in most agency IT portfolios.

Old manual paper-based processes can provide significant obstacles to cost optimisation or even data security. By initiating a transformation with the Microsoft Cloud, agencies are migrating away from the limitations of old infrastructures, platforms and software while implementing new cost-effective cloud-based solutions. The choice of private, public or hybrid cloud solutions and the support of a large and growing number of open-source applications, frameworks and languages all help cost efficiency. These options can help agencies optimise their operations while delivering services that help meet ever-changing requirements in a more cost-effective and efficient way with enhanced security, governance and compliance.

"When we're done with our migration to Azure, we'll literally be able to throw away our yearly £65,000 power bill for the one machine room in our datacentre."

Somerset County Council in the UK chose to move nearly all its on-premises datacentre, including Windows, Linux and open source technologies, to a hybrid Microsoft Azure Cloud. The county also built a new environment for software development based in Azure. As a result, Somerset will realise dramatic gains in efficiency, reducing downtime, accelerating new software releases, improving citizen services and saving an expected £65,000 a year in power costs alone.

An extra challenge for governments looking to streamline operations is the need to stay true to data governance and retention policies while maintaining accurate, complete information availability for easy data extraction and regulatory compliance. They must also securely and efficiently manage the challenges of significant data growth, often during times of high seasonal or monthly demand, such as tax returns, and monthly payroll, while simplifying and improving data protection.

"We're only six months in so it's just the tip of the iceberg. Now my team can spend more time adding value to the organisation. I think we'll see big gains in the next 12 months – it's exciting."

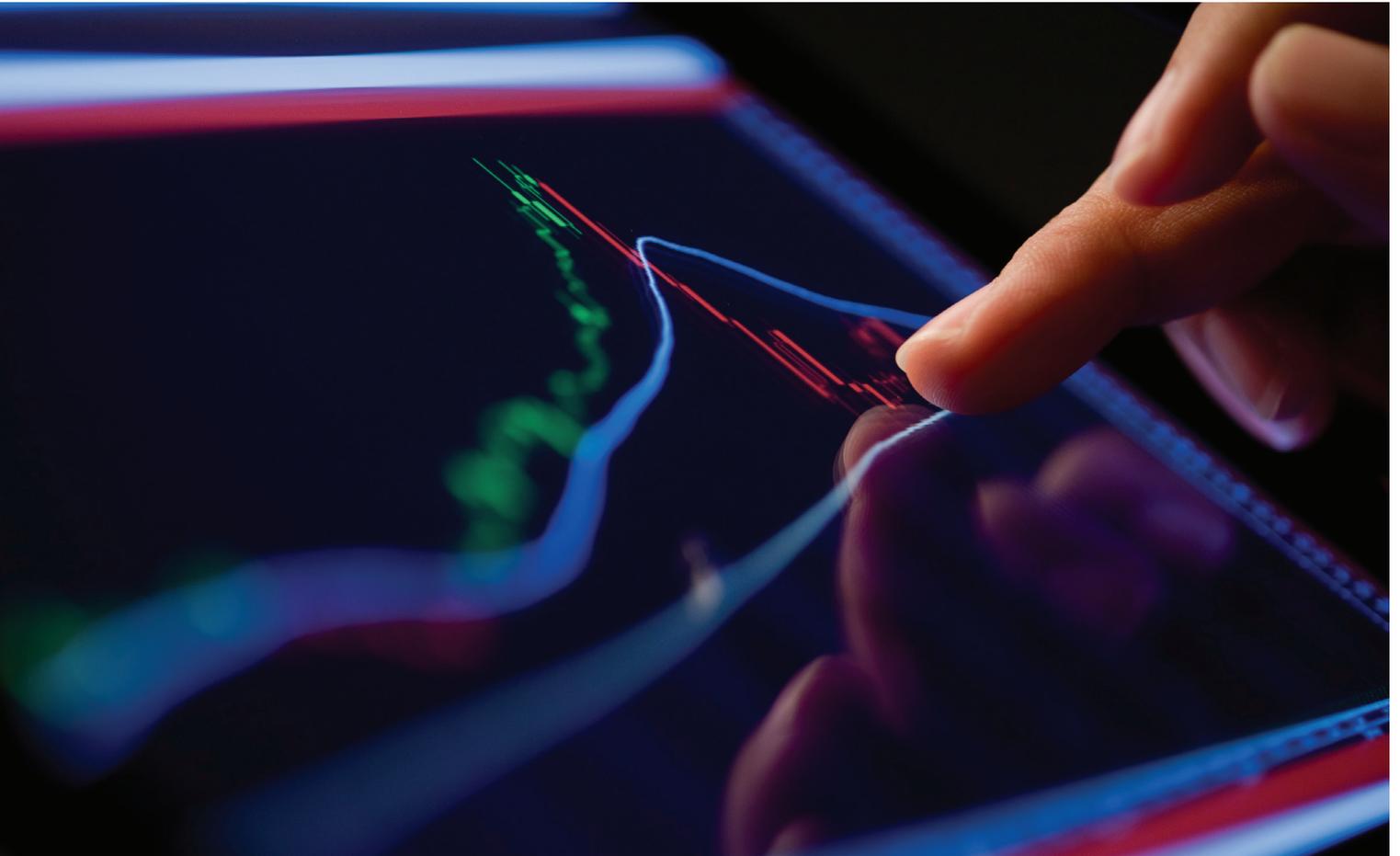
Hamilton City Council on New Zealand's north island, was paying for a private cloud service 24 hours per day, 365 days of the year for a service only used at its highest demand

point and they wanted to see what was possible with a consumption-based public cloud model to create savings. In making the transformation, the council's infrastructure was deployed across a hybrid cloud solution-based on the Microsoft Cloud using both local onshore infrastructure as well as Microsoft Cloud locations in Sydney and Melbourne. And with regard to the security of a public cloud, the Council insists they're more resilient and compliant now than prior to their move.

The Microsoft Cloud is helping governments to optimise and transform the services they provide by helping transform the systems they use. The ability to provide a choice of flexible, integrated and trustworthy cloud and productivity solutions all helps governments address the key transformation challenges they face to deliver improved citizen outcomes and optimise operational efficiencies.



Transforming government effectiveness through deeper data insights



Intelligent use and analysis of vast volumes of data lie at the heart of digital transformation.

Through a digital transformation process, governments now have the ability to gain in-depth and confident insights into service performance, citizen engagement and any other process that feeds data to the cloud. Governments can make more informed decisions, driving productivity, increasing mobility and innovating new digital services. The analysis of this data provides insights and the predictive power to help deliver personalised government services to better meet citizen preferences. And by making appropriate "Open Data" available to the public, citizens and organisations can

contribute to this process, innovating services and communications for the greater good and accelerating transformation.

[Leicester City Council](#) in England was hindered by time-consuming manual processes and limited access to information. Even a simple service request could involve disparate data sources and reporting tools. Gaining a holistic insight into multiple services was very challenging. The council chose Microsoft data and BI technologies to embrace its data, eliminate information silos across departments and improve business intelligence (BI). As a result, the council could quickly produce reports and gain valuable and actionable insight into its service delivery.

"But we have made it easy to track progress with a Microsoft BI solution. The other city councils we've showed it to have been very impressed, because where they have five or six people keeping track, we have just one person who presses a button once a month."

The concept of the Internet of Things – a network of devices, electronics, software and sensors all connected to the web for the collection and exchange of data, is providing a rich and growing ocean of data available to governments to assist transformation. This concept of data generation also extends to the people, processes and things already working in government from energy and water meters, traffic flow cameras, transportation fleet GPS and building sensors, all producing data that can be combined for analysis to spot trends that help control costs, reduce waste, drive new efficiencies and streamline overall operations.

The Municipality of Heerhugowaard in the Netherlands, is home to a smart energy neighbourhood of approximately 200 households that are managing their use of energy with the help of the Microsoft Cloud.

Their Smart Energy Service Platform (SESP) provides the basis for this smart energy infrastructure, ensuring access to the smart meters, control equipment and sensors in homes, plus data collection and storage, and delivers residents' feedback through portals and apps. SESP runs on the Microsoft Azure Cloud delivering scalability, maintainability, reliability and security.

The capacity of the Microsoft Cloud to store and manage data volumes in a safe and compliant way combined with the provision of powerful self-service data analysis tools and applications is enabling government workers and leaders to work with virtually any type of data in new and insightful ways.



Security and compliance for government transformation

When considering a digital transformation journey, cloud security and compliance rapidly rises to the top of the agenda.

This is why it is vital for a cloud technology provider to not only understand, but also to deliver the trust, security, compliance and resiliency needed by agencies to prove compliance to government regulators.

While requirements around compliance are complex, nuanced and vary by geography and jurisdiction, Microsoft's compliance certifications and accreditations are expansive and comprehensive and help government organisations to meet relevant regulations including criminal justice, public safety, tax, trade, education, health, cloud privacy and security.

"We were able to make a compelling argument for adopting the complete cloud-based Office 365 suite of online productivity tools because of the extensive work that has gone into making it highly secure, which helps organisations comply with major regulations like HIPAA for healthcare and CJIS for criminal justice and public safety."

The State of Hawaii has migrated almost 12,000 employees to the cloud-based Microsoft Office 365 productivity tools to improve communication and collaboration. Staff now find it easier to collaborate with colleagues, track legislative information and work on mobile devices and citizens can communicate better with state government and participate more in governmental processes. They were able to see what

other states and customers were doing from a compliance perspective, and that was enough to counter any reluctance that people had about moving the state's data to the cloud.

The challenges now posed by cybersecurity and keeping citizen data safe and secure, both in transit across a network and at rest in the datacentre, is escalating as governments of every scale increasingly rely on information technologies as part of their critical infrastructure.

As a cloud provider serving many millions of customers around the world, Microsoft uses effective cybersecurity solutions that can scale to meet the requirements of both large and small government organisations. In addition, customers can take advantage of these security technologies together with expertise and skilled resources that manage them when deploying a cloud solution. This helps governments strike the appropriate balance of security and end-user empowerment, with effective security controls across identity, device, data, apps and infrastructure. This approach helps protect an agency's data against unauthorised access and detect attacks and breaches, and can help a government respond and adapt to prevent reoccurrence.

After four decades of working in the public sector, Microsoft understands what governments are challenged with and in this increasingly mobile-first, cloud-first world, trust is paramount. Microsoft will continue to be committed to developing trusted solutions for government, working with industry partners, competitors, worldwide regulators, global law enforcement and, most of all, government customers.

Take your digital transformation to the next level with Microsoft

Flexibility, integration, trustworthiness, openness and a citizen-centric approach, all provide strong foundations for Microsoft to partner with governments on their road to digital transformation.

The Microsoft focus on delivering more personal computing, re-inventing productivity and business processes and building the intelligent, trustworthy cloud, supported by a vast network of technology partners, all empower government workers and leaders to do more and achieve more for the institutions, businesses and citizens they serve.

Learn more about Microsoft in Government <https://enterprise.microsoft.com/en-gb/industries/government/>

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