

RIGHT THE  
**TECHNOLOGY**  
WRITE THE  
**FUTURE**

**TechnoVision** | PUBLIC  
2023-24 | SECTOR

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**Marc Reinhardt**  
Head of Public Sector and  
Healthcare, Capgemini

# FOREWORD

The beautiful, intriguing artwork of this TechnoVision 2023-24 edition makes me revisit it repeatedly. Let's take a look at the front cover in particular.

Is it a mirror, or a doorway, or both? Do we look forward to what is coming, or backward at what has been? Is the future bright and established, or still an empty slate waiting to be written on? It also seems to ask us what kind of future we want. Will it be a future in which technology constrains business, or empowers it? One where you choose profit over the planet or find profit in sustainability? A technocratic future, or one in which we always put people first? Will we use technology for resilience and agility, new ways of growth, doing things differently, or something else?

Whatever scenario pans out, we know technology is an integral, indispensable part of the equation. So, if we indeed aspire to thrive on technology, what are the options that help us build a better world, a more successful enterprise? And what are the delicate trade-offs to be made when we realize that applying technology requires human and natural resources that are increasingly scarce and that certain technology options even may have an undesirable societal impact — for example on the environment or in terms of ethics?

Choices, so many choices.





**Pascal Brier**  
Group Chief Innovation  
Officer, Capgemini

In my foreword to [TechnoVision 2023](#) I explained what makes our annual report on technology trends so different. More than a report to read, it is a trusted and insightful guide that helps business leaders, CIOs, and technology practitioners make the right choices, devise technology-enabled enterprise strategies and build transformation plans for the short and long-term challenges they face.

Yet there is another dimension of TechnoVision — one that becomes clear when a business leader holds these technology trends in their hands: the sector-specific context in which the potential of technology becomes a reality.

Each sector brings its own specificities and requirements. The business needs are always the starting point. How successfully any technology is applied to them, and the impact this technology makes depend on the depth of industry expertise as well as technology know-how.

The public sector is no exception to that. Job centers, armies, smart cities, tax authorities, or central government — all are engaged in a technology journey and are transforming the experiences of citizens, employees and partners.

If you want an AI system to provide the best results, you need to become skillful in *prompt engineering*: articulating through a chain of carefully selected words what your intention is. Selecting the wrong words leads to unexpected results and adding more words to the prompt is not always helpful. Context and sequence can be all-determining.

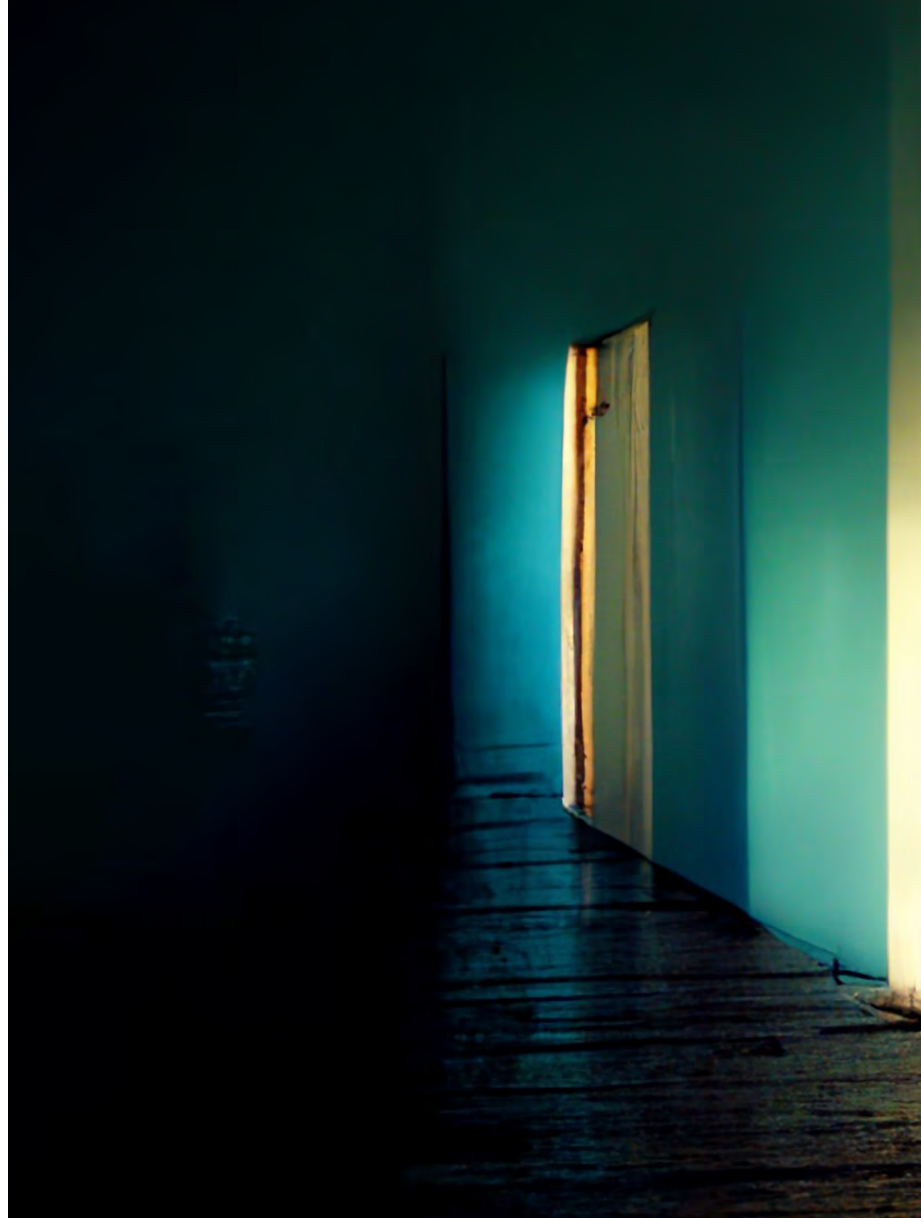
This is not so different from today's public sector, in which TechnoVision 2023-2024 can help governments, agencies, institutions, and participating citizens find the right *tech prompts* to get the future we want.

**Right the Technology, Write the Future.**  
**In a sector where doing the right thing for society is both mandate and moral compass, technology is ready to be harnessed for the greater good.**

We can't say the public sector has sailed away from the troubled waters tackled in the last edition of 2022-23 — while we hopefully left the pandemic behind us, uncertainty took other forms. On the one hand, we witnessed new conflicts in many parts of the world, including an all-out war in Eastern Europe, an unexpected and unwanted repeat of history. Inflation, as well, made a return that challenges citizens in their daily lives and governments in their roadmaps. Climate change sends more and more sharp warnings of its impact on our societies. Sustainability is key, and that also is true for finances. Even if we need cash to do many things, we cannot just borrow like there is no tomorrow — as tomorrow, our succeeding generations will be responsible for repaying this debt, so the future must be written along a clear theme of efficiency.

We all — governments, citizens, corporations — must do what it takes to get the outcomes we need. The way to get there is mission-orientation, for which the public sector must fundamentally reinvent itself, become more entrepreneurial and proactive, and take on a cultural and organizational transformation. And all this while staying on task — the management term for this is 'perform while you transform'!

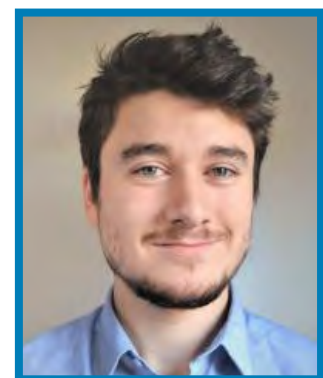
It goes without saying that there is fresh set of trends in this TechnoVision report. New industry-specific clouds are emerging as the only possible way for the public sector to lessen the burden of legacy IT landscapes while doing justice to sovereignty requirements. Green software engineering is reshaping the applications portfolio in a sustainable way to help achieve sustainable development goals, and we see *net-zero data* helping to collect, leverage and share knowledge for energy efficiency or cleaner supply chains. Meanwhile, we envision the Internet of Twins approach evolving to create extended, mixed realities in which we deliver both superior experiences, and operational efficiency. And then there is the distributed, decentral *mesh* web that relies much less on one silo, fixed assets and structures and creates more value. And do we even need to point out how



# INTRODUCTION



**Gunnar Menzel**  
Chief Technology and  
Innovation Officer,  
Global Public Sector



**Pierre-Adrien Hanania**  
Global Public Sector Chief  
of Staff





creative machines such as ChatGPT also made their arrival in our public services, helping civil servants with anything from trivial tasks to research insights? GenAI can deliver far more than this, but that is a chapter countries and agencies have to write individually after a dialogue with their stakeholders.

And there is more — treating the public sector as a homogeneous monolith will not do justice to its complexity. In this year's edition, you will discover segment focus, marrying tech, impact, and future for a happy set of use cases — for tax and customs just as for healthcare, for welfare, just as for defense — and more. A match made in real life.

Three guiding principles will make their appearances again and again, like a red thread for a desired future:

**Sovereignty in its purest form** — as a sustainable commitment towards one's own resilience and resourcefulness.

**Data unleashing ecosystems** — the transformation of more and more information into impactful knowledge, by the act of sharing and opening up.

**Purpose** — to remind us why and for what goal technology is leveraged — for the betterment of life and satisfaction of our citizens, in harmony with other parts of the world and our environment of flora and fauna.

All three define what the public sector is looking for: a viable, open and

mindful relationship with technology. A compass in these times of uncertainty.

Something old, something new — and TechnoVision remains true to its vision: an accessible, well-structured, actionable framework, describing 37 technology trends, which are based on the contributions of over 55 Capgemini experts from over 15 countries, and from many different domains. There is something for everyone, whether you are an IT expert looking for the serendipity of unexpected angles, or a tech-curious businessperson wanting to understand the buzz. If nothing else, TechnoVision brings you some fresh thinking to address the business issues of today and helps you design, plan, and ultimately, write the future you want. Sounds about right, doesn't it?



# RIGHT THE TECHNOLOGY, WRITE THE FUTURE

Benjamin Franklin, one of the founding fathers of the United States, was what you could call a polymath: an individual who masters a wide variety of subjects and is able to tap into all of them to solve specific problems. Just like other polymaths — think Leonardo da Vinci, Al-Biruni, Leibniz, Hildegard of Bingen, Rabindranath Tagore — he covered areas as diverse as science, technology, engineering, mathematics, and the arts. He was an influential writer, scientist, inventor, statesman, diplomat, printer, publisher, and political philosopher.

Today, he would no doubt have been an accomplished data scientist, software engineer, and enterprise architect as well. Portfolio management might even be his forte, as he has been credited as the inventor of the Pro & Con list, which is still an effective decision-making tool. He would also have been a popular meme-maker on social media. Always quick with a bon mot, he produced an impressive longlist of quotes: “Haste makes waste”, “If you desire many things, many things will seem few”, “Lost time is never found again”. These are just a few examples of his one-line wit that remain as relevant as ever.

In TechnoVision published this year by Capgemini, you will find the explanation behind many new principles the report leans on page by page and chapter by chapter. In this edition, we have integrated those, and tailored their understanding to a public sector context.

The purpose of doing well by doing good, the abundance of ways to do so, and the necessity to use technology responsibly by considering the scarcity of resources—these

are the storylines toward better futures. Public sector organizations, like those in any other sector, have many opportunities to shape their future with digital technologies.

The public sector comprises a heterogeneous landscape of stakeholders working at different levels of government, in ministries, departments, agencies, authorities and a myriad of organizations.

For simplicity, we divide them here into six segments: public administration, tax and customs, security and justice, public defense, welfare, and public healthcare.

In those segments, it's about nothing more, and nothing less than helping master the real-life environment for public servants and citizens. And it takes an act of virtue, as well as order, justice, humility, and temperance, all dear to Benjamin Franklin, to steer the future of the public sector using technologies that facilitate improved services and outcomes.

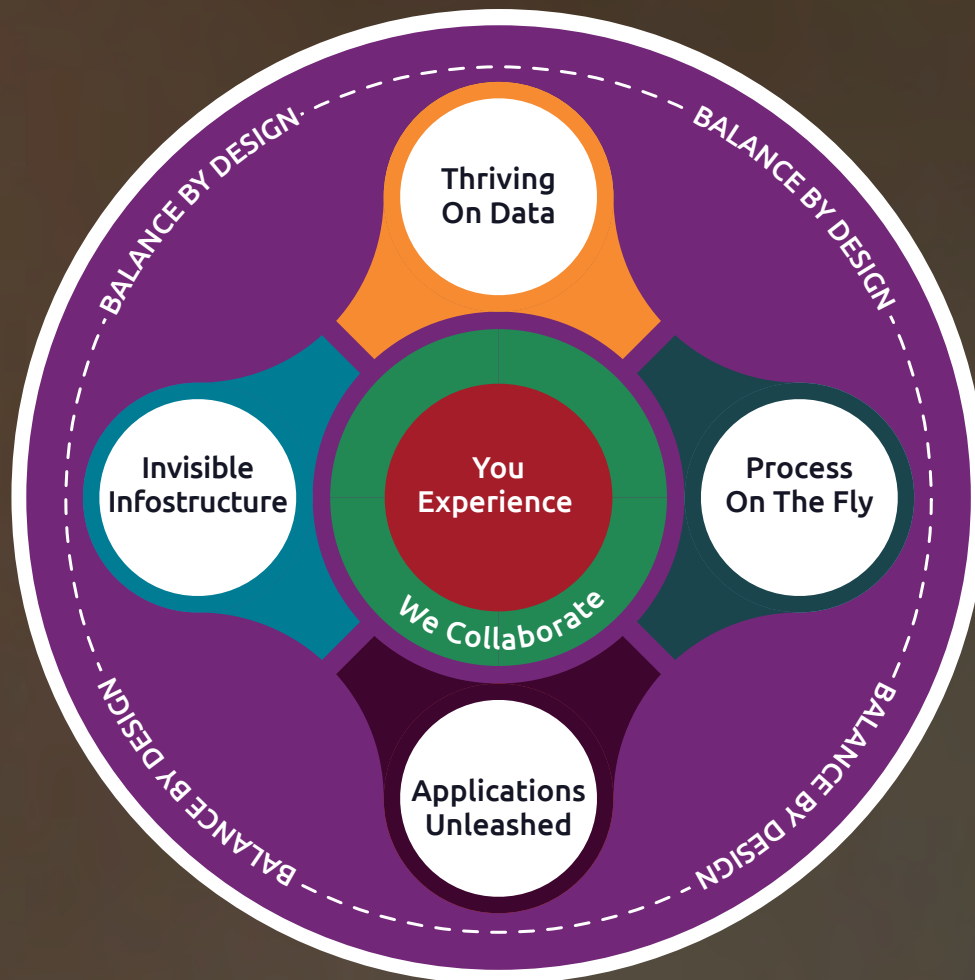
Applying these technologies to real-life challenges is what counts, as the reader will discover in this report, in each of the segments and with concrete use cases to illustrate the impact technology can have.

Hence, it's all about applying.

Because a public servant and a citizen can be accomplished data scientists, software engineers and enterprise architects as well, and eventually, nothing less than a Benjamin Franklin.



# OVERVIEW OF TECHNOVISION



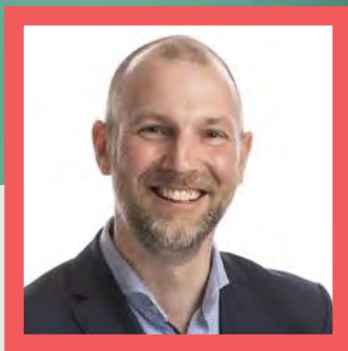
TechnoVision categorizes technology trends into six containers, offering a snapshot of innovation from different perspectives (the *what*) — ranging from user experience and collaboration, via data and process automation, all the way to infrastructure and applications. A seventh container offers a series of overarching design principles to successfully apply the trends and create transformational impact (the *how*). These principles help to build a sharp mindset, ready for any portfolio, program, project, architecture, innovation initiative, or idea.

*You Experience* and *We Collaborate* are at the heart of the technology-driven exchange. This core foundation is surrounded by the more functional containers — *Thriving on Data*, *Process on the Fly*, *Applications Unleashed*, and *Invisible Infostructure*. This collection of trends is all wrapped up with *Balance by Design*, as the overarching container to be considered while working with the others.

Within each container, five key trends are presented as one-page summaries, designed to be crisp and to-the-point, yet appetizing enough to warrant further study. They all describe *The Desired Future*, which describes the trend, and *The Tech*, which provides links to key technologies and standards. In addition, they all contain *A Future to Read* with a business case either from Capgemini or externally with the fundamental challenge (*Why*), the implementation solution (*The Right Technology*), and the benefits that have arisen from it (*The Future*). For each trend, *A Future to Write* describes how you can get involved in the area. Each trend also mentions an expert in residence that anyone can connect to if they want to know more about the topic.

*Balance by Design* — our overarching container — follows a slightly different setup to the other six, offering views of how to shape balance within an organization using seven clear design *principles* — including *anti-principles* that are sometimes easier to detect than the principles themselves.

# YOU EXPERIENCE



Harm Erbé



Vanessa Ouaknin



## INTRODUCTION

Administrations and public services are under increasing pressure from governments to deliver a quality user experience. But what does it entail within the public sector?

A positive user experience in the public sector ensures that citizens' expectations, when they use a service, are met, creating a sentiment of simplicity and satisfaction. But why is it so very important in public services? Because it ultimately fosters trust in governments, lowers the cost to serve, increases the attractiveness of civil servants' jobs, and in essence, it contributes to social peace.

What are the enablers of a good user experience for citizens?

**Personalization:** One of the main challenges is the variety of citizens' needs. Citizens' experiences are influenced by where people live, what resources they have, their capacity to use a digital service, their knowledge of their rights, etc. The ability to gather data at each interaction channel to create a 360° view of habits and needs is crucial. This ensures citizens feel understood and considered by the administration, improving interactions with agents. Establishing customer-experience-monitoring systems could allow the administration to use real-time data to improve the experience.

**No friction:** Citizens encounter several events in their lives that necessitate them using various public services. Take the example of a birth: you must interact with family allowances, health insurance, childcare, etc. Public services can go further in the development of *one-stop shops*: cross-administration approaches centered on the life events of a citizen to create *seamless journeys*. The French digital platform [myChild.fr](https://myChild.fr) is an example of that.

Don't be afraid to use innovative technology: AI, metaverse, and IoT are opportunities to enhance or simplify the user experience. For example, the complexity of administrative procedures, in particular on the web, is an obstacle to the use of public services. The emergence of large language models (LLMs) offers an opportunity to simplify procedures. They are an excellent tool for setting up *multipurpose chatbots*. Associated with other GenAI models and in particular *visual language models*, capable of generating images from texts, or even animated images, it is possible to envisage that future administrations will provide chatbots with all the qualities of a real *assistant*. It could therefore bring a small revolution in terms of user experience, by constituting a precise, understandable, and rapid way to accompany citizens in their procedures and answer standard questions.



# EXPERIENCE<sup>2</sup>

## The Desired Future

Ensuring a seamless, user-centric government experience involves meeting the expectations of citizens, employees, and business partners. Across communication channels, interactions are designed to be timely, efficient, and stress-free, aligning life events with government obligations. The goal is to elevate public sector services to mirror private sector standards in usability, sustainability, and convenience, establishing the public sector as a leader in inclusive, frictionless design.

Users aspire to fulfill their government obligations, whether triggered by life events or pressing needs, such as the cost of living or disabilities. Humanized, intuitive services are essential, alleviating stress and pressure through efficient, timely, and process-driven interactions. Users see government as well connected with joined up processes across departments.

Users demand transparency, accountability, simplified policies, streamlined processes, and real-time updates through multi-channel platforms. Services are accessible whenever users require them, personalized to preferences, ensuring data security and confidentiality. Real-time understanding of user expectations and intentions is vital, forming the basis of what we term Experience<sup>2</sup>.



Jatinder Gill



## The Tech

- **Customer Experience Management:** [Usermind](#), [Highspot](#), [Uxpressia](#), [Invision](#)
- **Real-time journey management tools:** [Kitewheel](#), [Alterian](#), [Pointillist](#), [Thunderhead](#), [Usermind](#), [Adobe Journey Optimiser](#), [Salesforce Personalization](#), [Braze](#)
- **Customer platform technologies:** [Salesforce Clouds](#), [Adobe Marketing Cloud](#), [SAP CX](#), [Pega](#), [Usermind](#), [Cemantica](#), [Acoustic](#), [Hubspot](#), [Threekit](#), [Genesys](#), [NICE CXOne](#)
- **Virtual and augmented reality:** [PTC](#), [Unity](#), [Meta Quest](#), [Hololens](#), [Perfect Corp](#), [Varjo](#), [Nvidia](#)
- **Customer data technologies:** [Tealium](#), [Salesforce C360 / CDP](#), [Microsoft Dynamics 365 CI](#), [Adobe AEP](#), [SAP CDC](#), [Segment](#), [Treasure Data](#), [Bloomreach](#), [Algonomy](#), [Oracle Unity CDP](#)
- **Mobile engagement platforms:** [Braze](#), [Moengage](#), [Vibes](#), [Airship](#)

## A Future to Read

### Revolutionizing Contact Tracing for Public Health and Hospitality

#### NHS Scotland

**Why:** The Scottish NHS wanted to develop a national digital contact tracing service to protect public health during the COVID-19 emergency and to enable the hospitality sector to re-open safely after the lifting of lockdowns and restrictions.

**The Right Technology:** Multiple government and public health stakeholders partnered with Capgemini to develop the Check In Scotland service, which features QR code scanning technology and quickly became the country's go-to national contact tracing solution.

**The Future:** The service was used by 27,000 businesses, representing almost two thirds of all hospitality venues in Scotland, while the project led to the facilitation of more than 20 million check-ins, including more than 500,000 app downloads. Cost efficiency targets were achieved with £7.7 million in savings through efficiencies in the contact tracing process.

## A Future to Write

Five ways to start:

- Create world class-customer services that allow for self-serving through conversational design, chatbots and Generative AI
- Nudge the user in the right direction to help them meet their obligations
- Innovate with adjacent industries
- Delegate authority— creating services that support individuals assisting those that are digitally excluded
- Clarify the ask and the actions enabling better understanding and more compliance.

# ME, MYSELF AND MY METAVERSE

## The Desired Future

Water flows into the sea — another world we can dive into. Combine VR/XR with AI and Quantum, and with the same immersion we melt into a new world, in which we can travel between the future and the past.

What if we could not only overcome great spatial distances using virtual reality, but also travel into the past and the future? What if we could not only simulate and predict complex situations and coherences involving thousands of parameters, but experience this reality interactively in real time? The combination of VR with AI and, in the near future, Quantum, creates just such an interactively explorable reality. Today, the use cases for combined VR and AI are already diverse and in demand — be it training speeches on virtual stages measuring the speaker's performance using NLP models, be it the Medical Training, Virtual Reality Surgical Simulation, Armed Force Training or Complex System Simulation, Immersive Travelling and True Socializing (metaverse).



Eldar Sultanow



## The Tech

- **NFT-based metaverse platforms:** [Decentraland](#), [The Sandbox](#), [Axie Infinity](#), [Sensorium](#), [Somnium Space](#), [Cryptovoxels](#), [Sorare](#), [Unity](#), [Upland](#), [Spatial](#)
- **Virtual collaborative platforms:** [Microsoft Mesh](#), [AltspaceVR](#), [Mozilla Hubs](#), [NVIDIA Omniverse](#), [Second Life](#), [VRChat](#), [Glue](#), [Party Space](#), [Yulio](#), [Arthur](#)
- **Avatars:** [ReadyPlayerMe](#), [Soul Machines Digital DNA platform](#), [Microsoft Rocketbox](#), [Wolf3D](#), [Avatarsdk](#)
- **VR trade fairs and conferences:** [Virbela](#), [HexaFair](#), [vFairs](#), [Hopin](#), [MootUP](#), [EventX](#), [6Connex](#), [GTR](#)
- **Virtual gaming platforms (non Web3 metaverse):** [Roblox](#), [Fortnite](#), [Minecraft](#)

## A Future to Read

### **Pioneering Smart Tourism with the Metaverse** [Incheon — Metropolitan City in Northwest South Korea](#)

**Why:** The traditional approach to tourism promotion was becoming less effective, and physical restrictions due to the COVID-19 pandemic made it difficult for tourists to visit Incheon in person. Additionally, there was a need to find innovative ways to engage tourists and offer them unique experiences.

**The Right Technology:** The integration of the metaverse concept further expands tourism possibilities, allowing virtual exploration of destinations. Through *AR Incheon*, visitors enjoyed augmented reality experiences, including interactive maps and historic tours via a mobile app. *Incheoncraft* extended the experience with Minecraft, enabling virtual exploration and historical re-enactments.

**The Future:** Smart tourism cities combine technology and tourism to offer convenient experiences while improving residents' quality of life. The metaverse enriches tourism by enabling virtual visits, making it accessible to a wider audience. This innovative approach enhances tourism attractiveness and accessibility, revolutionizing the travel industry and tourist experiences.

## A Future to Write

Do you know *The Butterfly Effect*? Just the flap of a butterfly's wings in Brazil can trigger a tornado in Texas. Applied to the tech context, what does it mean for us? Complex process chains in logistics with many dependency variables behave similarly to a dynamic system (chaos theory). The smallest change in variables has immense effects. Imagine, a train leaves Munich five minutes late and arrives in Cologne three hours later (because everything is building up — train crossing, train sequence, heavy route utilization, ...). Simulating or even virtually living through such complex systems including the affected behavior upon unintended (unforeseen) changes requires extremely high computing power. And now imagine that we can visually, immersively experience all these complex relationships, their entanglements, cause-and-effect behavior in an extended reality. From logistics processes to pandemic effects to the impact of climate change. I invite you to this amazing future that begins right now!



# INTERNET OF TWINS

## The Desired Future

Creating a link between multiple data sets describing a product, an asset, or a process, can allow for more effective decision-making, facilitate collaboration based on a single source of truth, and help to predict future outcomes.

As we generate and consume more and more data (the volume of data created, consumed, and stored will triple from 2020 to 2025), it gets harder and harder to make sense of it all. Tremendous amounts of intelligence and insight are possible but we easily get swamped by the volume, and the multiplicity of formats and systems.

The aim of a digital twin is to create the most realistic representation of real-world entities and operations, past, present, or to be, to facilitate informed decision-making and foster operational efficiency. It *un-siloes* data and correlates it to facilitate access and generate insights.

A digital twin is a combination of data federation, ontology to build the relationships, and rendering to visualize the information and insights generated.

As such it requires not only these digital twin core components, but also the underlying systems to generate the necessary data.



Thomas Perpère



## The Tech

**Data federation and collaborative platforms:** [Azure digital twins](#), [AWS TwinMaker](#), [Autodesk Tandem](#), [Dassault Systems](#), [Siemens](#)

## A Future to Read

### Chattanooga's Green-Light Traffic Congestion Improves with a Digital Twin

[City of Chattanooga, Tennessee](#)

**Why:** The city seeks to reduce greenhouse gas emissions and ease traffic congestion, which is particularly challenging given the city's topography and heavy traffic. Traditional solutions are costly. It's a complex urban challenge requiring innovative energy-efficient strategies.

**The Right Technology:** The Digital Twin Project used machine learning and real-time road data to simulate the city's traffic. It identified congestion causes, recommended solutions, and made real-time signal adjustments, reducing energy use and traffic delays.

**The Future:** The Digital Twin Project's success provides a scalable solution to tackle traffic congestion and lower energy emissions. Its framework, cloud-based controls, and machine learning methodologies can be adapted to different cities. It's paving the way for nationwide traffic analysis innovation. The city itself benefits with 16% energy reduction and 32% fewer traffic delays, enhancing the quality of life for its citizens.

## A Future to Write

Read the [IoT CRI study of Capgemini](#) | Check out the [Hannover Messe](#) yearly event | Check the Digital Twin [Use Case of GAIAX](#).

# NO FRICTION

## The Desired Future

From self-serve to proactive services, governments are moving towards a frictionless experience for their citizens and employees.

Government departments leverage their rich data to reconfigure services around life events. This gives citizens access to all the services they need for events like childbirth or marriage in one place, reducing the need for multiple interactions with different public offices.

What enables this transformation? Data ecosystems combined with data governance policies and practices that facilitate secure data sharing. Service design standards that include users in the design of services. And a culture of collaboration across sectors.

A good starting point is the redesign of a number of services connected to a single life event, with the participation of multiple departments and organizations involved in the current service delivery. Analyzing the event from the perspective of citizens will highlight how touchpoints with customers can be improved and internal processes streamlined. By learning and iterating the approach, government departments can enable larger scale service redesign and offer a frictionless citizen experience.



Alessia Capula



## The Tech

- **API management and microservices:** [Microsoft API Management](#), [Mulesoft](#), [Apigee API Management](#), [AWS API Management](#), [IBM API Connect](#), [Dell Boomi API Management](#)
- **IoT:** [Microsoft Azure IoT Platform](#), [Google Cloud IoT Core](#), [AWS IoT](#), [Intel Movidius Vision Processing Units \(VPUs\)](#), [SharpEnd](#)
- **XR:** [Unity](#), [Unreal Engine](#), [OpenXR](#), [Microsoft Mixed Reality](#), [Google ARCore](#), [ARKit AWS Sumerian](#), [Wikitude Augmented Reality](#), [BLIPPAR studio](#), [Perfect Corp](#), [UltraLeap](#), [Matroid](#)
- **Web3:** [Circle](#), [Alchemy](#), [Polygon](#), [Bitwave](#)

## A Future to Read

### Empowering Savings for All

#### UK Government

**Why:** The UK government aimed to promote a regular savings habit among citizens with low incomes, addressing the challenge of 8 million people lacking financial savings and 13 million facing difficulties in the event of a 25% income drop.

**The Right Technology:** Applying the discovery phase of citizen service assessments, interviews were performed on potential demographics to understand their current savings habits, challenges and motivations. Findings led to a digital set up tackling the identified low numeracy and literacy skills, access to computers and the high volume of accessibility needs etc.

**The Future:** Over 260,000 accounts were successfully opened through web and app interfaces, resulting in £40 million in savings for citizens and an impressive 95% customer satisfaction score.

## A Future to Write

Central and local government services that remove, rather than create, frictions. By supporting citizens during their key life events, government departments can design experiences that are inclusive and accessible for everyone, while improving internal efficiency by securely sharing data among departments. Start small, with few life events that require more interactions from citizens and work in collaboration with other departments and organizations to simplify citizen journeys, reducing friction. Read our [Point of View on Citizen Digital Services](#).



# I FEEL FOR YOU

## The Desired Future

In the rapidly evolving world we live in, we witness incredible advancements in user experiences and Artificial Intelligence.

AI is intelligent — that's obvious, but is it wise? Can it be empathetic? Can it feel the joy of success and the joy of helping others? Not presently, but what is important is that AI can assist us in becoming better and wiser individuals. It can aid us in making informed decisions by utilizing top-notch data and enable us to support others more effectively by being aware of a wide range of perspectives. That can also give us a deeper comprehension of diverse needs. It is essential to remember that technology is a tool, and humans are the driving force behind its purposeful application.

In the public sector, where empathy, compassion, and understanding play a vital role, the collaboration between humans and AI can unlock extraordinary possibilities.



**Aleksandra Domagala**



## The Tech

- **Emotion AI in learning:** [Entropik](#), [Smile](#), [Proctortrack](#)
- **Employees management:** [EI Experience](#), [TeamEQ](#), [Amber](#), [Lead Honestly](#), [InsideBoard](#)
- **AI to build resilience:** [Driven](#), [Resilient AI](#), [Resiliency](#)
- **Emotional analysis:** [ENABLEX FACEAI](#), [TypingDNA](#), [Emokit](#), [NVISO](#), [Element Human](#), [Receptiviti](#), [CompanionMX](#)
- **Facial analysis:** [smileML](#), [Affectiva](#), [Amazon Rekognition](#), [Microsoft Face API](#)
- **Driving AI:** [drivebuddyAI](#), [Affectiva Automotive AI](#)
- **Retail Solutions:** [LilyAI](#), [Entropik](#), [madstreetden](#)
- **Language analyzers:** [Watson Tone Analyzer](#), [Emoshape](#), [Cognito](#), [Amazon Connect](#), [Modulate-ToxMod](#)

## A Future to Read

### Fighting Loneliness with Data and AI

Cruz Roja Espanola, Spain

**Why:** The silent epidemic of the 21st century, unwanted loneliness, necessitates early detection, with events like the COVID-19 pandemic exacerbating the issue.

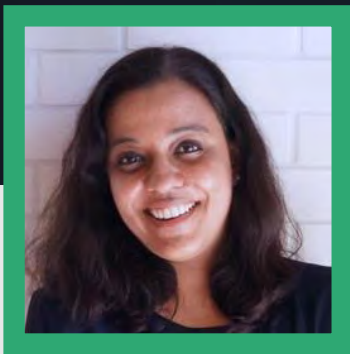
**The Right Technology:** The solution encompasses three dimensions: data-driven detection and diagnosis of needs, the identification of emerging problems through behavior pattern analysis, and the design and implementation of personalized, effective, and efficient responses at all levels.

**The Future:** This approach benefits diverse cases, including homeless individuals, the sick, prisoners, ex-offenders, migrants, and refugees, contributing to building a more inclusive society by utilizing data for both short-term identification of those in need and long-term support throughout critical actions.

## A Future to Write

Check for use cases where the interaction with the citizen is key | Make sure the human is always in the loop | Create added value from the use of Emotion AI for public servants | Read the article *Machines that feel* on [www.nature.com](http://www.nature.com).

# WE COLLABORATE



**Shazia Joshi**



**Thomas Quartier**



## INTRODUCTION

The public sector is constantly evolving, driven by the need to adapt to new realities such as hybrid working models, public data management, cross-industry focus, decentralized organizations, and technological collaboration. At the heart of these transformations, digital public services materialize into public value, balancing the conflicting needs of citizens, agents, and policy-makers.

Collaboration is at a pivotal point, essential for building trust through transparency, ensuring appropriate engagement with all stakeholders, and striving for operational excellence. By offering flexibility to the workforce and pivoting around the team, the citizen, the agent, and the politician can all expect greater value as part of a holistic cross-functional experience.

The adoption of hybrid working methods has been a major change for the public sector, which is now part of the new norm. It is not only profoundly changing relations between agents, but also relations with partners and users of public services. New tools and new approaches for remote and asynchronous collaboration are becoming a permanent component of the working culture of public organizations.

Citizen demand for seamless digital experiences is pushing public organizations to go beyond the boundaries of their mission to develop new value propositions with partners, startups, universities, and sometimes other governments. It's

also the best way to achieve common objectives in terms of sustainability and social interest: rethinking the way resources are consumed and produced, with an emphasis on resilience and sustainability.

The future of work relies on organization-wide agility. In the face of post-pandemic challenges and talent shortages, the hybrid workforce model promises increased productivity and substantial cost savings. To take advantage of this, the public sector will need to continue reinventing its teamwork and culture which will require robust technology. As social beings, we thrive on interaction, and modern, flexible collaboration platforms are the new canvas for creating public services that match individual and collective needs.

Mesh technologies are revolutionizing collaboration within and between public sector organizations. Thanks to sovereign cloud-based infrastructure, agile microservices, secure citizen data sharing, intelligent automation, and hyperconnectivity, collaboration is easier and more effective than ever for innovation in public services. Tomorrow, decentralized, token-based economies will emerge and become part of the daily lives of citizens and agents alike. This is likely to allow common objectives to be achieved without the usual administrative complexities, speeding up the release of value, while ensuring the efficiency and sustainability which is essential to our society today.



# FLUID WORKFORCE

## The Desired Future

In today's dynamic landscape, the public sector is witnessing a transformative shift towards a fluid workforce, marked by agility, change management and upskilling.

This framework emphasizes adaptability and responsiveness, enabling government entities to efficiently address evolving challenges. Change management strategies are crucial, ensuring seamless transitions, while upskilling initiatives empower employees with essential competencies for navigating a rapidly changing environment. While some agencies have embraced this framework, others are in the early stages of implementation. However, the potential is immense – future-proof and innovative government organizations resulting in streamlined processes, enhanced citizen services, and improved decision-making with broader perspectives. By envisioning a workforce composed of partnership talent, borrowed talent, freelance talent, and open-source talent, the public sector can address talent shortages and accelerate solutions through collaborative ecosystems.

As the public sector harnesses the power of a fluid workforce, it lays the groundwork for a more responsive and resilient government organizations, capable of thriving in an ever-changing society.



Anne-Sophie Fritschij



## The Tech

- **Workforce planning/HR solutions:** [Capgemini People Analytics](#), [IBM Talent Management](#), [Workday HCM](#), [SAP SuccessFactors](#), [Upwork Inc](#), [Honeypot](#), [Braincities](#), [Faethm](#), Service Now ([ITSM](#) and [CSM](#)), [365 Talents](#), [Infor Workforce Management \(WFM\)](#), [Oracle Fusion Cloud HCM](#)
- **Digital workplace solutions:** [Microsoft Office 365](#), [G Suite](#), [WorkJam Digital Workplace](#)
- **Self-management and work effectiveness solutions:** [Sapience](#), [holaSpirit](#), [glassfrog](#), [Team EQ](#), [Trello](#), [Monday](#), [Amplifai](#)
- **Employee adoption and well-being management solutions:** [InsideBoard](#), [Peakon](#), [Lattice](#), [15Five](#), [Quantum](#)

## A Future to Read

### Agile Transformation for Optimized Data Services

#### Government sponsored Healthcare Provider, UK

**Why:** The challenge was to enhance the delivery of new Data Processing Services (DPS) by developing an optimized Operating Model with Capgemini's assistance. This required overcoming traditional siloed workflows and significant manual efforts within the Insights & Statistics Directorate (DIS). Emphasis was placed on adopting agile methodologies for timely, customer-focused product delivery.

**The Right Technology:** NHS Digital adopted an incremental, iterative approach to developing a Target Operating Model (TOM) for DIS. They introduced the concept of a *Model Office* to test and prove the benefits of taking an agile approach to deliver new products. This innovative approach involved knowledge transfer and upskilling DIS staff on implementing the model-office delivery approach in future engagements. It also focused on multi-disciplinary ways of working for more effective product development.

**The Future:** By embracing agility and the model-office approach, they streamlined workflows, accelerated product development, and broke down silos. This transformation resulted in improved efficiency, faster delivery of products, and the ability to adapt to changing customer needs more effectively. Overall, DIS achieved a more collaborative and agile work environment, setting the stage for future success and growth.

## A Future to Write

Read the Capgemini's research report on [The Fluid Workforce Revolution](#) | Check out Capgemini's solution on [Reinventing Work](#).

# THE TEAM IS THE CANVAS

## The Desired Future

As social beings, we are wired to adapt our collaborating styles to changing circumstances, especially in the face of crises. This fundamental trait remains particularly pronounced in the public sector, where interactions between citizens, businesses, and IT underscore inclusivity and progress. Despite reservations from certain governmental bodies regarding new work models, public services offer comprehensive solutions.

In this era of virtual or hybrid societies, a shared digital canvas serves as a conduit for citizens, IT experts, and businesses, erasing geographical barriers to nurture creativity and connections. Between economic uncertainties and shifting work dynamics, organizations strive to optimize IT investments and refresh workforce engagement. AI-powered tools appear as a light of hope, promising increased productivity and a reshaped work landscape.

This effort is driven by the urge to adapt and to foster growth. The integration of advanced technologies reflects this spirit, aiming to make interactions more intelligent, personalized, and secure. It serves as proof of our collective will to transform challenges into opportunities for a brighter future.



Priscilla Li



## The Tech

- **Collaboration platforms:** [Humanity Platform](#), [Microsoft Teams](#), [Microsoft Viva](#), [Avaya OneCloud](#), [Slack](#), [Google WorkSpace](#), [Asana](#), [Trello](#)
- **Virtual meetings and events:** [Zoom](#), [Google Meet](#), [Cisco Webex](#), [Adobe Connect](#), [GoToMeeting](#)
- **Virtual/Augmented Reality and metaverse:** [Horizon Workrooms](#), [Microsoft Mesh](#), [Librestream Onsite](#)
- **Whiteboard and ideation:** [Mural](#), [Miro](#), [Bluescape](#), [Klaxoon](#), [Google Jamboard](#)
- **Surveys and quizzes:** [Medallia Crowdicity](#)

## A Future to Read

### Revolutionizing Healthcare in Collaboration with Virtual Reality

#### CTTI Catalan Government

**Why:** Collaboration in healthcare settings often requires a more hands-on approach than a traditional online platform can provide. Effective collaboration across different locations is vital for accelerated and efficient outcomes in healthcare.

**The Right Technology:** Capgemini's Applied Innovation Exchange has pioneered a Virtual Reality system, known as Recovire, specifically designed to facilitate collaborative experiences in healthcare. This cutting-edge system enables multiple users to convene in a shared virtual space, where they can interact with various medical and healthcare elements. Users are represented by avatars, and the system incorporates voice over IP communication for seamless interaction.

**The Future:** The solution allows a visually attractive immersive experience, allowing images, videos, or other specific healthcare elements to be shared and analyzed together. The system is open and scalable, so unlinked to any specific technology or hardware, allowing the system to be compatible with a wide spectrum of devices. Recovire has the potential to expand its functions, adding other capabilities in the future.

## A Future to Write

Check out this research paper on GovTech: [The Future of Government: The Hybrid Workforce](#) | Watch this podcast series on Microsoft: [How to Make Government More Effective in a Hybrid World](#) | Read this article from Harvard on [The Future of Hybrid Work in the Public Sector](#) | Have a look into the TOI's blog on [Making the Case for a Hybrid Work Policy](#) | Read this article from StateTech on [Hybrid Work Solutions Modernize Both Government Services and Workplaces](#).



# TAKEN BY TOKENS

## The Desired Future

Welcome to a world where trust, transparency, and efficiency redefine our interaction with public services, governments, digital currency, traceability, and citizen engagement!

In the era of blockchain and smart contracts, we witness a silent yet powerful revolution that promises to shape a desirable future for all.

Imagine a transparent government, where every action is immutable and accessible to all citizens, ensuring complete accountability. Envision digital currency that enables instant, affordable, borderless transactions, eliminating costly intermediaries and fraud. Picture a supply chain where each step is verifiable, from farm to supermarket, ensuring food safety and environmental sustainability. Dream of a more participatory democracy, where every citizen can engage directly in decision-making through autonomous and equitable systems.

Ultimately, what we envision here is no longer a utopia but an achievable vision. The future we outline with blockchain and smart contracts is one where trust is the norm, citizen participation is encouraged, and efficiency is maximized. It's a future where every citizen can play an active role in shaping their own destiny and creating a better society for all. This potential drives us to commit further, innovate, and build an even more desirable future for citizens.



David Guillonau



## The Tech

- **Technologies:** [Ethereum](#), [Hyperledger Fabric](#), [Algorand](#), [ConsenSys Quorum](#), [Solana](#), [Cardano](#), [Circle](#), [Ripple](#), [Contour Blockchain](#)
- **Digital Asset Custody and Wallets:** [Metaco](#), [Fireblocks](#), [HexTrust](#), [Settlemint](#), [MetaMask](#), [Tokeny](#), [Anchorage](#), [Komainu](#)
- **Securitization:** [ConsenSys Codefi](#), [Polymath](#), [Securitize](#), [Polygon](#), [Progmat](#)
- **NFTs:** [OpenSea](#), [Rarible](#), [Larva Labs CryptoPunks](#), [Decentraland](#), [Sandbox](#), [Unity](#), [Centrifuge](#)

## A Future to Read

### An Energy Wallet Initiative to Motivate Residents to Save and Conserve Energy

#### [The Municipality of Emmen, Netherlands](#)

**Why:** Residents in the municipality of Emmen faced rising energy costs, and there was a need to motivate them to save energy and reduce their bills. Additionally, the municipality wanted to gather data on energy-saving practices within the community to guide future initiatives. Traditional methods of encouraging energy efficiency were proving less effective.

**The Right Technology:** Emmen introduced the EnergieKnip program, utilizing a blockchain-based Energy Wallet app. Residents could earn points by completing energy-related questionnaires within the app, and these points could be redeemed at local retailers for energy-saving products, who receive reimbursement from the municipality for participating in the program. The app ensured anonymity and security while storing earned points as rewards. The app's blockchain technology allowed for transparent and data-driven decision-making by collecting data on energy-saving practices without compromising user privacy.

**The Future:** The Energy Wallet app brought significant benefits to the residents just as much as the municipality. Residents saved on energy bills by earning points for answering questions. It enables Emmen to collect the data needed for data-driven decisions on energy-saving measures. High resident engagement and increased demand for energy-saving products boosted the local economy, fostering sustainability and economic growth.

## A Future to Write

To script the future of public services with blockchain, start by exploring existing blockchain solutions for government administration. Engage in initiatives for transparent governance, traceability of public funds, and safeguarding citizen data. These initial steps in applying blockchain technology can radically transform trust and efficiency within public services, paving the way for a more transparent and participatory future.

# YOUR MESH FOR LESS

## The Desired Future

Customer demand for seamless experiences across services has given rise to meshed, data sharing ecosystems.

It introduces a future driven by co-opetition, as organizations reach beyond the boundaries of their own industry to develop new value propositions with ecosystem partners. With the help of changing ecosystem-based business models and cloud-based infrastructure platforms with hyper-connectivity, the public sector can drive unique administrative services and customer experiences by crossing the barriers of silos, industries, and regions.

Not only that, but mesh collaboration is also proving key to addressing joint sustainability goals. This is exactly the rumble the public sector may be looking for to streamline and modernize its services.



Troy Wuttke



## The Tech

- **Data sharing:** [Automation](#), [AWS Data Exchange](#), [Snowflake](#)
- **Blockchain and API:** [Blockchain](#), [APIfication](#), [Hyperledger](#), [Ethereum](#), [IBM Blockchain](#)
- **Identity and access management:** [Kong](#), [Ping](#)
- **Artificial intelligence and Internet of Things:** [AI](#), [Google AI Platform](#), [IOT](#), [Microsoft Azure IoT Platform](#), [Google Cloud IoT Core](#), [AWS IoT](#)
- **Other technologies:** [Hyperledger](#), [Codefi](#), [Ethereum](#), [IBM Watson](#), [Microsoft Azure](#), [Microsoft HoloLens](#), [MindSphere](#), [OpenAI](#), [TensorFlow](#)

## A Future to Read

### Enhancing Sustainable Farming Through Collaborative Data Sharing

UK Centre for Ecology & Hydrology, Rothamsted Research

**Why:** Collaborating effectively in the agriculture and food supply chain presents significant challenges. Real-time anomalies can lead to substantial costs and are difficult to assess, while addressing long-term sustainability issues demands collective action.

**The Right Technology:** Capgemini Engineering teams implemented federated governance for the North Wyke Platform. This enables the sharing of data with Agri-tech companies and industrialized livestock agriculture, fostering knowledge exchange and collaboration. The result is sustainable farming practices, improved crop yields, and reduced environmental impact for the participating organizations.

**The Future:** The platform's distinctive structure with four self-contained farms, each managed from a distinct operational perspective, ensures that research outputs are directly applicable to real-world food producers in the form of data, creating a seamless example of value generation through collaboration.

## A Future to Write

Read this Microsoft story on [Creating Connections at the World Economic Forum 2023](#) | Check out this article from Solo - [Using Service Mesh to Support Government Standards for Zero Trust Architecture](#) | Have a look into this paper on [How Mesh Network is a Better Alternative Solution to Internet Shutdowns and Network Disruptions](#) | Read this article on ET news - [2023 Sees the Rise of Cloud Native, Service Mesh, and Open Source](#) | Register and access the MuleSoft whitepaper on [Accelerating Government IT Innovation with APIs and Microservices](#) | Have a look into this blog post from VMware - [The Critical Role of APIs in Microservices Architectures](#).

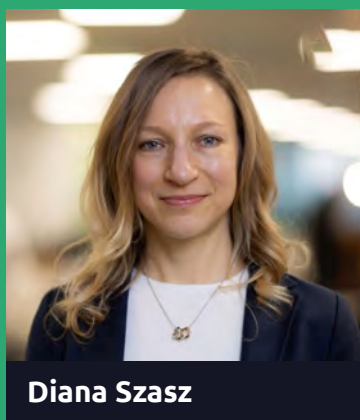
# NO LEADERS

## The Desired Future

**Decentralized autonomous organizations (DAOs) are gaining ground in the private sector, introducing a world powered by blockchain-based governance, enhancing trust, transparency, and reducing the need for human oversight.**

In the public sector, DAO principles can transform policymaking, public service delivery, procurement, civic engagement and data governance, unleashing unseen levels of participation and efficiency in public sector processes. Efficiency also serves environmental goals. DAOs require less energy, less travel and fewer leaders. However, challenges remain related to legal frameworks, scalability and accountability. While inclusivity is a plus, representation in public decision-making is a concern. Ensuring equitable access and closing the digital divide is vital for ensuring DAO adoption benefits all.

The path to trust-building in public sector DAOs will require careful setup and unbreachable rules encoded on the public blockchain. DAOs can unite champions across borders, making them well suited for tackling complex social, economic and environmental challenges.



**Diana Szasz**



## The Tech

- **DAO development:** [Squads](#), [Tribute Labs](#), [Tribute DAO](#), [Superdao](#), [Radicle](#), [Aviyel](#)
- **Governance:** [Aragon](#), [Colony](#), [SubDAO](#), [DaoKit](#), [Myco](#), [TributeDAO](#), [Paladin](#)
- **Skills and recruitment:** [Talent](#), [Rabbithole](#)
- **Project Management:** [Dework](#), [HackMD](#), [Clarity](#), [Wonder](#), [CharmVerse](#)
- **Access Control:** [MintGate](#), [Guild.xyz](#), [Cabin](#), [Unlock](#), [Grape Protocol](#)
- **Analytics:** [Uniwahles](#), [Deep DAO](#)

## A Future to Read

### EU Health Data Space Empowers Health Data Collaboration

Cooperation of Stakeholders in the Health Field, European Union

**Why:** The European strategy for data calls for a series of common data spaces that allow for increased collaboration between data holders, but to maintain the privacy of those who produce the data. The health data space is the first of these data spaces in a specific area to emerge.

**The Right Technology:** The health data space is an ecosystem comprised of rules, common standards and practices, infrastructures, and a governance framework, but no appointed leader. The data space is a horizontal framework that builds trust. Equipped with rules for accessing and processing health data, it supports the safe and secure use of health data and health-related information. In this way, its principles align with those of DAOs — cooperation without subordination.

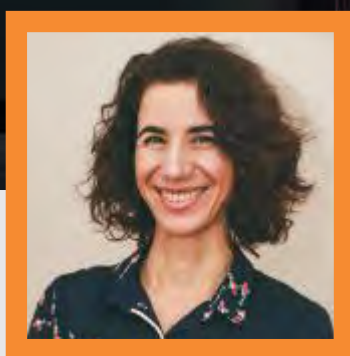
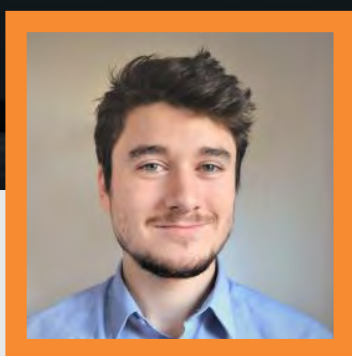
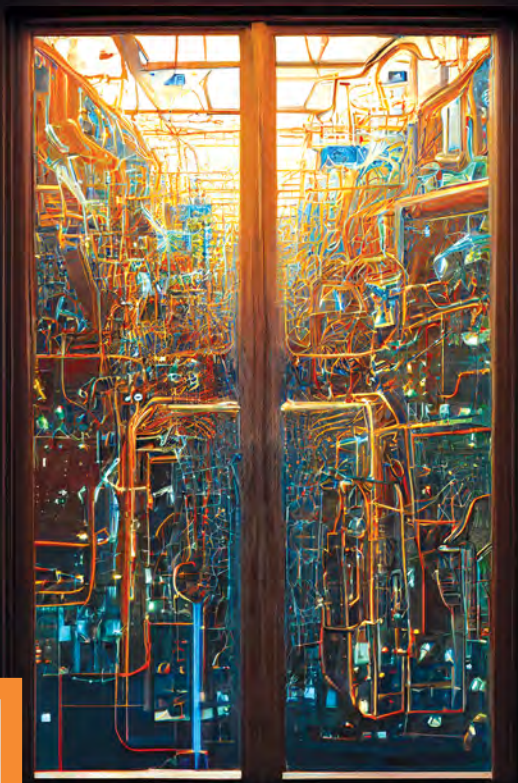
**The Future:** All members of the data hub (EU governments, but also members of civil society and private business) enrich the databases with medical-administrative data, engage with the research community, provide a sustainable and scalable research platform with GDPR compliant infrastructure, and support the HDL to shape the future of health data access in Europe.

## A Future to Write

Read the [World Economic Forum DAO PoV](#) | Have a look into this article [The Decentralised Future of Corporate Governance?](#) | Read this Forbes news article - [The Best Examples of DAOs Everyone Should Know About](#) | Check out this article on NLM about [Designing a Health Strategy at Local Level](#) | Read this MDPI article on [Trend Analysis of Decentralized Autonomous Organization Using Big Data Analytics](#) | Access the article on Forbes - [Lawmakers in New Hampshire and Utah Recognize DAOs as Legal Persons](#) | Have a look into complete guide on [eGov-DAO: a Step Towards Better Government Using a Blockchain-Based Decentralized Autonomous Organization](#).



# THRIVING ON DATA



**Pierre-Adrien Hanania**

**Myriam Chave**



## INTRODUCTION

The future belongs to those who believe in the beauty of their data. While building on data has very often unleashed the wildest dreams, the past years have brought structure and reality checks into the discussion of what transforms information into knowledge for and by public services. [The aspiration to lead the AI race saw many governments formulate their strategy](#), leading to the inception of programs and initiatives that focus on fundamental principles at the core: data management, data quality and even data availability.

Yet, the data landscape never stopped to look into its own future, surfing on rising computational power and breakthrough technology iterations that kept the discourse hot.

Today, two converging forces seem to be writing a novel whose ending remains open: On the one hand, policy making is all around when it comes to data, and beyond governments, the [EU's Data Act](#) and [AI act](#) set the scene to promising perspectives for tomorrow's applications. On the other hand, pioneers challenge themselves along each [iteration of their new ideas and capabilities](#), and the [democratization of Generative AI](#) shows how creative the prompt ability to reimagine oneself is with data.

Key trends in the public sector:

- **Data Sharing is Caring:** Users should get access to the insights derived from the data they don't own or possess. Public organizations are seeking the value of [data ecosystems](#) in a society in which sharing is creating value for all. Technologies

are mature, and first use cases have proven successful. [GAIA-X and EU Data Spaces](#) will be the vessels to get them to this destination.

- **Net Ø Data:** Whether it be a hospital, police force, army, or city — public services are at the forefront of climate action, and while they have their part in the current emission reduction, they can be an accelerator connecting various stakeholders. Data here is instrumental in collecting information, visualizing the variables for better decision-making, and helping to tackle scope one, two and three emissions through data sharing.
- **Creative Machine:** Unleashing the generative capabilities of AI to enable citizens and public services to connect and interact in different creative ways that marry the purpose of citizen satisfaction with the promises of Generative AI.
- **Data Apart Together:** By embracing open data, stimulating data sharing, and harmonizing data sets between services, the public sector is increasingly in a unique position to provide single digital gateways and data ecosystems to citizens in a digital age. [By engaging in data ecosystems](#), organizations have, on average, improved customer satisfaction by 15%, improved productivity and efficiency by 14%, and reduced costs by 11% annually in the last two to three years.
- **Power to the People:** In our data-driven world citizens are keen to control and own their data. While the potential of citizen participation is immense, public services, as evidenced by the examples of many cities, shall acknowledge people as their most valuable and intelligent resource to collaborate with — any citizen can contribute as a data scientist!

# DATA SHARING IS CARING

## The Desired Future

Connecting communities and ecosystems to help our governments tackle social, environmental, and economic challenges in a systematic way: The momentum of data ecosystems echoes among implementers, policymakers, and our civil society.

And for good reasons; data ecosystems provide a systematic approach to data sharing, and they have the potential to improve the lives of citizens, the performance of businesses, and public administration. Healthcare organizations proactively share their data to discover new and more efficient treatments, tax authorities to improve compliance, police departments to improve public safety, and local, state, and central administrations to engage citizens and drive sustainable development. So, what's the catch? Developing and connecting building blocks in an endless network of available data is a long-term journey. We already have the required data and technology at hand, but establishing and maintaining data trust, fostering new skills, and changing organizational culture are also essential parts in this process. Public sector organizations should approach these challenges in a strategic way, starting by establishing the purpose for developing a data ecosystem and by developing a secure, ethical, and sustainable way to share valuable data proactively. We have the right data, but time is scarce, so let's start building!



Wilde Thyholt



## The Tech

- **Data exchanges and marketplaces:** [AWS Data Exchange](#), [Snowflake Data Marketplace](#), [Dawex](#), [Data Interchange](#), [Informatica Data Exchange](#)
- **Data-sharing platforms:** [Amazon Redshift Data Sharing](#), [Microsoft Azure Data Share](#), [Snowflake Data Sharing](#), [Databricks Delta Sharing](#), [Google Analytics Hub](#)
- **Differential privacy and cryptography:** [Microsoft Differential Privacy](#), [LeapYear](#), [Dpella](#)

## A Future to Read

### Data Sharing to Tackle Rare Neurological Diseases

[Helse Vest IKT, Norway](#)

**Why:** To best tackle rare neurological diseases, Helse Vest IKT needs to efficiently process and organize vast DNA data sets from multiple sources to glean valuable insights. Analyzing this amount of data requires on the one hand genomic data and on the other hand CPU usage in short time periods, while maintaining data privacy.

**The Right Technology:** Together with partners, hospitals have designed and rolled out a scalable analysis platform based on Azure, leveraging decentralized data architectures. The project applied and created a big data platform to offer a collaboration platform to all the stakeholders involved.

**The Future:** The approach taken enabled a much quicker digestion of the data — with research results available after one day instead four weeks. The platform makes it possible to isolate the different projects within the center of the platform, ensuring privacy of the patient data and leading to decreased costs and an increase of the investment rate. The approach can be replicated in other projects as well that cater to different disease environments.

## A Future to Write

Establish an initial purpose for developing the ecosystem | Build a robust digital infrastructure for interoperable and collaborative data sharing. | Put trust at the top of the agenda with governance mechanisms and privacy preserving technologies | Develop and encourage a data driven culture | Read our Capgemini Research Institute Report [Connecting the Dots: Data Sharing in the Public Sector](#).

# POWER TO THE PEOPLE

## The Desired Future

Let's bring the power back to the people, unlocking the doors to evidence-led policy, real-time analysis and enhanced data sharing as the data revolution charges on.

In an ever-changing IT landscape data remains at the core of it all, ringing truest in the public sector where data is an integral asset for all operations. But while data is at the core of the public sector, the people are the heart. Data-driven governments bring increased power to the people, turning a previously cryptic language to an accessible new world of self-service data that offloads the pressure on the public sector. From tax payment to better city transport experiences and patient homecare services, the democratization of data will transform citizens into valuable data decision makers.

Equipped by technology, they will be the ones writing a future that features secure, high-quality access to the right data for the right purpose.



Izzie Kent



## The Tech

- **Data marketplaces:** [AWS](#), [Snowflake](#), [DAWEX](#), [890 by Capgemini](#), [Oracle Data Marketplace](#), [Reply.io](#)
- **Self-service BI and analytics:** [AWS QuickSight](#), [Tableau](#), [Microsoft Power BI](#), [Qlik](#), [SAS Visual Analytics](#), [Dataiku](#), [Saagie](#), [Google](#), [TIBCO](#), [890 by Capgemini](#), [Google Analytics](#), [Salesforce Einstein Analytics](#), [SAP Analytics Cloud](#), [Sisense](#)
- **AutoML:** [DataRobot](#), [Google](#), [H2O.ai](#), [Microsoft](#), [AutoKeras](#), [Databricks](#), [Feedzai](#), [Kortical](#), [Oracle](#), [TransmogriAI](#), [IBM](#), [AWS](#), [JADBio AutoML](#), [BigML](#)
- **MLOps:** [Dataiku](#), [Amazon Sagemaker](#), [Azure Synapse](#), [890 by Capgemini](#), [H2O MLOps](#), [Neptune.ai](#), [MLflow](#)

## A Future to Read

### [Self-Assessment App for Better Tax Bill Payment HMRC \(The UK's Tax, Payments and Customs Authority\)](#)

**Why:** The urgency of tax payment deadlines compels agencies to ensure citizen engagement, while the high costs of pursuing non-payments are compounded by challenges in managing the volume of cases.

**The Right Technology:** The user-friendly app streamlines access to crucial taxpayer information and services, offering instant access to Unique Taxpayer References and National Insurance numbers, facilitating Self-Assessment payments, and providing employment income details. Moreover, it offers a wealth of resources, reducing the need for direct contact and simplifying tax return completion.

**The Future:** The HMRC app has revolutionized the Self Assessment process, with nearly 65,000 users paying almost £67 million in taxes since its launch. This digital solution eases the tax payment process, minimizes delays, and helps taxpayers avoid penalties. Furthermore, it empowers individuals to manage their tax responsibilities efficiently while providing HMRC with valuable real-time data to enhance tax collection efforts.

## A Future to Write

Ask yourself:

- What does Data Democratization mean to you?
- How does it affect your day-to-day life?
- What impact would it have?
- What technology is required to enable it?

Read A [Case for Data Democratization](#) by Pranjal Awasthi and Dr. Jordana George.



# DATA APART TOGETHER

## The Desired Future

We invented digital networks 20 years after the computer. What if it was the other way around? Reliable and widespread data and information sharing would have created a different digital culture, where organizations would seamlessly integrate into a mesh of collaboration.

In our reality, we are playing catch-up. Only today can we witness the emergence of federated and sovereign data sharing. The first to embrace the new paradigm reap the benefits of enhanced collaboration, improved efficiency, and access to a broader pool of expertise. [Market analysts and CxOs](#) are observing these developments closely.

Policy makers and public administrations are actively involved in shaping this transformation. Efforts spanning over a decade have laid the foundations. Regulation is an ally in unleashing the potential of the data economy for citizens and businesses while guaranteeing their rights

Let's not waste another 20 years!



## The Tech

- **Data virtualization and federation:** [Tibcov](#), [Denodo](#), [RedHat](#), [SAS](#), [Actifico](#), [Atscale](#), [Data Virtuality](#), [SAP](#), [Informatica](#), [VMware](#)
- **Data sharing:** [Microsoft Synapse](#), [Informatica](#), [Snowflake](#), [Baffle](#), [Cloudera](#), [Vendia](#), [Databricks Delta Sharing](#), [Azure Data Share](#), [Demyst](#), [Adlink Data Sharing Platforms](#), [Quantiphi Enterprise Data Sharing Platform](#), [Data Republic](#), [Salesforce Meet Data Studio](#), [Sifox Data Sharing platform](#), [metaphacts](#), [Denodo Platform](#), [Teradata](#)
- **Data collaboration/Data Mesh enablers:** [DataPlex](#), [Atlan](#), [Cinchy](#), [K2View](#), [IBM Data Fabric](#), [Talend](#), [Cloudera](#), [Dremio](#), [Nexla](#), [Denodo](#), [Keboola](#), [Informatica Intelligent Data Management Cloud](#), [Infosum](#), [Snowflake](#), [Box](#), [Omnisient](#), [Duality](#), [StarDog](#), [TIBCO](#), [Starburst](#), [Dataiku](#), [Alteryx Connect](#), [Hex](#), [Splunk](#), [Datstreams](#), [Databricks](#)

## A Future to Read

### Shaping Data Sharing for the Australian Capital Territories

#### Australian Capital Territories (ACT)

**Why:** Addressing time limitations, ensuring transparency in reaching net-zero targets, and accommodating economic growth considerations are significant areas of concern. Existing capabilities inadequately support data management, storage, discovery, analytics, and reporting in information-driven environments.

**The Right Technology:** Leveraging expertise in the data ecosystem, with a focus on *Reference Architectures*, *Sourcing Options Analysis*, and *Implementation Roadmaps*, the solution lays the foundation for a robust data-sharing framework, across over 10 stakeholders of the region.

**The Future:** Five initial use cases are developed, aiming to accelerate net-zero targets and enhance cross-departmental citizen information and well-being. The goal is to enable Data Ecosystems to facilitate well-informed decision-making, evidence-based policy development, and seamless, personalized, secure connections between businesses and government services. This, ultimately, enhances the well-being of Canberrans.

## A Future to Write

Change your mindset and act as a contributor to a data ecosystem, not expecting to become its center | Join working groups such as the ones hosted by the European Union's [Data Spaces Support Centre](#) | Experiment, learn and disseminate data sharing around those use cases that motivate your organization and your colleagues the most.

# NET Ø DATA

## The Desired Future

**Achieving net-zero targets is significant for the public sector, emphasizing the vital role of data in measuring and managing CO<sub>2</sub> emissions and sustainability impacts.**

To reach this desired future, public sector organizations need a baseline, decision-making, and a 360° approach involving ecosystems of actors. This effective management will require data collection, measurement, visualization, forecasting, and action on emissions across the entire value chain. Data sharing for collaboration with supply chain partners will be essential, particularly for accessing reliable scope 3 emissions data beyond organizational boundaries.

With its many public buildings, and its contribution to the world's emissions, the public sector finds itself in the roles of both player and referee to design the necessary step of this challenging and fast-changing information environment. A mandate, so to say, to equip all departments and agencies with sustainability data, for a better future that achieves netzero.



**Becca Stanley**



## The Tech

- **ESG data performance:** [MSCI](#), [AWS](#), [ISS ESG Index solutions](#), [Microsoft Cloud for Sustainability](#), [Electricity Maps](#), [Ethos ESG](#), [CSR Hub](#)
- **Sustainability Data Hub:** [Microsoft Cloud for Sustainability](#), [Salesforce Net Zero Cloud](#), [Oracle Cloud sustainability](#), [Leafcloud](#), [AWS](#), [Snowflake](#), [SAP](#), [Google Cloud Platform](#), [Triggermesh](#), [Edgeworx](#), [Pensando](#), [IBM Cloud Pak for Data](#)
- **Carbon AI and Analytics:** [AWS Customer Carbon Footprint Tool](#), [Normative](#), [IBM Environmental Intelligence Suite](#), [Cloud Carbon Footprint](#), [Google Carbon Sense suite](#), [Anaplan](#), [SAP Product Carbon Footprint Analytics](#), [Seivo](#), [Microsoft Emissions Impact Dashboard](#), [IQSpot](#), [Klimamatrix](#), [Equilibrium](#), [Kayrros](#)

## A Future to Read

### The 'World Emission' Portal to Observe Environment Impact with Data

[European Space Agency](#)

**Why:** Creating consistent greenhouse gas (GHG) and air pollutant emission inventories poses challenges due to varying methodologies used in bottom-up inventories across countries.

**The Right Technology:** The platform maps global greenhouse gas and atmospheric pollutant emissions, and leverages data from Copernicus satellites, NASA and JAXA to share information from ground-based measurements and bottom-up inventories.

**The Future:** Users, scientists, and experts effectively collaborated to evaluate datasets for various atmospheric species. This collaboration resulted in the accessible online World Emission data platform through a portal. Users can now visualize emissions by geographical zones, countries, emission types, and specific time frames. There are plans to incorporate additional data sources and enhance identification precision in the future.

## A Future to Write

[Read the GPAI report on AI for the Environment](#) | [Read the CRI Report on Data for Net Zero](#) | Consider the data you possess to evaluate the baseline and the data owned by others pertaining to your scope 3 emissions.

# CREATIVE MACHINE

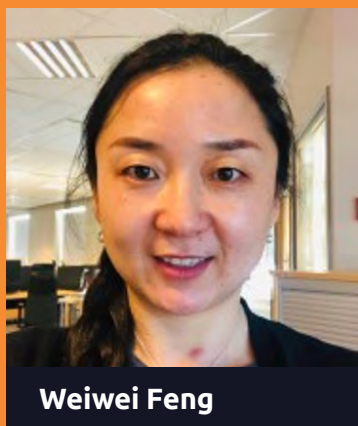
## The Desired Future

The latest and most thrilling development in the world is the emergence of large generative models like ChatGPT and DALL.E — bringing to light seamless communication between humans and machines. Indeed, these models will transform the way we interact with machines, opening a world of possibilities that marry efficiency with intelligence and tailormade experience — sounds like a wish right?

Large language models (LLMs) can enhance this future by bridging the gap between human intention and machine execution — imagine a citizen case management in which a creative machine generates the answers and translates queries into action. With well-formed prompt instructions, these models can rapidly enhance their accuracy and experience in comprehending human intention. This applies to tax queries, visiting questions by job seekers, and contact needs by patients.

LLMs can further augment our abilities through their capabilities in information retrieval, idea generation, creative writing support, language translation, content summarization, personal assistance, and learning tools. Imagine, again, a court delegating parts of its trial protocol tasks to Generative AI.

To nurture that change and those promises, it is crucial to approach their adoption while addressing its limitations and ethical concerns — only then will we fully pave the way to endless possibilities empowering people across cultures and languages responsibly.



Weiwei Feng



## The Tech

- **Language transformer models:** [ChatGPT](#), [OpenAI GPT-3](#), [Google Switch Transformer](#), [Microsoft Turing](#), [NVIDIA Megatron](#), [Microsoft/NVIDIA Megatron Turing NLG 530-B](#), [Hugging Face](#), [Aleph Alpha](#)
- **GANs:** [StoryGAN](#), [DiscoGAN](#), [ArchiGAN](#), [GameGAN](#), [StackGAN](#), [Google GAN](#), [GAN Lab](#), [GANimation](#), [HyperGAN](#)

## A Future to Read

### Using GAN to Synthesize Patient Data and Mitigate Compliance Risk

Försäkringskassan, Swedish Social Insurance Agency

**Why:** Due to privacy and compliance concerns, the organization was unable to utilize its data effectively. To address these issues and ensure GDPR compliance for handling patient data, a solution was required. However, there was a challenge related to insufficient data for implementing AI.

**The Right Technology:** Using Sogeti's ADA solution, a combination of deep learning methods, a sample of the real data is fed into the model and the output of the model is a generated synthetic dataset that is very similar to the original data in terms of statistical similarity and distribution.

**The Future:** Generating sufficient production data to expedite quality assurance (QA) testing, ensuring GDPR compliance by synthesizing sensitive customer data, and facilitating analytics and testing within the healthcare sector.

## A Future to Write

Start with small manageable projects, explore different tools and understand how to build effective prompts | Check our [GenAI for public sector videos](#) | Coordinate your choices to complement other systems, such as IT and rule-based systems, knowledge graphs and machine learning tools | [Read the CRI Report on GenAI](#) | [Check the EU AI Act](#).



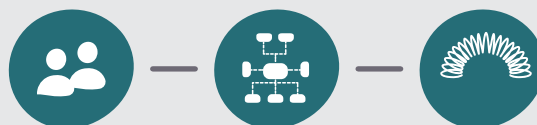
# PROCESS ON THE FLY



**Marek Sowa**



**Kathleen Flynn**



## INTRODUCTION

For many years, public sector organizations aimed to define, understand, and transform processes. However, efforts were thwarted by the inertia of disparate and inflexible legacy application systems.

With the emergence of data-driven process management, application microservices, and intelligent process automation, their former struggles are becoming a faint memory of a distant path. Today, in response to increasing demands for speed, quality, and flexibility in policy execution, they design and implement *process on the fly*. They now prioritize the impact of their processes over the required inputs.

Key trends we see in the public sector:

- Public sector organizations must quickly respond to policy challenges and crises, meet rising citizen expectations, and adapt to complex legal environments. This renders hard-wired processes increasingly anachronistic and untenable.
- APIs and microservices transform legacy core applications from stumbling blocks into drag and drop components. They facilitate the input, transaction, and output data necessary to fuel and manage process flows.

- Process automation robots are sturdy companions that tirelessly execute mundane and repeatable tasks. They provide agents in public sector organizations with more time and freedom to think, plan, and focus.
- With its reasoning and decision-making capabilities, intelligent process automation is leveraged to adjust processes to new conditions. It proposes better courses of action, and assigns resources — sometimes already in a touchless fashion.
- Digital twins of public sector organizations provide a secure sandbox for testing descriptive, predictive, prescriptive, and self-learning capabilities. This applies to process redesign for various tasks like grant applications, tax payments, health records, or administrative queries.
- Increased data flows and improved data availability empower government agencies. They gain a better understanding of citizen and stakeholder demands and actions. This enables effective collaboration, turning citizens and stakeholders into co-designers of government processes.

# PROCESS IS MINE, MINE, MINE

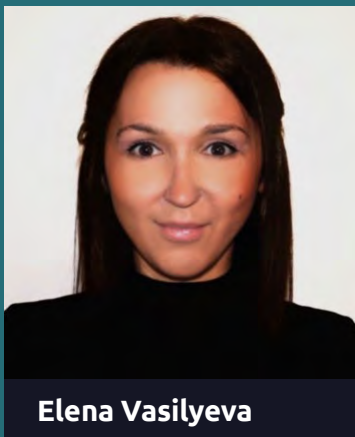
## The Desired Future

Show me your twin, and I'll process your future: embracing change can be challenging, often involving trial and error. Taking one step forward can sometimes leave you feeling like you've taken two steps back. Implementing improvements in one area might inadvertently create bottlenecks elsewhere.

But imagine this: experimenting with change in a risk-free environment by repurposing established technology.

Digital twins applied to government processes open up new possibilities for digitization and redesigning. This innovative approach enables government departments to identify, measure, and prioritize process improvements in novel ways. Government departments typically operate their specialized software applications tailored to functions like law enforcement, inspections, and health or financial departments. These systems often replicate long-standing processes, with change initiatives relying on various vendors, effectively forming parallel channels. What if you could experiment with change by consolidating these separate channels into an optimized, streamlined flow?

The marriage of processes and digital twins makes this possible, fostering commendable innovation in the public sector when combined with operational feedback, ensuring readiness for future changes.



## The Tech

- **Process-mining tools:** [Celonis](#), [Minit](#), [UiPath](#), [UltimateSuite](#), [LiveJourney](#), [UpFlux](#), [Soroco](#)
- **Simulation/digital twin tools:** [Celonis](#), [BusinessOptix](#), [Improbable](#), [Google Cloud](#), [Landmark Solutions](#)
- **BPMN software:** [BusinessOptix](#), [Signavio](#), [AxonIVY](#)
- **Agile management tools:** [Jira](#), [Trello](#), [Monday.com](#), [BusinessOptix](#)

## A Future to Read

### Revolutionizing Clinical Operations with Digital Workflow Optimization

#### [Mater Private Hospital, Ireland](#)

**Why:** Mater Private Hospital (MPH) in Dublin faced significant challenges in its radiology department. With rising patient demand, complex clinical needs, aging infrastructure, and limited space, providing efficient patient care had become increasingly difficult. Delays, interruptions, and growing waiting times were negatively affecting patient experience. Modernizing equipment and optimizing workflows were essential to overcome these challenges.

**The Right Technology:** MPH partnered with Siemens Healthineers Value Partners for Healthcare Consulting to digitally transform its radiology department. The solution involved creating a digital twin of the radiology department using a 3D computer model, and inputting operational and financial data to simulate real workflows. This allowed MPH to explore different operational scenarios and layouts, predict their impact, and find optimal solutions. The insights gained guided decisions on facility design, processes, and workflows.

**The Future:** The Digital Workflow program empowered MPH with actionable insights to enhance care delivery and create more value. By redesigning patient facilities, the hospital improved patient experience by creating a more pleasant environment and reducing waiting times. Additionally, optimized manoeuvring areas enhanced healthcare workers' ability to care for patients. The program streamlined operations, increased workforce productivity, and helped MPH adapt to the evolving healthcare landscape.

## A Future to Write

Read this article from GovTech on [How Process Mining Supports the Push for Digital Government Services](#) | Have a look at the analyst viewpoint from Capgemini's research library on [Process Mining](#) | Read this insights article from Software Govsolutions on [How Process Mining Can Build a Better Government](#) | Capgemini's Client story on [Process Mining Promises Faster Immigration Administration at UDI](#) | Read this article from State Tech Magazine on [Process Mining](#) | Submit your research papers on [Process Mining Conferences](#) | Register for the virtual event – [Future of Process Mining for Businesses Summit in November 2023](#).

# ROCK, ROBOT ROCK

## The Desired Future

Robotic Process Automation (RPA) has gained significant traction in the public sector, offering immense potential to streamline operations and improve efficiency. Especially because demographic change is hitting the public sector with full force. More work has to be done with fewer employees. Therefore, more and more authorities see RPA as a possible opportunity to counteract this challenge.

To begin, public sector organizations should initiate pilot projects or proof-of-concepts to see and understand the power and the potential of RPA. In this way, the first added values can be created in a short time, assembly work processes can be automated, and employees can be relieved.

Furthermore, RPA now offers the possibility to test first AI and ML use cases in a lightweight and low-complexity way to gain even more experience. Since most RPA vendors deliver AI models out-of-the-box, such as Document Understanding, unstructured data can also be processed, thus creating the basis for a high degree of automation.



Maximilian Linneweber



## The Tech

- **Robotic Process Automation (RPA):** [Automation Anywhere](#), [Blueprism](#), [UiPath](#), [Nice](#), [Pega](#), [Appian](#), [Laire](#), [Nintex](#), [Infinitus](#), [Leapwork](#), [Arago](#)
- **AI solutions moving to the RPA world:** [Kryon](#), [Workfusion](#), [Abbyy](#), [Automize](#), [Ansible](#)
- **RPA platforms:** [RPA Labs](#), [Ushur](#), [Appian Robotic Process Automation](#), [Automation Anywhere](#), [kofax](#)

## A Future to Read

### From Bureaucracy to Efficiency: Copenhagen's Robotic Transformation

#### [City of Copenhagen](#)

**Why:** When the City of Copenhagen employed 45,000 employees across seven committees, including finance, social services, and healthcare, they faced a significant challenge. This involves effectively servicing a growing population with limited resources, which drove the need for innovation and efficiency. Meanwhile legacy systems, bureaucracy, and budget constraints posed obstacles to rapid transformation.

**The Right Technology:** Copenhagen turned to Robotic Process Automation (RPA) as a strategic solution. They leveraged RPA to automate 75 key processes, achieving efficiency gains, cost savings, and improved service delivery. They established a Center of Excellence (CoE) for governance and utilized attended and unattended robots for optimal automation. This approach significantly enhanced citizen services and employee satisfaction.

**The Future:** The adoption of RPA improved efficiency, streamlined operations, and reduced bureaucracy. The city council saved 8,500 hours annually in one process alone, enhancing service delivery. RPA positively impacted employee satisfaction and enabled citizens to access services more conveniently. Copenhagen now looks toward hybrid RPA solutions for even greater automation potential, setting a path for continued success in the public sector.

## A Future to Write

Read this story on how [RPA Saves Singapore General Hospital over 50,000 Man-hours](#) | Register for the upcoming online event on [Robotic Process Automation in the Public Sector](#) | Check out this article from Gartner on [How Government CIOs Can Realize the True Potential of Robotic Process Automation](#) | Read this news release from GlobeNewswire on [Global Robotic Process Automation \(RPA\) Market](#) | Check out this interesting article from StateTech Magazine on [RPA Helps State and Local Governments](#).



# SILO BUSTERS

## The Desired Future

**In a time where technological advancements drive unprecedented innovation, the public sector stands at the precipice of a remarkable transformation.**

The vision of a future where disparate systems seamlessly communicate, collaborate, and evolve is no longer a distant dream. This transformation holds the promise of streamlined governance, dismantling the dreaded red tape that's synonymous with the public sector. Those pesky, mundane tasks like data entry, record-keeping, and information retrieval are automated, freeing up valuable people for strategic decision making. Automation leads to a harmonious flow of data across departments, eradicating bottlenecks and enhancing collaboration.

As silos evolve into microprocesses, citizen services receive a substantial boost. Public inquiries are swiftly addressed, applications processed promptly, and public service delivery optimized. In this bright future, the public sector embraces automation as the cornerstone of a responsive, citizen-centric movement.

Through the smart use of automation to integrate legacy systems, a new era of efficiency emerges, empowering governments to deliver enhanced services while making the most of their people and funding. This fosters an engaged and happy workforce, delivering valuable services to the delight of their customers — the citizens!



**Linden Hocking**



## The Tech

- **Analytics and BI tools:** [SAP Analytics Cloud](#), [Celonis](#), [Minit](#), [PowerBI](#), [Qlik](#), [Sisense](#), [Datapine](#), [Yellowfin BI](#), [TechSee](#)
- **API and web services management:** [Salesforce MuleSoft](#), [Google Apigee](#), [WSO2](#), [Akana](#), [Sensedia](#)
- **Robotic Process Automation (RPA):** [Automation Anywhere](#), [Blue Prism](#), [UiPath](#), [Pega Robotic automation and workforce intelligence suite](#), [NICE RPA](#), [Kryon Systems](#), [Laiye](#), [Microsoft Power Automate Desktop](#), [Nintex](#), [Infinitus](#), [Leapwork](#), [Almato](#), [Ansible](#)
- **Business process management:** [BusinessOptix](#), [Dell Boomi](#), [Oracle BPM](#), [IBM Intelligent BPM](#), [Pega BPM & Case Management](#), [Appian](#), [Blue Yonder](#), [Anvyl](#), [Aurea](#), [BluJay Solutions](#)

## A Future to Read

### How Capgemini and AWS Transformed North Carolina's Unemployment Claims Processing During the Pandemic

#### [North Carolina, USA](#)

**Why:** The North Carolina Division of Employment Security faced a substantial surge in unemployment claims during the COVID-19 pandemic, which required rapid scalability of their claims and call center systems. They needed a solution that could handle a volume increase of up to 50 times their normal rate, detect and prevent fraud, and reduce call center workloads.

**The Right Technology:** Capgemini, in collaboration with AWS, modernized the state's unemployment insurance benefits system, incorporating Amazon Connect to establish a new call center platform for DES. They deployed an interactive voice response (IVR)-based, self-service module accessible across various channels 24/7 that reduced call volume by approximately 20 percent. Additionally, Amazon WorkSpaces provided virtual desktop capabilities for 600 remote employees.

**The Future:** The solution not only enabled North Carolina to seamlessly handle a massive surge of 200,000 daily support calls but also significantly reduced call center volume by 20%, ensuring uninterrupted service availability. Moreover, it allowed for the rapid implementation of new benefit programs during the pandemic, enhanced anti-fraud measures and anomaly detection and paved the way for future improvements with a transition to cloud-native solutions.

## A Future to Write

Start by conducting a comprehensive assessment of existing systems and processes | Identify key bottlenecks and make sure requirements determine the right technology | Make use of a good process management tool to map out | Refine future state processes, before investing on tech and development | Implement proof of concepts and pilots | Use cost effective methods of working with legacy applications | Don't stop, and continuously monitor.

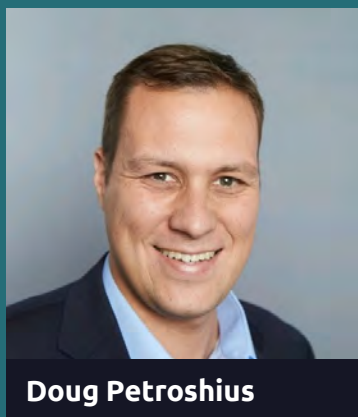
# CAN'T TOUCH THIS

## The Desired Future

In the rapidly changing digital landscape of automation and AI, a revolutionary transformation is taking place, with a particular resonance in the public sector.

The concept of processes autonomously adapting and optimizing, free from human intervention, is facing a deep change. The touchless institution, directed by AI integration, aims to conquer the limitations of conventional methods in responding to complex real-time events. AI-driven reasoning systems are supplanting inflexible, human-dependent workflows, ensuring agile adjustments to different scenarios and predicting optimal actions in real time. At the same time, Generative AI is ushering in a new era of productivity with applications offering unique communication and creative capabilities. As these technologies redefine roles, it's essential to comprehend their foundations and potential implications for both the public sector and society.

The journey towards seamless automation and transformative AI applications is unfolding rapidly, reshaping interactions, decisions, and creations within the public sector that will be a boon to administrators and citizens alike.



Doug Petroschius



## The Tech

- **Business rules and decision management:** [Second Mind](#), [Drools Open Source](#), [Oracle Policy Automation](#), [Pega Customer Decision Hub](#), [DecisionRules](#)
- **Complex event processing:** [Amazon Kinesis](#), [SAP Complex Event Processing](#), [Tibco Business Events](#), [Apache Flink](#), [Esper](#), [Confluent](#), [Axiom](#)
- **Process flow and automation:** [Celonis](#), [Aera Technology](#), [UiPath](#), [Anvyl](#), [Kore.ai](#)

## A Future to Read

### AI-Driven Predictive Interventions for Enhancing Dijon Smart City's Wellbeing and Operational Efficiency

[Dijon City, France](#)

**Why:** Dijon faced the challenge of effectively responding to external influences that could impact the city's wellbeing in real time. This required not only monitoring these events but also having a proactive plan for interventions when necessary. Additionally, analyzing the correlations between external events and interventions was a complex task.

**The Right Technology:** To tackle these challenges, Dijon leveraged its established Central Command Center and introduced AI-powered predictive interventions. This innovative system seamlessly integrated historical event data with external sources, including weather forecasts. Through machine learning, the AI autonomously forecasted intervention requirements across various domains, presenting these predictions on screens. This approach efficiently scheduled the team's activities to align with the city's demands and enabled comprehensive analysis of correlations between external events and interventions.

**The Future:** This proactive approach enabled Dijon to allocate resources efficiently, enhance wellbeing, and improve operational efficiency. It also provided valuable data for analyzing correlations between external events and interventions, offering insights for future planning and decision-making. This forward-thinking solution positions Dijon as a smart city ready to meet future challenges effectively.

## A Future to Write

Read this article from The Economic Business Review on [The Role of Workflow Automation in Government Institutions](#) | Have a look in to US Government' website news article on [DOD Announces Establishment of Generative AI Task Force](#) | Check out the Capgemini's report on [Generative AI in Organizations](#) | Register for the event - [Efficient Generative AI Returns September 2024](#) | Check out [AI Conference: Current and Future Challenges](#).

# AUGMENTED ME

## The Desired Future

Already our lives are augmented by it. Our work is accelerated by it. And our world runs on it: data and AI. Now coupled with rapid advances in Human Sciences we are blurring the boundaries between tech and our society.

Everyday activities such as work, travel, sport and even recreational forest walks, are increasingly augmented by apps, wearables and bioelectronics for a hyper-personalized experience. Across the spectrum, this enriches all our experiences and productivity, offering proactive digital companions, tireless automation, health improvements, crime prevention and rapid disaster response.

This synergy between humans and technology demonstrates massive potential, but prompts a few questions: How prepared are we for AI to make truly independent decisions? Are we ready for increased insight-driven suggestions? This innovation necessitates a re-evaluation of our human-machine balance underpinned by vital considerations in technology, ethics, and society.

As augmentation advances and challenges us in new, exciting and unimagined ways, we will move to embrace our supra-human.



Jonathan Sugden



## The Tech

- **Platforms:** [SecondMind](#), [Aera](#), [Microsoft](#), [DataRobot](#), [Alteryx](#), [4Paradigm](#), [H2O.ai](#), [Boost.ai](#)
- **Artificial solutions:** [Teneo](#), [WorkFusion](#), [Amelia.ai](#), [Ambit.ai](#)
- **Loop AI:** [Loop Q](#), [Machinify](#), [IBM Watson](#), [Pega](#), [Anaconda](#), [Abacus.ai](#)
- **Adaptive learning:** [FortessIQ](#), [Celonis](#), [Abby Timeline](#), [CognitiveScale](#), [Beyond.ai](#)

## A Future to Read

### AI Revolutionizes Emergency Calls for Saving Lives

#### [NHS Welsh Ambulance Service](#)

**Why:** The challenge lies in the significant struggle against out-of-hospital cardiac arrest (OHCA), a leading cause of death in the UK. OHCA survival rates were distressingly low, standing at 8.6% in the country, closely matching the global average, and over 250,000 emergency calls to respond to annually. The NHS had to find an innovative way to improve OHCA detection and response.

**The Right Technology:** The NHS piloted an AI tool designed to support emergency call-takers. This tool actively listens during emergency calls, records information, and identifies crucial indicators in the caller's or bystander's descriptions to help identify cardiac arrests. It also adapts to the local dialect.

**The Future:** The Corti AI technology holds the potential to reduce undetected cardiac arrest cases by over 40%, significantly improving survival rates. This innovative solution adapts to the Welsh context and dialect, improving its effectiveness in serving the local population. It showcases the NHS's commitment to leveraging technology for better patient care and emergency services, positioning them as pioneers in healthcare innovation.

## A Future to Write

**Analyze and innovate:** Generate concepts from this trend, enhancing operations incrementally. Assess your readiness for change and its relevance to your business and customers. Consider risk and rewards, leverage innovation partnerships to expedite progress.

**Shape and involve:** Opt for an iterative approach to unlock specific value. Gain organizational backing, steer progress, and adapt as needed. The Capgemini ASE/AIE can accelerate this.

**Prioritize and achieve:** Hone your agenda, detail high-impact uses. Deliver, gather insights, and prepare to scale.

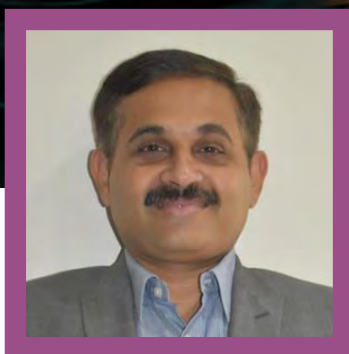
Read this story from PR Newswire on how [Sanctuary Cognitive Systems helps Govt. Of Canada](#) | Check out this article on [Cognitive Technologies in Smart City Services](#) | Read the ETSI white paper - [Novel Cognitive Network for AI-driven Automation](#) | Check out this event on [Automate 2023](#) | Access this whitepaper on [Cognitive Computing Reshapes Enterprise Decision-Making](#).



# APPLICATIONS UNLEASHED



**Lisa Eckersley**



**Shashank Gopalakrishna**

## INTRODUCTION

The wave of digital transformation and rationalization across governing bodies continues to grow. Legacy systems are increasingly becoming the center of digital transformation. Although they are considered reliable, there is a need to improve and maintain the experience of citizens, companies, and administrations within this flexible environment.

To implement solutions to achieve this both data and innovation are key. How we create usable, innovative, multi-platform and sustainable apps that unleash existing data is crucial for the future.

Through agile working and minimum viable products, application quality must be at the enterprise level because the trust balance of the government organization is always at risk.

Government agencies see plenty of opportunities to continue to modernize their IT infrastructure, especially legacy applications. Microservices architecture, unlike legacy applications that require comprehensive updates, allows agencies to update applications swiftly and incrementally, minimizing the risk of impacting core business processes over an extended period. Microservices break down complex application architectures into a collection of services operating on single-function modules or containers with well-defined integration between each container. They are relatively self-contained and perform well-defined business functions.

There is a huge opportunity in modernization where older systems are broken down into smaller modules that allow for reuse, not just within the agency but perhaps with other



agencies and third parties. This has led to the creation of the API layer where business services are created as APIs and exposed for reuse. This significantly improves the ability to adopt continuous delivery/deployment methodology, thereby allowing organizations to rapidly evolve their technology stack to directly address business or organizational needs.

As microservices mature and their adoption by agencies increases, there is a growing capability to implement a highly robust network of services and establish service-level security through microsegmentation. This allows real-time monitoring, reporting, and notification of any activity within and between the containers due to security vulnerability. It empowers the organization to rapidly respond to both system failures and cybersecurity events.

While embarking on app modernization and business process improvements using automation, process mining can help pinpoint inefficiencies and prioritize automation based on impact, bottlenecks, and expected outcomes. The agency will therefore be able to focus on improving operations, adapting to continuous change, and meeting new citizen/employee needs and expectations.

As applications are modernized, the journey to the cloud is a key enabler to deploy these business services. It is critical to consider cloud observability and FinOps as part of the modernization and transformation discussion, ideally at the beginning of a transition to the public cloud.

Governments acknowledge the growing use of AI and recognize the imperative for its governance and the need to stay on top of current trends and ensure secure and trusted solutions. Simultaneously, as you develop *green* apps, engineering them for less use of energy and resources, you contribute towards achieving the Carbon Zero by 2030 mandate.

# KONDO MY PORTFOLIO

## The Desired Future

**Tidying up the applications portfolio in a systematic, decisive way to make room for innovation, agility, and the next generation of powerful application services for governments**

Time to find the jewels to upcycle and the rocks to grind. Battling the sprawl of applications will significantly boost the innovative power of a Technology Business. However, getting rid of old, inflexible, and costly applications requires the mindset and methods of a specialized 'tidying up' guru. First, it's a matter of commitment; a full dedication to decluttering, but also to chasing the measurable benefits of a lightweight, liberated applications portfolio — harnessing contemporary platforms and cutting-edge services to rejuvenate your portfolio with streamlined and sustainable technology services. The right tools will help as well, both to identify the pieces to modernize or be rid of, and to facilitate a simple step-by-step migration. What's left is that Zen-like feeling of an applications portfolio that truly sparks joy.



**Paul O'Sullivan**



## The Tech

- **Re-platforming:** [Bluage](#), [LzLabs Software Defined Mainframe](#), [Capgemini eAPM](#), [Capgemini Cloud Migration Factory](#), [AWS Mainframe Modernization](#), [Confluent](#)
- **Agility:** [SAFe](#), [LESS](#) (Large Scale Scrum), [Scrum@Scale](#), [Disciplined Agile](#)
- **DevOps:** [Production Line](#), [CP Innovate](#) (e.g., [DevOps-PaaS](#), [API management](#)), [Jenkins](#), [Ansible](#)

## A Future to Read

### A Unified Approach to Improve Public Administration

#### [Tarragona City Council, Spain](#)

**Why:** The pursuit of global transversal digitalization for public administration is motivated by the need to eliminate legacy IT systems and replace isolated storage silos. The path towards digitalization needed to be taken by removing verticalized administrative processes that were highly specialized and focused on a specific department or function within an organization.

**The Right Technology:** The organization consolidated legacy systems into an integrated model. Advanced tools like the Syrah solution were implemented for tracking Sustainable Development Goals progress. Seamless data migration and the adoption of predictive analytics form the core technological pillars for this transformative process. They enable efficient and data-driven public service delivery.

**The Future:** This initiative aims to achieve substantial time and cost reductions, streamlining processes for easier management. Further key outcomes of this digital transformation initiative include enhancing the user experience for Tarragona's citizens and optimizing data management.

## A Future to Write

Read this press release from [GlobeNewswire](#) on [US Public Sector Mainframe Modernization](#) | Watch this playlist on YouTube about [Government Mainframe Modernization](#) | Check out this blog from [Forrester](#) on [Open Mainframe Summit 2022](#) | Read the article on [How Can State and Local Agencies Effectively Move On from Mainframes?](#) From [StateTech](#).

# HONEY, I SHRUNK THE APPLICATIONS

## The Desired Future

Smaller, better, faster, stronger services? Public sector applications should be efficient, highly adaptable and secure. However, use cases often fluctuate based on political considerations. Development and hosting costs are funded publicly and therefore subject to meticulous scrutiny. Development teams may change as legal frameworks evolve. Handling public data requires great care, and system outputs should be clear and swift.

Best practice public sector development teams gain efficiency by building applications as microservices, using well-established application frameworks such as Spring and Vert.X, supported by AI tools such as Copilot. APIs allow plug-and-play of the latest user interfaces.

Apps are deployed via common platforms to accredited cloud infrastructure. Event-driven architectures and smart platforms allow tiny, bespoke services to ephemerally spin into existence only when required, keeping running costs to a minimum. *Zero-trust* deployments keep apps safe throughout the delivery pipeline. Agile practices bridge the gap between DevOps, programmers and civil servants, allowing fast adaptive change without decreasing application stability.



Sarah Saunders



## The Tech

- **Microservices infrastructure:** [Kubernetes](#), [Claudia.js](#), [VMware Tanzu](#), [Google Cloud Dataflow](#), [Confluent](#), [Apache Spark](#), [Kafka](#), [AWS Lambda](#), [KEDA](#)
- **Voice assistant platforms:** [Microsoft Cortana](#), [Apple Siri](#), [Amazon Alexa](#), [Google Duplex and Assistant](#), [Alibaba's AliGenie](#), [Bixby](#), [Hound](#), [Databot](#)
- **Text assistant platforms:** [Microsoft Bot Framework](#), [Facebook Messenger Platform](#), [UiPath Druid](#), [Fyle](#)

## A Future to Read

### Revolutionizing Criminal Justice: An API-First Data Exchange Approach

A Western European Courts and Tribunals Agency

**Why:** Working in isolated silos with varying processes and systems among different stakeholders, a requirement emerges for an end-to-end digital platform facilitating collaborative efforts between the Crown and Magistrate courts and other Criminal Justice Partners, while the presence of duplication within organizations results in delays and inefficiencies.

**The Right Technology:** The project entails implementing an Azure data platform that integrates 200 participating courts of justice and various stakeholders. This platform is designed with an architecture that aligns closely with the principles of data and application centric security. Additionally, it incorporates 37 different contexts, each of which utilizes at least one microservice to ensure efficient and secure data exchange.

**The Future:** This groundbreaking project is revolutionizing the Criminal Justice system by implementing standardized operations and functionalities across both Magistrates' and Crown courts. By establishing a shared digital platform, it enables seamless data exchange and collaboration among the numerous agencies involved in the process. One notable achievement is the active engagement of defense representatives in online case management and trial preparation across both court systems. Moreover, the project ensures smooth information sharing with the Crown Prosecution Service (CPS), reduces processing times from two weeks to just 10 hours and leads to a successful onboarding of 200 courts onto this new digital platform.

## A Future to Write

Check out this Gartner research on [Choosing Microservices Orchestration Patterns and Technology](#) | Read this article from IOP Science on [Microservice API Implementation For E-Government Service Interoperability](#) | Visit Capgemini's [ClearSight IT Decision Maker](#) | Read the publication on [Microservices technology in Citizen-centric E-government](#) from Research Gate| Access the whitepaper on [Accelerating U.K. Government IT Innovation with APIs and Microservices](#).



# WHEN CODE GOES LOW

## The Desired Future

Both private and public sector organizations require flexibility, speed, and increased automation to provide successful and efficient services. Low-code solutions, particularly citizen development, allow quick implementation independent of resource constraints, reuniting IT and business efforts.

Emerging trends like hyper-automation and GenAI further accelerate process development and provide guidance to developers and users alike, improving customization and self-learning capabilities. While GenAI faces challenges in the public sector, such as cloud-based AI in a transparency-conscious environment, its potential benefits make overcoming these challenges essential for advancing public services.

For highly automatable missions such as grant management or job matching engines, to equip low code efficiency with GenAI creativity is just the boost needed for amplified citizen outcomes.



Alexej Michaeli



## The Tech

• **High-productivity development platforms:** [Pega](#), [Mendix](#), [OutSystems](#), [Microsoft PowerPlatform](#), [Salesforce Lightning Platform](#), [Betty Blocks](#), [Appian](#), [AppGyver](#), [If This Then That](#), [Thinkwise](#), [Quantum](#), [Usoft](#), [UiPath Apps](#), [ServiceNow App Engine](#), [SS&C Blue Prism](#), [Zoho Creator's low-code platform](#), [Retool](#), [AgilePoint](#), [AuraQuantic](#), [Decisions](#), [Lansa hybrid low-code](#)

## A Future to Read

### Low-code Solutions to Replace Paper-Based Processes

Government sponsored Marine Activities Regulator, UK

**Why:** The MMO required a modernization of their existing paper-based system. This poses the challenge of choosing the right low-code solution and integrating the new low-code solution seamlessly with their existing IT infrastructure and other systems, which can be a difficult effort.

**The Right Technology:** The solution made use of Power Platform's low-code and no-code modular approaches, merging PowerApps, Power Automate, and Power BI with Azure services like Functions, Logging, Key Vault, and API Management. It also integrated Data Service elements such as Dataverse, Blob Storage, Azure SQL, ADLS (Azure Data Lake Storage), and Data Factory, along with tailored data connectors. This integration enabled efficient management and achievement of project goals.

**The Future:** MMO takes advantage of the power of technology to streamline processes and improve efficiency in the inspection of ships, vehicles and maritime activities.

## A Future to Write

Access the solutions from Capgemini on [Low-Code / No-Code with ADMnext: Enabling the Citizen Developer](#) | Read this article from GovCIO on [Low-Code Has Power to Improve CX in Government](#) | Check out this article from economics times on [Opinion: Is Low-Code Mission Critical for Government Agencies?](#) | Read the news from focus on business on [Low-Code Platforms Accelerating Government Service Digitalization](#) | Check out the [Nocode Summit Happening in October 23 in Paris](#) | Watch out this [Nocode Ops Conference 2024](#).

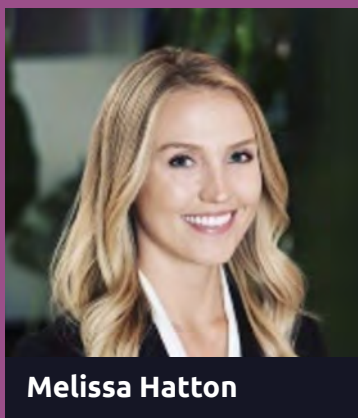
# APPS ❤️ AI

## The Desired Future

Society thrives off apps and today's apps thrive off AI — systematically infusing new and existing applications with AI capabilities, making them smarter, autonomous, valuable, with a positive impact on society and the environment.

AI-enabled apps drive predictive analytics, revolutionize healthcare applications, enable autonomous systems, enhance security and fraud detection, and facilitate speech, image and text recognition. With the recent emergence of GPT, AI will become even more influential in our everyday lives by improving natural language processing for virtual assistants and chatbots and facilitating image and video analysis and creation. As AI continues to evolve and the availability of cloud-based apps democratizes it across societies and sectors, new possibilities and innovations will be unlocked.

This future will be written by many hands, and homecare or city apps today already showcase how valuable stakeholders such as citizens themselves can be in nurturing a smarter application landscape.



**Melissa Hatton**



## The Tech

- **Toolkits and platforms:** [Capgemini PerformAI](#), [Azure AI Platform](#), [IBM Watson APIs](#), [AWS AI Services](#), [Pega Real-Time AI](#), [Salesforce Einstein Language API](#), [Rainbird](#), [Google Cloud AI Building Blocks](#), [TensorFlow](#), [PyTorch](#), [RapidMiner](#), [Keras](#), [Wit.ai](#), [Vertex AI](#), [H2O.ai](#), [Caffe](#), [Apache MXNet](#), [AutoML](#), [Symphony Sensa AI](#), [Neural Designer](#), [Oracle AI](#), [Apache PredictionIQ](#), [Tangent Information Modeler](#), [OpenAI](#)

## A Future to Read

### France Uses AI-Powered Detection for Undeclared Swimming Pools

#### [Tax authorities - France](#)

**Why:** Identifying undeclared swimming pools is not an easy task yet a key tax equity mission to rectify revenue shortfalls for municipalities. Difficulties such as ensuring the accuracy of detection methods, addressing privacy concerns tied to analyzing aerial images, scaling the system efficiently to cover the entire country's diverse property landscape, and enforcing tax regulations effectively were tedious tasks to achieve.

**The Right Technology:** The solutions to solve this quest involved the use of AI software, jointly developed by Google and Capgemini, which utilized aerial imagery to identify undeclared swimming pools. This software then cross-checked the identified pools with land registry databases to detect discrepancies.

**The Future:** The approach has generated almost €10 million in additional tax revenue, identifying over 20,000 undisclosed pools. Furthermore, the initiative's expansion across the nation is expected to result in potential gains of nearly €40 million in direct local taxes by 2023. This not only bolsters municipal finances but also aligns with environmental objectives by encouraging the declaration of water-consuming assets during droughts.

## A Future to Write

- Various AI and cognitive capabilities, such as image and voice recognition, automation, natural language processing, conversational systems, and analytics, can be easily accessed through plug-ins or APIs.
- Often, these capabilities come with pre-trained models, eradicating the need to acquire training data and build models from scratch, therefore accelerating the product's time to market.
- To effectively incorporate AI, new and existing applications portfolios need to be systematically reviewed to compare the costs and benefits.

# LITTLE GREEN APP

## The Desired Future

The SDG summit, centerpiece of the High-Level Week of the United Nations General Assembly, marked the beginning of a new phase of accelerated progress towards achieving the 2030 Agenda and the Sustainable Development Goals (SDGs). We continue to see the world straining its natural and human resources which seriously impedes our current levels of living and consumption. Given the ICT sector's projected 14% global carbon footprint by 2040, prioritizing green software engineering, and assessment of eco-friendliness of software application is crucial to ensure the road to net zero.

Smart tech choices are crucial, considering both positive business impact and environmental effects. Green software engineering offers approaches to minimize software's environmental impact. User efficiency should also be a factor, optimizing personnel resource utilization. Developing green apps requires skilled professionals, focusing on cloud solutions, considering lifecycles from the start, and following the KISS principle — Keep it Simple, Stupid.



Catherin Tiefenbach



## The Tech

- **Development Tools:** [Greensight](#), Capgemini's sustainability and efficiency plugin for [SonarQube](#)
- **Eco-friendly apps:** [Ecosia](#), [Carbon CI Pipeline Tooling](#), [Cloud Carbon Footprint](#), [Microsoft Emissions Impact Dashboard](#), [Google Apps](#), [CodeCarbon](#), [JoularJX](#), [INRIA PowerAPI](#), [Cirrus Nexus TrueCarbon](#)
- **Frameworks:** [Principles of Green Software Engineering](#)

## A Future to Read

### Enhancing IT Energy Efficiency and Sustainability with a Little Green App

#### A Region in Germany

**Why:** The primary goal is to reduce IT power consumption. This involves understanding current usage, implementing efficiency measures, and reporting on their effectiveness. Accurate knowledge of energy consumption in server rooms and workstations is crucial to uncover opportunities for enhanced energy efficiency and savings.

**The Right Technology:** The solution includes documenting current infrastructure, including server specifications and air conditioning units. It involves comparing this to expected infrastructure. Additionally, documenting existing equipment, such as laptops, monitors, and printers, helps estimate consumption for designated clusters. Separate measurements are taken for power consumption and temperature in server rooms. Individual power usage of selected devices and secondary infrastructure components, like printers and projectors, is also measured.

**The Future:** Planning and implementing these measures based on measurement results can lead to improved energy efficiency, cost savings, and better resource allocation, ultimately enhancing operational stability and environmental sustainability.

## A Future to Write

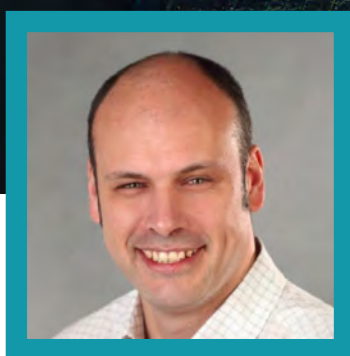
Check out Capgemini's solution on [Data For Net-Zero](#) | Read Capgemini's expert perspective on [Green Software Engineering](#) | Check out this publication from research gate on [Understanding Green Software Development](#) | Read the paper on [Mobilising Green Investment](#) from gov.uk website | Access this article from computerweekly on [How Sustainability Software Bears Broad Benefits Beyond Cost Savings](#) | Check out the [SAP Sustainability Solutions](#) | Look out for the [Sustainability Events](#) happening in 2023 all over the world | Check out the [On-Demand Events And Webinars On Sustainability On EPA Website](#) | Read this interesting blog from computerweekly on [The Rise Of The Green Software Developer](#).



# INVISIBLE INFOSTRUCTURE



**Silvia List**



**Stefan Zosel**



## INTRODUCTION

Cloud adoption is still a difficult topic for many public sector organizations. Compared to the private sector the demand of digital sovereignty weighs heavily on them, and regional laws restrict what is technically feasible. In the last decade, however, the need to eliminate legacy infrastructure costs and to deliver new services to their citizens quicker has driven the need for cloud. In regions like the UK (started in 2011), France (2021), and the Netherlands (2023), public sector agencies are now reaping the benefits by successfully implementing cloud-first strategies.

These cloud-first strategies are enabling public sector organizations to accelerate their move to cloud, by using software-driven and automated infrastructure delivered as easy-to-consume services. This enables rapid scaling in line with demand, and a shift away from managing complex infrastructure to it being *invisible* — welcome to the modern cloud where IT capacity becomes a commodity like water from a tap or electricity from a socket.

We see infrastructure being invisible, supporting our citizen application landscape in a flexible, agile and unconstrained fashion — a very topical illustration is the shift of the Ukrainian government from an on-premises to all-to-the-cloud infrastructure. They decided to move everything outside Ukraine, making government services available to all Ukrainian citizens, no matter where physically located in the world.

The cloud infrastructure became a key element to keep up

with critical citizen services and became invisible to the user at the same time.

Given the complexity of public sector IT infrastructure environments, which today consist of on-premise traditional, private cloud, hybrid, multi-cloud environments with complex network and security structures and a rather diverse application landscape, it's no surprise that there are many challenges to overcome.

This becomes even more applicable as companies of all sizes start piloting Low-code and No-code. These aim to provide secure and performant environments for citizen developers or to develop proof of concepts based on Generative AI, generating new citizen business value.

What is needed are IT-infrastructure instruments, toolsets, and services as reliable as energy supply. To succeed, public sector organizations must focus on the following five categories: availability of data, availability of interfaces, performance, cost of IT, and compliance.

To ensure availability, performance, costs, and compliance, the following actions must be considered:

1. Enhance the transparency of your applications and infrastructure to enable fast and informed decisions
2. Prepare for Cost Optimization/FinOps
3. Prepare to enable value for the process
4. Use cloud as an enabler for innovation
5. Put focus on strategic staff enablement to best serve business objectives, ensure compliance and minimize risk

Invisible infostructure is a key digital enabler for any public sector organization.

# LORD OF THE CLOUDS

## The Desired Future

**As the cloud transformation advances, not only the IT landscape changes, but this transformation is profound and comprehensive, affecting the global economy and society.**

This change doesn't spare the public administration; rather, it places it under pressure to evolve. Ever-new or more complex legal regulations must be implemented with less personnel, outdated software applications, and outdated infrastructures and operating models.

The administration responds to this pressure by skeptically focusing on the risks that could arise from comprehensive cloud transformation. Concerns related to the threat of digital sovereignty can be best consolidated in this context. To successfully establish digital sovereignty, the public sector must quickly gather experiences in the cloud age. Cloud adoption is not just a technological matter; it requires the courage to actively drive change. Cloud transformation offers the administration the opportunity to shed ballast and reorganize collaboration with industry. Essential momentum for digital sovereignty in the cloud age arises only through discourse with new technologies, namely judgment capability.



**Christian Janssen**



## The Tech

- **Application platforms:** [Fly.io](#), [platform.sh](#), [Accelar.io](#), [Vercel](#)
- **Data platforms:** [Starburst.io](#), [Snowflake](#), [Atlan](#)
- **Hybrid, multi-cloud tools:** [Google Anthos](#), [Azure Arc](#), [Sentry](#), [Backstage](#), [Crossplane](#), [Isovalent](#), [Kubevela](#)
- **Sovereign Cloud:** [Microsoft Cloud for Sovereignty](#), [GAIA-X](#)
- **Cost management (FinOps):** [Azure Cost Management](#), [AWS Cost Explorer](#), [Kubecost](#), [Apptio](#), [Spot.io](#)

## A Future to Read

### Education on the Hybrid Cloud

Government sponsored Distance Education Provider, France

**Why:** The challenge was to craft a user-friendly course access portal to enhance subscriber retention and expansion, ensuring compliance with essential security standards, and aligning with sovereign options along regulations.

**The Right Technology:** Capgemini designed, built, and ran a hybrid cloud on Cloudtemple and Azure services that the National Center could go with. The solution distinguished itself being compliant with the SecNumCloud certification.

**The Future:** The cloud transformation allowed a quick ramp up of the portal, enabling the organization to use advanced technologies and deliver modern services that can scale quickly. The approach manages seasonal load peaks, and provides 24/7 service everywhere.

## A Future to Write

Get started, look for PoCs (proofs of concept) and try them out | Attend online cloud training | Establish and build a cloud competence center | Incorporate information security and data protection into the cloud journey | Document cloud risks and obstacles, and discuss their relevance | Define a cloud-first strategy | Read the CIO article on [Multi-Cloud Future](#) | Check out the Politico article by Capgemini on [European Public Sector Seeks Multi-Cloud Approach To Services](#) | Register for UK's top cloud technology event — [Cloud Expo Europe - 2024](#) | Check out the [Gartner Cloud Conferences](#) happening in different cities.

# MY INDUSTRY, MY CLOUD

## The Desired Future

**Industry-specific clouds for the public sector aim to enhance the efficiency, transparency, and delivery of public services while maintaining strong security, privacy and compliance with government regulations.**

Sovereign clouds are a basic pillar in every public sector cloud strategy! To boost the digital transformation and the capabilities of public sector authorities, government cloud solutions in the form of sovereign clouds, are an important pillar besides public and private clouds in a cloud adoption framework. Sovereign clouds enable government authorities to precisely navigate complex challenges by streamlining processes with specialized ready-to-use applications, interoperability, and adherence to compliance. By leveraging the power of industry clouds, the public sector can ensure data sovereignty, security, privacy and efficient collaboration with its citizens. They benefit from a wide range of digital administrative services that simplify the use of government services. The awareness for the use of sovereign clouds is high, while the implementation is still in an early stage.



**Martin Lambinet**



## The Tech

- **Public sector industry Cloud Solutions:** SAP Industry Cloud, ServiceNow Federal Government Cloud Platform Solutions, Salesforce Government Cloud, IBM Cloud for Government
- **Sovereign Cloud Solutions:** [Oracle Sovereign Cloud](#), Microsoft Cloud for Sovereignty, AWS Sovereignty Pledge, GAIA-X, Google Sovereign Cloud, Sovereign Cloud Stack, [OVH Public Sector Data Hosting](#)

## A Future to Read

### A Modern Workplace Transformation: When Four Became One

Department of Planning, Lands and Heritage, Australia

**Why:** Efficiently integrating the digital identities and IT systems of over 900 DPLH staff members is a task. It involves enhancing the coherence of diverse systems and applications, facilitating seamless information sharing. All this needs to be done while ensuring uninterrupted business operations within a tight timeline.

**The Right Technology:** Empired, part of Capgemini, developed a new platform and operating environment to bring four agencies into a single cloud-first collaboration environment in a secure, seamless manner. Full Microsoft 365 and Azure security reference architecture were deployed to protect all users, devices, services, applications and provide proactive and advanced threat protection and insights into security events.

**The Future:** More effective and responsive government services. Delivered a secure modern workplace experience, achieved a single identity with a cloud-first core system.

## A Future to Write

Evaluate your status quo with a focus on application portfolio | Define guardrails for using public, private and sovereign clouds | Design decision trees based on individual requirements for security, privacy and sovereignty | Evaluate capabilities of sovereign cloud along security measures and compliance certifications | Start early with small PoCs | Review the results | Scale, learn and adapt | Read the [Cloud Sovereignty CRI study of Capgemini](#).



# OPS, AI DID IT AGAIN

## The Desired Future

**AI is a key pillar for automation in various domains, particularly in IT operations. It plays a crucial role in enhancing the efficiency and reliability of IT systems, devices, and applications that maintain critical citizen data in the public sector.**

AIOps helps IT departments to mitigate any risk of data loss, financial loss, improve cost optimization, and encourage transparency. An AIOps system first collects data from multiple sources such as log files, ticket numbers, network traffic. Machine learning algorithms are then used to collect, correlate, learn, and resolve anomalies in the behavior of IT applications without human intervention.

Government agencies strive to provide the best experience to their citizens, be it for filing tax returns or paying for a parking ticket. To intelligently automate IT operations with the help of AI and ML in the public sector, IT operations will have to move from the back office and become a strategic function. This transformation aims to improve public sector safety and productivity while coping with a more heterogeneous field of applications. Government offices can integrate AIOps without removing their existing legacy IT. This involves leveraging advanced analytics and machine learning to automate operations and monitoring.



Jana Hapfelmeier



## The Tech

- **DataShield:** open source, R-based library, developed for biomedical data exchange in research projects
- **PySyft:** Capgemini Engineering connected Spanish hospitals for analysis of COVID19 patients' lung images with an Intel-based federated infrastructure.

## A Future to Read

### Proactive Abnormality Detection and Resolution as a Story of AIOps Success

[The Department of Veterans Affairs \(VA\), USA](#)

**Why:** VA faced challenges in coordinating and responding to IT network abnormalities, impacting multiple systems and users. They needed a faster and proactive approach to detect and address system problems.

**The Right Technology:** By implementing AIOps and data-driven techniques, the organization enhanced monitoring, predicted system challenges, and automated incident resolution. The Operations Triage Group, including site reliability engineers and an analytics team, used synthetic monitoring to track system status and behavior, enabling quicker anomaly detection.

**The Future:** The project led to abnormalities being detected and resolved faster reducing downtime and improving program and service support. Incident resolution were automated, accelerating the overall system performance and elevating the user experience quality.

## A Future to Write

Read the ET news article on [AI-Powered Operations](#) | Download the whitepaper on government technology on [AIOps Done Right for State and Local Governments](#) | Download the report from OpsRamp on [The State of AIOps 2023](#) | Check out this news from GovCIO on [VA Turns to AIOps to Mitigate Tech Issues](#) | Read the Analyst report on [Gartner Market Guide for AIOps platforms](#) | Read through the Market research on [Europe Artificial Intelligence for IT Operations \(AIOps\)](#) | Watch out for the event: [AI & Big Data Expo Europe](#) happening in September 2023 | Check out the event on [Innovating Public Sector IT: Unleashing The Potential Of Observability And AIOps For Enhanced Resilience](#) in Singapore that happened in September 2023.

# SIMPLY THE EDGE

## The Desired Future

Imagine the cities of the future, with autonomous vehicles on the streets, intelligent traffic control, remote care services or even public safety crisis management with mass safety, contingency planning, and more.

What do these critical use cases have in common? They generate enormous amounts of data, with low latency requirements as well — and they have a direct impact on our society's quality of life.

Having the data processing closer to the source will be key to ensuring responses and decisions are made with always up-to-date information, not compromising the reliability needed for critical use cases. This will enable more efficient, insightful and cost-effective operations, with reduced manpower needs.

By moving towards 5G and edge technologies, infrastructures are rewriting the future.



Inês Pacheco



## The Tech

- **Building the edge:** [AWS edge services](#), [Azure private multi-access edge compute \(MEC\)](#), [Azure IoT Edge](#), [VMware SD-WAN Edge](#), [Verizon 5G Edge](#); [GE Predix](#), [Siemens MindSphere](#), [Cisco Edge Intelligence](#), [IBM Edge Application Manager](#), [Eclipse ioFog](#)
- **Scale with Distributed Cloud:** [Google Distributed Cloud Edge](#), [F5 Distributed Cloud Services](#), [OCI's distributed cloud services](#)
- **Connecting the orbit:** [AWS Groundstation](#), [Azure Orbital](#), [SpaceX Starlink](#)
- **Standardizing the new:** [Open Connectivity Foundation](#), [The Open Group IoT Work Group](#), [Industrial Internet Consortium](#), [Platform Industry 4.0](#)
- **Pushing boundaries:** [KubeEdge](#), [EdgeX Foundry](#), [Akraino](#), [Project EVE](#); [Fraunhofer AIFES](#); [Eclipse Foundation](#)

## A Future to Read

### Robot Covid 5G: Augmented Vigilance

#### [Operators of Public Events and Spaces - Spain](#)

**Why:** In the context of the Covid-19 pandemic, especially during public events or in crowded public spaces, it is challenging to monitor compliance of safety guidelines (e.g. persons wearing a mask). Identifying individuals with a high temperature, a potential indicator of Covid-19, becomes difficult, potentially leading to virus spread.

**The Right Technology:** Altran, Vodafone, Intel and Fivecomm developed a sentinel robot based on 5G technology with optical and thermographic cameras. Using edge computing, it makes diagnosis of the images very close to the network nodes, allowing faster transmission of the images and hence faster management of actions.

**The Future:** The solution reduces the risk of contact with people having Covid-19. Optimal latency and speed performance of 5G reduce communication latency.

## A Future to Write

To ensure a successful implementation, organizations should begin by clearly defining use cases and desired outcomes. They should adopt a user-centric approach by involving the end-user from the outset. Afterwards, progress to strategizing in terms of IoT devices and edge computing, considering the level of intelligence at devices/edge and the hierarchy system, as opposed to cloud computing. Identify critical decisions to be made locally and build the respective business case.

And also: Read this article from CIO [Edge Computing is Thriving in the Cloud Era](#) | Check out the Capgemini [Solutions for the 5G and Edge Revolution](#) | Read the ReportLinker article on [Edge Computing Market Trends and Forecast](#) | Read the news release from PR Newswire on [Lumen expands Edge Computing Solutions into Europe](#).

# SILENCE OF THE SERVERS

## The Desired Future

Post Covid-19 the race is on for the public sector to take the opportunity to adopt even more secure, agile, cost-effective computing capability and provide an even better citizen engagement experience.

Envision a world where development teams can establish their environments within hours instead of months, validate concepts, and transition securely into production in a matter of weeks. Your organization becomes an exciting place to work that attracts top talent and offers opportunities for upskilling the existing workforce.

Perhaps the time has come to rethink traditional business models that are separated by function. Industry trailblazers have already challenged conventional operating models, bringing business and IT together as one to invest in new ways of working that focus on service delivery outcomes. This involves multi-disciplinary teams collaborating across Business, Digital, Data and Security Offices, removing silos and uplifting capability and rapidly delivering citizen experiences.

Maybe the race is more of a marathon, with continuous improvement at the core, but like any good marathon now is the time to take the first step.



Bec Jess



## The Tech

- **SRE:** [Google](#), [State of DevOps](#), [blameless](#)
- **Zero-Touch:** [Android zero-touch enrollment](#), [ETSI ZSM](#), [BetterCloud](#), [ZTP Tool](#)
- **SASE architecture:** [CISCO](#), [SASE Architecture Reference Guide](#)
- **Governance as Code:** [Open Policy Agent](#), [Stacklet Platform](#)
- **GitOps:** [Argo CD](#), [Flux](#), [Faros](#), [Guide to GitOps](#)

## A Future to Read

### Empowering India's Vaccination Drive with AWS

India's Ministry of Health and Family Welfare with Ministry of Electronics and Information Technology

**Why:** The Ministry of Health and Family Welfare in India faced the monumental task of vaccinating over 1.3 billion citizens during the COVID-19 pandemic. They needed a reliable, scalable, and resilient technical infrastructure to support this massive vaccination drive. The challenge was not only to reach every corner of the country's diverse population but also to do it quickly.

**The Right Technology:** The Ministry, in collaboration with AWS and its partners, developed the Co-WIN application, a cloud-native and scalable solution. It leveraged AWS's elasticity and agility to support the registration and vaccination of up to 10 million people daily. The solution also utilized AWS services like Amazon DynamoDB, Amazon Elastic Kubernetes Service (Amazon EKS), Amazon API Gateway, and Amazon CloudFront for scalability, high availability, and performance.

**The Future:** Co-WIN, powered by AWS, rapidly deployed a secure and highly scalable solution, handling a surge from 6,000 to 46,000 requests per second in one minute. It registered 13.4 million users, supported 3 million vaccinations, and achieved a peak of 25.1 million vaccinations on September 17, 2021. With 70,000 API hits per second and 4.9 billion CDN requests per day, it ensures automatic scaling, high availability, and <2 sec response time for 99% of requests, supporting 10 million daily vaccinations. This streamlined access and administration of vaccines for over 1.3 billion citizens is paving the way for future public health program enhancements.

## A Future to Write

**Ask yourself:** Can you adopt new ways of working with roles and responsibilities that are less functionally siloed and align to service outcomes? | How can we enable security and knowledge uplift across the service lifecycle? What are the new roles and responsibilities aligned to governing a more integrated and agile service capability?

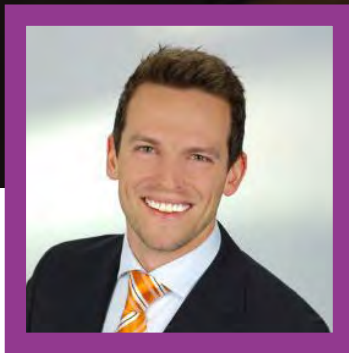
**And also:** Access this whitepaper from CIO on [Demystifying Noops And Serverless Computing](#) | Read this article from Computer weekly on [GDS Goes Serverless](#) | Check out on Global Market Insights report: [Serverless Architecture Market](#) | Read this article from FedTech on [How Federal Agencies Can Future-Proof their Investment in Serverless Architecture](#).



# BALANCE BY DESIGN



Nia Roberts



Frank Schlosser



## INTRODUCTION

*Righting the technology* for the public sector is about finding and preserving the balance between the interests of various stakeholders. This includes balancing short and long-term, centralized and decentralized, friendly and authoritative, purposeful and spontaneous, value-rich and frugal, expanding and sustainable.

The *Balance by Design* principles aim to provide control questions for executives, a bouquet of perspectives for architects, and a systematic checklist for anybody involved in a Technology Business portfolio, program, project, or initiative.

The public sector centers success on driving greater societal good, ensuring inclusive coverage of services, simplifying citizen experiences, and advancing public policy objectives. Another important aspect is a greater emphasis on trust. Building trust among citizens and fostering trust in the government is crucial for stability and adaptability. Trust lays the foundation for flexibility, agility, and successful innovations, maintaining a balance between change and stability. It is through this trust that we can disrupt current methods, technologies, and approaches while respecting our cultural values.

*Do good, do less, do well* gains significant relevance due to the growing focus on sustainability in government agendas, coupled with the recognition of scarcity, including budgets and personnel, as a dominant economic factor. It emphasizes the importance of engaging in activities for societal good while ensuring the appropriate use of enabling technologies. It is crucial to say “No” to energy-wasting or non-essential endeavors, ensuring efficient resource allocation. By striking

the right balance between societal benefits and technological advancements, public services enable themselves to maximize their impact on society.

Second, the *Technology↔Business* (pronounced as ‘Every Business is a Technology Business’) stresses that in the public sector business and technology must become one, breaking down organizational silos and barriers, thus making interdepartmental collaboration and seamless services the new normal.

*Adapt First* urges us to consider inclusion right from the outset of any Technology↔Business initiative. It is achievable when all stakeholder parties feel invited to collaborate. This principle also calls for public sector organizations that easily and flexibly adapt to changing circumstances.

Being prepared *With Open Arms* is essential to create an environment where various stakeholders are encouraged to work together harmoniously, and take on the opportunities that technology and innovation ecosystems bring to create cutting-edge governmental platforms.

*IQ CQ EQ Up* reminds us of the importance of considering intelligence, creativity, and human-centricity in technology adoption. Striking the right balance between data-enabled decisions, supported by powerful algorithms that can be used for increasingly creative purposes, and human emotions is vital.

Given both the pivotal role of and ongoing discussions around data in the technology-driven society, a powerful *Trust Thrust* is required to maintain and improve public trust in what governmental institutions do with the data of their citizens.

Lastly, *No Hands On Deck* strives for fully automated, hands-free processes. However, a prudent and stepwise approach is imperative to ensure that decisions about the society and its people should always involve human consideration and governance.

# DO GOOD, DO LESS, DO WELL

## The Desired Future

**Everybody loves a good story: it should be engaging, exciting and have a happy ending, made possible by a hero or a heroine.**

Now take a this plot: “We are resolved to free the human race from the tyranny of poverty and want, and to heal and secure our planet” as laid down in the preamble of [UN Agenda 2030](#).

“We”, here, are the heroes and heroines of this story. The collective efforts of the public sector — the governments, agencies, civil servants and employees, are focused on saving our civilization and the planet.

This epic narrative is made of small stories that happen everywhere and that include many unsung heroes. Governments efficiently fulfilling their duties, individuals shouldering responsibility and performing effectively, and all of us doing more so that we can do less harm and save resources.

Let us conclude this plot with a happy ending.



**Hinrich Thölken**



## A Future to Read

### AI-Powered Global Biodiversity Awareness Assessment

#### [Conservation Science Partners](#)

**Why:** Tracking and comprehending global attitudes towards biodiversity at scale presented a significant challenge. Monitoring public sentiment towards various species to guide conservation efforts was complex and costly. Gathering, curating, and analyzing extensive volumes of news and social media data in diverse languages and regions required advanced technology and resources.

**The Right Technology:** They leveraged cutting-edge cloud computing and machine learning technologies, including natural language processing algorithms. They developed automated workflows and datasets to curate global wildlife news and then employed AI to analyze this data. This approach allowed for the real-time monitoring of public perception concerning species of concern, facilitating more effective conservation campaigns.

**The Future:** The solution empowered conservationists to gauge public attitudes towards biodiversity at an unprecedented scale. By harnessing AI and data analytics, it enabled more informed advocacy campaigns. Insights derived from this technology could lead to increased engagement with biodiversity and more effective policy changes, ultimately contributing to global conservation efforts and the protection of endangered species.

## A Future to Write

We must make ends meet with planetary boundaries. Think of any resource as being finite. Be particularly stingy with energy consumption. Apply the circularity imperative in your work.

We should be critical and ask the particularly tough questions. The better our questions are today, the better are our answers tomorrow.

We will never underestimate the social dimension of sustainability and of climate protection in particular: saving the climate must be affordable for everybody, even the weakest. Show and practice solidarity.

Learn more on [Doing Good with Data and AI](#) | Watch the recording from the past year's [AI4Good UN Global Summits](#) | Deep-dive into [the UN's 17 Sustainable Development Goals \(SDGs\)](#) | Read the UNCTAD's [Technology and Innovation Report 2023](#) on Opening green windows: Technological opportunities for a low-carbon world | Read about [OECD's Technology Governance](#).

# TECHNOLOGY € BUSINESS

## The Desired Future

In the dynamic landscape of the public sector, the shift from mere adaption to a profound unity between business and IT carries significant implications. We need to move from alignment to unity of business and IT, creating a seamless Technology Business of strategy and operations. It's a concept encapsulated by the phrase 'Every business is a Technology Business,' although presented in an unconventional mathematical context. With the ever-growing dependence on technology, the worlds of IT and business have migrated — sometimes reluctantly — from isolated departments to fully-aligned entities. But now, an *All Ops* approach is required with full, mutual, and deliberate convergence of business and IT without frictional losses or intermediaries. They move and act as one.

By orchestrating the fusion of business acumen and technological capabilities, the public sector enhances its responsiveness to citizen needs, streamlines operations, and dismantles the barriers that previously hindered collaborative efforts. This transformation signifies a paradigm shift wherein business and IT intertwine to create innovative solutions, reflecting the changing landscape of government service delivery.



Robert Kingston



## A Future to Read

### Estonia Moves Towards a Seamless Society With Proactive Public Services

#### [Lithuanian Traffic Police Service](#)

**Why:** Previously, citizens in Estonia had to contact the state to determine their entitlements to rights and benefits. The introduction of Estonia's first proactive service for family and parental benefits simplifies life for parents by providing comprehensive and automated information. Prior to this, benefit information was fragmented, and confidence was lacking. Automation was absent, with only 15% of benefits based on offers, processed manually, taking up to 65 minutes per application for state officials.

**The Right Technology:** Estonian parents now receive proactive benefits offers for the first time through a self-service portal. New parents no longer need to apply for benefits; instead, they receive a government proposal outlining entitled benefits, which they simply need to confirm.

**The Future:** Presently, automated eligibility checks for parental benefits cover 99.99% of registered births in Estonia, achieving a 91% customer satisfaction rate with proactive public services and an 88% decrease in monthly direct customer interactions for state officials.

## A Future to Write

Read the [OECD Recommendation on Digital Government Strategies](#) | Read Gartner's article [Crafting a Government IT Strategy? Here's How to Get Started](#).



# ADAPT FIRST

## The Desired Future

In a constantly changing world, the public sector's ability to adapt is crucial in shaping the future. *Adapt first* empowers the public sector to proactively respond to challenges and establish adaptability as a foundation for future shaping.

In an era where changes occur faster than ever before, it takes courage and determination to confront challenges and actively shape the future. The public sector has the unique opportunity and responsibility to understand the needs of society and develop innovative solutions based on them.

Through continuous innovation, agile practices, and the use of technology, the public sector can take a leading role and drive positive change.

Adaptability enables flexible responses to new challenges, introduces more efficient processes, and develops innovative solutions to meet the needs of citizens.

Together, let's write the future by empowering the public sector to navigate tomorrow's challenges successfully and create a positive future for all.



Luisa Alexandrow



## A Future to Read

### Transforming A Social Welfare Organization's eServices Portal

Government sponsored Workforce Insurance Agency, Netherlands

**Why:** This Dutch employee insurance agency was grappling with legacy systems that had experienced a number of complications, such as delays, rising costs, and adverse effects on the customer experience within the main portal. Its transformation was crucial, as this portal is visited over 30 million times a year by job seekers and employers.

**The Right Technology:** Capgemini's ADMnext supported the transition of the main employment services portal from a legacy system to a modern, futureproof .NET-core portal. This move paved the way for a comprehensive transformation of the entire e-services landscape.

**The Future:** The solution enhanced application quality, reduced complexity, and streamlined production timelines from quarterly to monthly releases. It bolstered security, improved service continuity, and elevated customer-friendliness and accessibility.

## A Future to Write

Raise awareness about the importance of adaptability and its benefits | Lead by example, establishing adaptability as a core value within the organization | Foster collaboration and exchange best practices with other organizations | Encourage innovation and experimentation, creating a supportive environment for new ideas | Invest in technology and digital transformation to enhance adaptability | Provide education and training to prepare employees for change and develop their skills in adaptability and new technologies.

Read the report on [A Guide to Adaptive Government: Preparing for Disruption](#) | Explore Gartner's article [What Government CIOs Need to Know About Composability](#).

# WITH OPEN ARMS

## The Desired Future

**Governments are moving beyond their traditional roles as regulators and providers of essential services to citizens. They are becoming enablers and facilitators of groundbreaking innovation which can spark tangible benefits for consumers, businesses, and society as a whole.**

The public sector's financial support to research and innovate is not new. What's new is the active role that governments are increasingly taking in shaping and investing in what they believe the future is, and specifically in high potential areas where industry players alone could not succeed. Europe is leading this trend by example. Massive investments have been made by the EU over the past two years to support the creation and development of data spaces in strategic sectors. These sectors range from mobility to green deal, health, manufacturing and more. The aim is to encourage data sharing and open collaboration among public and private sector entities, to address today's and future societal challenges. Are you already a part of the community?



**Myrte ter Horst**



## A Future to Read

### **Capgemini's Future4Care — Open Collaboration with the European Start-Up Ecosystems**

#### [Various Start-Ups in the Healthcare Field](#)

**Why:** The e-health sector in Europe faces fragmentation, limited support for startups, and a lack of cross-industry collaboration. E-health startups struggle to fine-tune their products, manage growth, and navigate complex regulatory landscapes. There was a need for an open innovation ecosystem that bridged the gap between startups and major corporations.

**The Right Technology:** Future4Care is Europe's largest open innovation ecosystem on healthcare created under the initiative of four leading companies. Unlike traditional incubators, Future4Care focuses on nurturing startups during their growth phase. It provides end-to-end support, including business development, data management, and technology expertise. The accelerator also offers training in areas like management and regulatory compliance. Future4Care's collaborative model involves multiple stakeholders, ensuring startups receive diverse support and funding opportunities.

**The Future:** Future4Care has quickly become a powerhouse in the European e-health landscape. After first batches in 2021, over 20 new start-ups joined in 2022-2023. In late 2022, the project was nominated for the Prix Galien, recognizing groundbreaking scientific advances in life sciences. The accelerator's commitment to cross-fertilization and ecosystem engagement promises to drive continuous innovation in digital health and data.

## A Future to Write

Learn more about the EU's [Policies And Strategy on Data](#) | Connect with the [Data Spaces Support Centre](#) (DSSC) and its network of stakeholders and contribute to the definition of assets relevant for data space initiatives | Check out on Gartner's research [A Digital Government Technology Platform Is Essential to Government Transformation](#) | Read this IndiaTimes article on the [Platform Economy](#) | Have a look into [Government Technology Platforms](#) on the NSW government website.

# IQ CQ EQ UP

## The Desired Future

As public sector organizations reach the first milestones in their data and digitization journeys, there is often a shift in perspective. The preoccupation with getting the technology right fades into the background, and the destination comes back into view.

After all, implementing data and AI technology is not an end in itself, but a vehicle to boost an organization's IQ. This is achieved by collecting, sharing, and leveraging knowledge and insights to achieve its organizational mission. And it is the organizational mission — the commitment to people and empathetic public service — that is at the heart of the journey and drives the organization's passion and EQ.

When both IQ and EQ work in tandem, the organization's creative powers (CQ) are unleashed, the final stretch of the journey becomes (almost) easy and new destinations come into reach.



**Philipp Fuerst**



## A Future to Read

### Encourage Treatment Adherence for Elderly Through an Affective Avatar

Ministry of Economic Affairs and Digital Transformation

**Why:** Ensuring medication adherence among older individuals has been a persistent challenge in healthcare. Existing strategies often lack the personalization required to engage with elderly patients effectively. This poses a significant concern in the healthcare sector, as non-adherence to medication can lead to worsened health outcomes.

**The Right Technology:** A tablet-based avatar of the senior's loved one facilitates communication with the elderly. It includes medication reminders, medical appointments, and family events. The system utilizes a cloud-based medication database for personalized reminders. It encourages interaction between caregivers and the elderly through 4K video calls, photo sharing, and audio memories.

**The Future:** The solution leverages the emotional connection with a loved one to improve medication adherence outcomes among vulnerable groups, particularly older individuals. By using an affective avatar featuring a relative's face, it provides a more engaging and personalized way to remind seniors about their medication schedules and healthcare appointments. This not only enhances the overall quality of care but also contributes to better health outcomes and improved well-being for elderly patients.

## A Future to Write

While common wisdom holds that IQ is immutable, new research suggests that it can, in fact, increase. Many public sector organizations already know this and are investing in technology, training and organizational change to boost their IQ, put people first to hone the organization's EQ and provide them with the necessary trust and freedom for their CQ to grow.

Explore how PPSA technologies catalyze innovation and creativity by reading through the US [National Strategy to Advance Privacy-Preserving Data Sharing and Analytics](#) | Explore the role of UK government's first Creative Technologist in this [blog](#).



# TRUST THRUST

## The Desired Future

**What are people's attitudes about data privacy and security? Citizens are becoming more and more concerned about the reliability and security of their data, especially when cybercrime is on the rise.**

In that matter of cybersecurity, Open Sources Intelligence (OSINT) awareness is growing and becomes a strategic capability. OSINT involves gathering crossreference or analyzing digital data available publicly on the internet with many available outcomes at stake for the public sector to secure and protect our precious data. Various ministries (MoD, Mol, MoF) and public entities are trying to reinforce their capacity through OSINT. This includes guaranteeing a geostrategic advantage, building strong economic intelligence and anticipating potential threats. Additionally, it is used to monitor security breaches and fight against disinformation and online hate or harassment.

Support this ecosystem, be flexible and creative to accommodate solutions as they appear. Understand that fast-changing technological advances are the only way for the public sector to reinstate truth and build trust among their stakeholders.



**Charlotte Wojcik**



## A Future to Read

### Ensuring the Security of Information and Communication Systems for le Ministère des Armées

#### [French Ministry of Armies](#)

**Why:** In a world with escalating threats to data and infrastructure, safeguarding critical systems is a pressing concern for both organizations and states. The Ministry of the Armed Forces faces the challenge of securing sovereign critical systems.

**The Right Technology:** CS GROUP and Orange Cyberdefense partnership leverages their combined expertise in cybersecurity and information systems security to provide end-to-end protection. They showcase innovation, technological proficiency, and commitment to enhance information security governance.

**The Future:** The Ministry gains enhanced security, expertise, and innovation while promoting national sovereignty. This large-scale contract reinforces critical infrastructure protection and leverages a network of expert partners for agility and responsiveness.

## A Future to Write

Read this Politico article: [Putting Trust At The Heart Of Public Services](#) | Have a look at the Capgemini's expert perspective on [Digital Trust Is The Heartbeat Of Public Sector Transformation](#) | Read this article about [Osint on CAIRN](#) | NIST Releases Cybersecurity White Paper: [Planning for a Zero Trust Architecture](#) | Watch the recording from Data Foundation on [Building Trust with the Public Sector's Customers with Better Services](#).

# NO HANDS ON DECK

## The Desired Future

Embracing automation for a smarter public sector: the public sector cannot thrive without intelligent automation, although completely hands-free automation remains a fantasy. Advancements in AI and automation prompt a reconsideration of human roles. Limited skills and resources make this exploration urgent.

Governments globally need to combat inflation while delivering quality services cost-effectively, making automation crucial. AI can enhance creativity and problem-solving by automating repetitive tasks, freeing up resources and simplifying stressful interactions. Automation necessitates robust regulation to balance innovation with ethics. The public sector plays a central role in this debate, ensuring safe, ethical technology implementation for all citizens.

Exploring human-AI complementarity, digital assistants empower agents, enhancing productivity, quality of life and citizen satisfaction. Powering accessibility and inclusion, aiding visually impaired individuals and bridging language barriers with personalized, proactive services. However, integrating automation requires thoughtful consideration that cannot be rushed.

Exploring automation's implications, challenges and ethics is essential for a smarter, more empathetic and secure public sector.



Tiphaine Pearson



## A Future to Read

### AI-Powered Automated Patient Pathway Optimization

#### [European Union](#)

**Why:** Hospitals are facing unprecedented challenges with waiting lists at record levels, care capacity maxed out, and an urgent need to streamline care pathways, including planning elective care efficiently to optimize hospital units.

**The Right Technology:** The PATHMAKER project introduces a tool for the rapid implementation of real-time patient flow projects throughout various hospital stages, including patient ward, transfer, pre-surgical, operating room, post-surgical, material preparation, and OR cleaning, along with a Family App for tracking the process. It leverages AI-powered assistive design IoT solutions tailored to the hospital environment.

**The Future:** An automated flow frees up medical staff to prioritize patient care. It provides hospitals with a comprehensive 360° view of patient flow for improved planning. Additionally, it offers families a non-intrusive way to track the process without needing to engage with medical personnel.

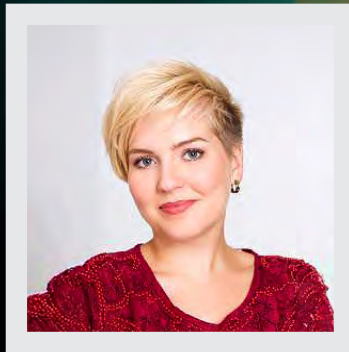
## A Future to Write

Weave automation and AI into your broader organization's roadmap, proceed with an impact analysis | Organize an AI Day with a multidisciplinary team to instill a new dynamic among civil servants, create awareness and collectively identify the right use cases | Treat your automated systems as digital workers establishing formal policies and strong foundations | Always keep humans-in-the-loop (human intervention) as a safeguard against algorithmic failure and bias.

Read this Oxford Academic article on [Human-AI Interactions in Public Sector Decision Making](#) | Check out the Pew Research article on [The Future of Human Agency](#) | Have a look into this case study: [Iron Mountain Insight® on AWS Makes Light Work Of Digitising Non-Standard, Multi-Format Archives](#).



Mark Richardson



Katyna Jost

# APPLYING TECHNOVISION IN THE PUBLIC SECTOR

There are many ways to apply TechnoVision, such as brainstorming entirely new ideas, systematically crosschecking an architecture, designing, or inventing an innovation potential, using it as a playful dialog tool between all involved in Technology Business change, or just trusting good old serendipity to find an unexpected angle when tackling a tough challenge.

TechnoVision is a tool to tell a Technology Business story; a story that shapes an opportunity, answers a question, gives direction, resolves an issue, or simply delights an audience. It is always a story to be told between people, from both the business and IT sides of an organization. Choosing the right trends — studying them, interpreting them, discussing them — is already part of the storytelling.

## Magic boxes and cards to thrive for futures

To assist in developing this story, each of the seven containers and the 37 trends have been turned into colorful, real-life cardboard boxes (you can print them yourselves; the design is openly available [here](#)), each box contains a short elevator pitch of a trend and with a QR code for more detailed content. These boxes can be picked up, carried away to be studied, and discussed with others. Together, they can tell a technology-enabled customer story, a day in the life of a citizen, a breakthrough in a process, or a new public service.

We also created a TechnoVision card deck, and you may find that your favorite TechnoVision expert happens to have it with her. You can simply pick a card. Any card. No matter which of the 37 TechnoVision trends you get, you're guaranteed to have a new perspective on the challenge or opportunity at hand. It's the magic of being playful with technology.



## Connect and tailormake your application roadmap!

As a rule of thumb, we prefer to apply TechnoVision in a lively workshop setting. Usually taking place in one of our innovation and transformation environments such as one of our Applied Innovation Exchange (AIE), or our Accelerated Solution Environment (ASE). However, in a post-COVID-19 society, we also have virtual environments to make this possible.

Our main TechnoVision 2023 report comes with a dedicated *Applying TechnoVision* report, detailing how we typically use TechnoVision. For the public sector specifically, we have selected three top use cases:

### Use case 1: Guiding compass through your technology-driven transformation

**For:** Business and technology leaders, who have basic knowledge about technological trends, and want to leverage these trends to apply them to their technology-driven transformation (or if they prefer: *Digital Transformation*) activities.

**How:** Attendees pick their favorite trend boxes (mentioned above). Ideally, place the trend boxes in different areas across the room. In virtual environments an easy vote will be sufficient. Participants who chose the same box will form a group. Make sure that the groups are balanced regarding the number of members. The workshop consists of three iterations: An assessment of the current state of your organization/agency within the trend box; a description of your technology-driven transformation vision; an identification of prioritized activities to reach your transformation vision.

### Use case 2: Business and technology connector — create your Agora

**For:** Business and technology leaders.

**How:** Today's Business Technology requires relationships in which business and technology people must meet, understand each other, act in concert. Recognizing this, we propose to introduce an Agora, being informed by the Greek Agora. This is where citizens gathered, discussed, disputed, concluded, transacted. The new Agora is where business and technology people gather, discuss, dispute, conclude, transact. They define what needs to be done and distribute the work to the surrounding workplaces. The modern Agora's workplaces manufacture processes, craft systems, build products and services. Our Agora is the Technology Business Agora. It is designed to make the meeting of business and technology minds happen. For this purpose, business and technology people must come to the Agora equipped with powerful tools, the tools of their trades.

### Use case 3: Enabler and driver for your internal training program

**For:** Technology and business owners with interest in one or more TechnoVision trends and the specific intent they deliver, and who are known for their innovative mindset within the organization.

**How:** The people come together in an informal meeting to discuss which community they want to create to fit in one or more trends. They should think of people within their units who share a common concern, a set of problems or an interest in a TechnoVision topic, who want to gather people in a community to work on this. New communities should be advertised in a meeting during which key areas of work are presented to teams across the technology and business areas and active participation in that community is motivated. The leads come up with elevator pitches for their community, with iterations enabling for communities to be exchange further on the topics.

## Some ideas from the past to write your future

Since the creation of our first public sector-specific edition back in 2021, we have applied the concepts and technology stories outlined in the report in many client settings to equip organizations from across the world to better tackle their challenges and ideas.

**For an event organized by a regional authority in Belgium,** we brought TechnoVision along four topics of the event, namely: data privacy, smart cities, low-code and data-driven government. The goal was to spark some ideas by outlining some relevant future IT trends and innovations.

**For a Western European Army's CIO,** we applied TechnoVision along three use cases of their choice and assessed the relevance of each of the 37 trends along these use cases, including best practices observed in the field of defense.

**For a UK government department** the TechnoVision framework was adopted to help with organizing various technologies according to their application areas. This was to help with internal training and with further investment decisions.

**For another large UK government department** we used the TechnoVision framework and the related public sector stories to discuss the main IT trends related to various citizen-centric use cases. This assisted with understanding of the art of the possible and helped with devising a roadmap to assess the adoption of these innovations.

In an era marked by rapid technological advancements, the public sector is increasingly recognizing the need for a strategic approach to harnessing technology's potential. One such approach that holds great promise is TechnoVision. TechnoVision is a strategic framework that focuses on aligning technology with business objectives. While TechnoVision may have initially been associated with corporate enterprises, its principles are highly adaptable and beneficial when applied to the unique challenges and opportunities of the public sector.

## 1. Understanding TechnoVision

At its core, TechnoVision is about providing a clear and forward-thinking roadmap for how technology can be exploited, serving as an enabler of innovation, efficiency, and better service delivery. In the public sector, this translates into improving citizen experience, enhancing operational efficiency, and fostering a digital-first approach to delivery of government services.

## 2. A technical perspective

When applied within the public sector, TechnoVision takes on a distinct technical perspective that revolves around the following key principles:

**1. Digital transformation:** TechnoVision emphasizes the importance of digital transformation. It encourages public agencies to drive value for citizens and employees, by embracing digital tools and platforms, enabling the streamlining of operations, reduction of paperwork, and enhances communication with citizens.

**2. Data-driven decision-making:** Public sector organizations generate huge amounts of data. TechnoVision calls for understanding the value of this data and leveraging it to make and accelerate informed decisions. Through data analytics and insights, agencies can identify trends, allocate resources more efficiently, and optimize service delivery.

**3. Cybersecurity and privacy:** As guardians of sensitive citizen data, public agencies must maintain society's trust in public services, by prioritizing cybersecurity and data privacy. TechnoVision advocates for robust cybersecurity measures to protect against cyber threats and ensures compliance with data protection regulations.

**4. Cloud adoption:** Embracing cloud computing is integral to TechnoVision's technical perspective. The scalability and flexibility of cloud platforms enable public sector organizations to efficiently manage their IT infrastructure while reducing costs. It is critically important that the right cloud is chosen for the need.

**5. Collaborative technologies:** Collaboration is vital in the public sector. TechnoVision encourages the adoption of collaborative technologies, such as shared workspaces and video conferencing, to facilitate communication and knowledge sharing among government employees. The resulting gains of velocity, quality and employee satisfaction can really drive change at pace.

**6. User-centric design:** Public services should be designed with citizens in mind. TechnoVision promotes the development of user-centric digital interfaces that are intuitive, accessible, and responsive to the needs of diverse user groups. Making citizen services easier to engage with can drive positive step-changes in society's interaction with government.

## 3. Benefits for the public sector

Applying TechnoVision from a technical perspective offers several benefits for the public sector:

**1. Efficiency:** By aligning technology with business processes, agencies can streamline operations, reduce bureaucracy, and eliminate redundant tasks, leading to improved efficiency.

**2. Cost Savings:** Leveraging cloud technologies and data analytics can result in significant cost savings by optimizing resource allocation and reducing infrastructure expenses.

**3. Enhanced Services:** A user-centric approach ensures that public services are more accessible and tailored to citizens' needs, resulting in higher satisfaction rates.

**4. Data-Driven Governance:** Data analytics enables evidence-based decision-making, allowing governments to allocate resources where they are needed most effectively.

**5. Security and Compliance:** Prioritizing cybersecurity and data privacy safeguards citizen information and ensures compliance with regulatory requirements.

**6. Innovation:** TechnoVision encourages public agencies to adopt emerging technologies, fostering innovation in service delivery and governance.

## 4. Challenges and considerations

While TechnoVision holds great potential, its adoption in the public sector comes with its own set of challenges, which should not be underestimated. Bureaucratic structures, legacy systems, and budget constraints can hinder rapid transformation. Therefore, careful planning, stakeholder engagement, and a phased approach are essential to successful implementation. Rarely in public sector is it possible to deliver massive change programs in either an agile or waterfall way. A blended approach of the most appropriate delivery methods is required, especially during the transition phases of migrating from monolithic legacy systems, to loosely coupled microservice architecture, as an example. This is somewhat of an evolution rather than a replacement or remediation.

In conclusion, applying TechnoVision from a technical perspective in the public sector represents a strategic shift towards embracing technology as a catalyst for positive change. By aligning technology initiatives with broader business objectives, governments can enhance services, improve efficiency, and ensure a brighter digital future for their citizens. It's an approach that acknowledges the transformative power of technology and its pivotal role in shaping the modern public sector.





# HEALTHCARE

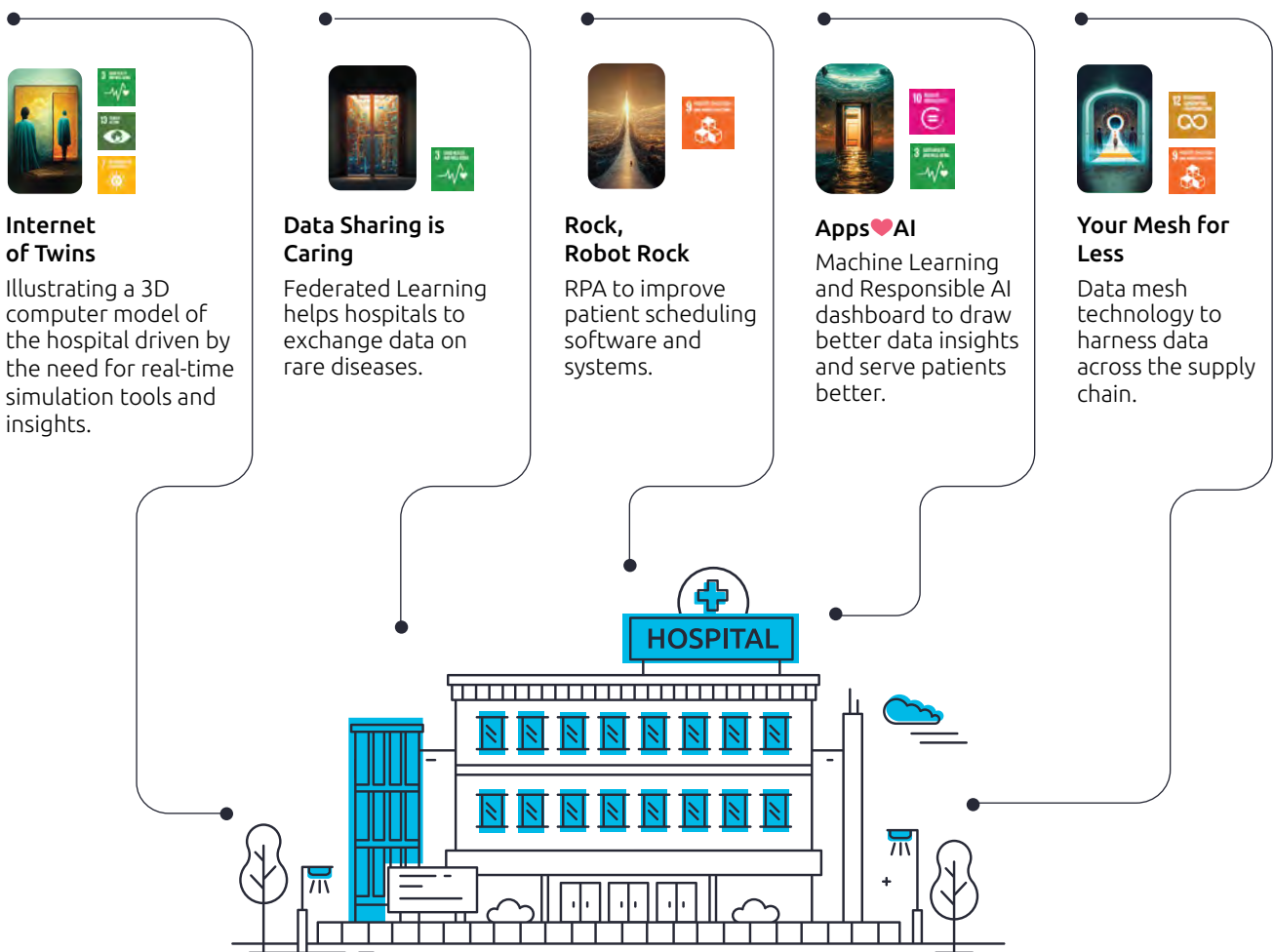
## Who exactly:

Hospitals,  
Health Insurances,  
Ministries of Health,  
Regional health authorities

## Imagine:

- Patients treated from home like in hospitals
- Finding new, innovative treatments for rare diseases
- IoT-driven hospital achieving operational efficiency
- Purpose-led achievement of SDG 3 (Good Health)

## WILL YOU BE MY SMART HOSPITAL?



**Richard Haynes**

### HOW TO SAY YES:

Read the [WHO Global strategy on digital health 2020-2025](#) | Attend the European Health Summit | Read the [NHS Digital Strategy](#) | Follow the [EU Health Data Space](#)



**Dalia Benitez**

### OTHER USE CASES:

Patient Pathway | Home care, virtual wards and remote care, Connected Ambulance | Sustainable Ambulance Fleet Management, Pandemic Management | Threat monitoring | Health research

# TAX & CUSTOMS

## Who exactly:

Ministries of Finance,  
Tax authorities,  
Customs agencies

## Imagine:

- Tax payment details pre-populated from citizens' bank accounts, enabling them to pay more quickly
- Unmanned and automated border kiosks using iris and facial recognition
- IoT sensors to automatically track paperwork at border crossing

## WILL YOU BE MY SMART TAX PAYER AND TRADER?



### Simply the edge

Provide robust tax impact analyses to governments on taxpayer patterns examining cross-border models.



### With Open Arms

*Pay by bank account*  
open banking service, enabling individuals and businesses to pay taxes directly.



### Internet of Twins

Driving smart, frictionless borders that leverage digital tools such as IoT sensors and data visualization.



### No friction

Mandated e-invoicing and VAT standards enable both more accurate data capture and AI-driven repayments.



### Ops, AI did it again

Using AI software to detect undeclared private swimming pools, flag potential fraud and other anomalies.



Simon Pearson

### HOW TO SAY YES:

Read [OECD Tax Administration 3.0](#) | [VAT in Digital Age EU](#) | Watch [OECD Tax and Development Days 2023](#) | Read [Open banking payments at HMRC](#) | Read [The EU's External Borders](#) | [Behavioral Insights for Better Tax Administration A BRIEF GUIDE](#)



Kurian Kallarakal

### OTHER USE CASES:

[Behavioral insights](#) better tax compliance; [RPA to link digital services](#) and back-office system; [Single Trade Window](#)

# DEFENSE

## Who exactly:

Ministries of Defense,  
Military personnel,  
Cybersecurity units,  
Defense technology providers

## Imagine:

- Monitoring soldiers' physical and mental health
- Syncing soldiers with weapons systems
- Unmanned autonomous systems giving information to command centers
- Predictive maintenance models preventing failure of systems and weapons
- A secure identity access management on restricted areas

## WILL YOU BE MY CONNECTED DEFENSE?



### Me, Myself and My Metaverse

Enhancing military metaverse with IoT data for more immersive training, planning and collaboration.



### Data Sharing is Caring

Body sensors on soldiers can send alerts about current health to field hospitals.



### NET Ø DATA

AI-supported predictive maintenance models that detect anomalies in systems and infrastructure.



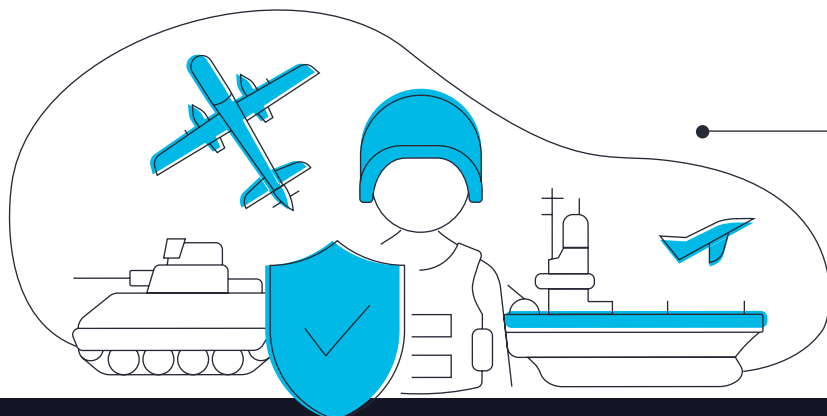
### Trust Thrust

Deploying robust encryption and authentication mechanisms for software-enabled devices and communication infrastructure.



### My Industry, My Cloud

Enabling real-time data monitoring through cloud-based analytics platforms.



Jasmijn Baldinger

### HOW TO SAY YES:

Read about [CoHoMA – man-machine cooperation challenge](#) | Read NATO article on [Interoperability: connecting forces](#) | Read the U.S. DoD [Joint All-Domain Command & Control Strategy](#)



Hugo Lhuillier

### OTHER USE CASES:

[Smart military bases](#) | [Deployable Metal 3D Printers](#) | [Unmanned Autonomous Vehicles operating in coordination with soldiers](#)

# PUBLIC ADMINISTRATION

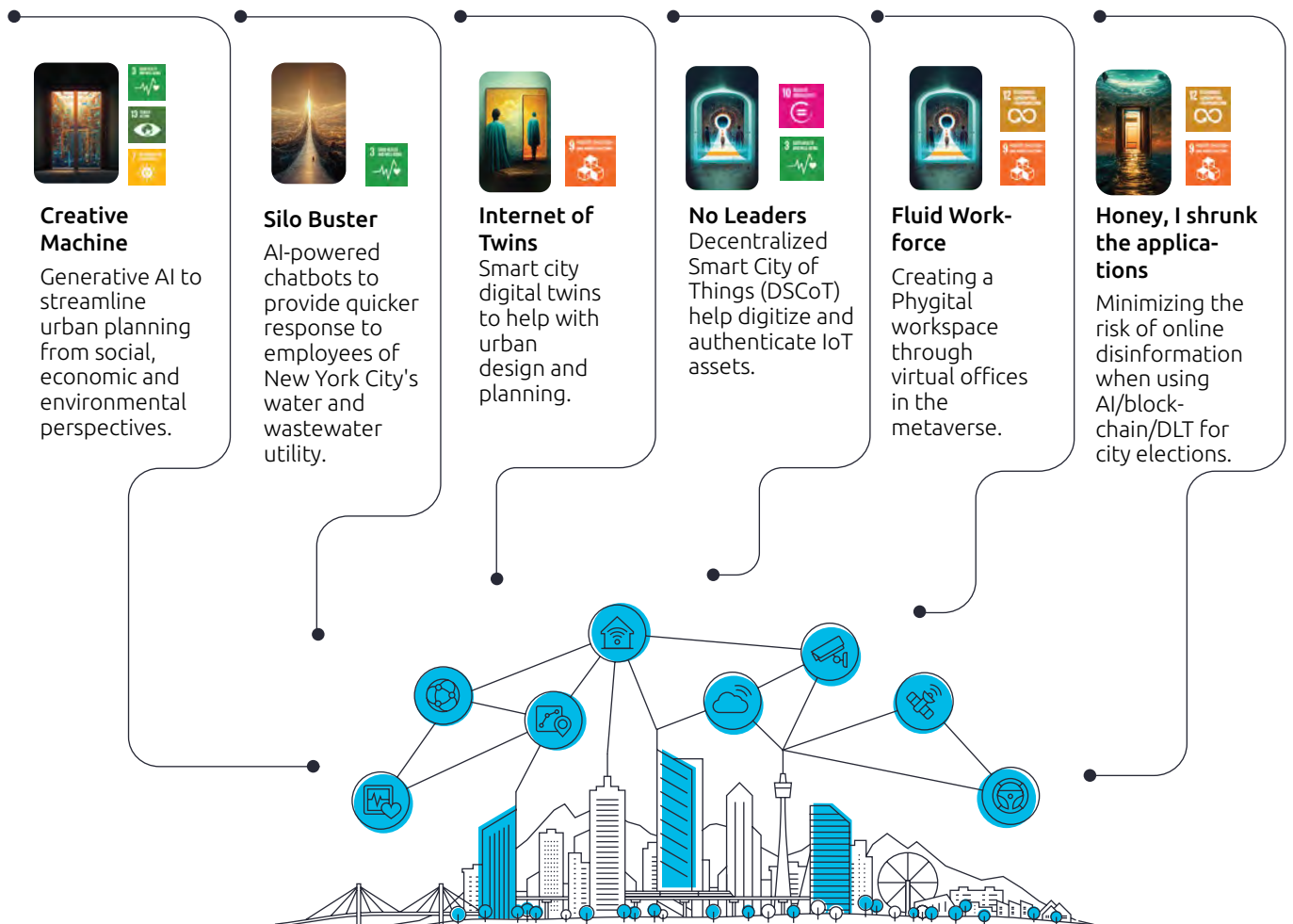
## Who exactly:

City, regional, national governments and their organization / agencies / bodies

## Imagine:

- Autonomous public transportation in cities
- Tailormade mobility journeys for citizens
- Facilitated simulation environments for urban planners
- Better safety monitoring for vulnerable people (eg. children)
- An omnichannel interaction with your city administration

## WILL YOU BE MY SMART CITY?



**Hans Teuben**

### HOW TO SAY YES:

World Summit AI Amsterdam, AI for Good, Smart City Expo World Congress, Intelligent Cities Challenge / Smart Cities - Bern, Abu Dhabi, OnDijon, Neom, Singapore, Bremen



**Shubhranshu Suman**

### OTHER USE CASES:

Open Data Portals | Blockchain-based land administration | Satellite Imagery for forest protection | IoT based architecture for energy management



# WELFARE

**Who exactly:**

Labour and social departments,  
Skill development agencies,  
Employment agencies,  
Jobseekers

**Imagine:**

- An intelligent job-matching scheme powered by real-time information flow across actors
- New immersive interaction with jobseekers testing virtual reality solutions
- Self-assessment processes empowering the citizen
- Omnichannel services across all interaction formats

## WILL YOU BE MY SMART JOB CENTER?



**EXPERIENCE<sup>2</sup>**

A virtual reality enabled job fair that allows jobseekers to explore job opportunities and engage with employers.



**Power to the People**

Access to career resources and tools, empowering individuals to make informed decisions about their career paths through skills assessments and personalized support.



**Silo Buster**

Cloud-based platform to break down silos between different agencies and improve collaboration among staff members.



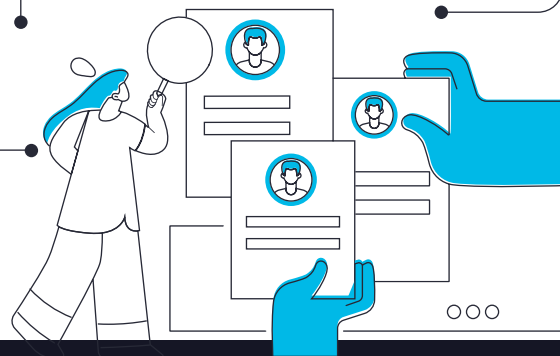
**Lord of the Clouds**

A cloud-based platform streamlining job seeking processes and enhancing user experiences for jobseekers, employers, and service providers.



**Creative Machine**

Using Generative AI to create custom resumes for jobseekers based on their work history, skills, and qualifications.



**Helena Vilcans**

**HOW TO SAY YES:**

Read the International Labour Organization’s [IT Strategy 2022-2025](#) | Check out the [EU Skill Data Space](#)



**Vanshikha Bhat**

**OTHER USE CASES:**

Automated Social Benefit Calculation | Virtual Job onboarding | Social Benefit Fraud Detection

# SECURITY

## Who exactly:

Operations and emergency vehicles of safety-critical authorities,  
Like police cars,  
Customs vehicles,  
Quick response teams (QRT)

## Imagine:

- Task forces and emergency services getting prepared for the operation while on-route
- AI-supported operations vehicles that make use of comprehensive insights, every step of the way
- Driving assistance aligned with emergency level
- AI-enabled buddy systems for increase of self-protection

## WILL YOU BE MY FUTURE POLICE CAR?



### No Friction

Optimized 'Blue light' — routing, calculated based on different connected information systems.



### Data Apart together

Improving reliability of connectivity through mesh network.



### Experience²

A comprehensive digital application dossier offering combined cross-system information.



### Rock, Robot Rock

An intelligent inventory system using in-car sensors for all mission-relevant items.



### Fluid Workforce

Optimized mission allocation based on advanced deployment-relevant factors beyond the proximity to the location.



### Apps♥AI

AI-supported data handling from transcription and analysis of emergency calls to supported operational planning and processes automation.



### Simply the Edge

Use of sensor data inside and between vehicles to develop a comprehensive initial and ongoing assessment of the operation.



Peter Steinleitner

### HOW TO SAY YES:

Read the [Europol strategy for law enforcement](#) | Attend the [European Police Congress](#) | Follow the [World Police Summit](#)



Tanja Wittig

### OTHER USE CASES:

Prisoner vehicle tracking | Drones for security ops | Agile Crisis Management | Next gen incident command centre



# TECHNOVISION 2023-24: PUBLIC SECTOR EDITION

## A FEW MORE THINGS

Time and perspectives – as much as we see TechnoVision as a digital compass, one can't forget that the environment we live in is a question of perspectives. Time runs, and it is the fight the human never won, while the 360° degree view remains one of the key quests to pursue on a transformative journey.

And so we do have a few more things we would like you to remember when you use this report, in a spirit of iteration and pluridisciplinarity.

### **Fast changing and furiously variable**

“The future will soon be a thing of the past.” No, not a quote by Benjamin Franklin this time (it is from stand-up comedian George Carlin, actually). But how soon is soon, exactly? We live in a world that can literally change overnight — in society and economy; most definitely also in technology. TechnoVision is designed to be forward-looking, and actionable: we focus on innovative technology trends and drivers that are already applicable and can deliver value now. Then again, we would not like the future to turn into the past without being noticed.

In this spirit, you will be able to read about further technologies worth mentioning and scrutinizing, in the overall TechnoVision report 2023 [here](#). Observed as innovative areas that we believe are profoundly shaping the technological and societal horizons, some are especially interesting from a public sector lens. This is the case for synthetic biology, which might change how we grow food what we eat, and where we source materials and medicine. Another one is quantum computing, expected to bring public services a greater risk management, cybersecurity, or operations scheduling.

## The public sector is an ode to pluridisciplinarity

When observing the adoption of tech in public services, one gets immersed in a paradigm shift that brings back contractualism to life. Freedom, equality, sovereignty, consensus — all are markers of a societal digital contract in which efficiency or consumer adoption are not necessarily imperious proof points, and where the right approach is a subtle marriage of context and legitimacy, fueled by numerous disciplines co-writing a tech savvy-future.

### Once upon an Act

The law, the law and nothing but the law — today, whoever witnesses the transformation cycles of digital knows. The jurisdictional sphere got interested in the power of technology, and it is good news. In the past years, this growing interest resulted in the emergence of tech policy, best illustrated by acts, regulations and directives. In 2016, for example, when industries hugely interacted with GDPR transforming the regulation into applicability. During the period from 2016 to 2020, when the new AI *summer* saw all governments working on a national/departmental/organizational AI strategy, building on rules, technological philosophy and applicability along the guidelines provided by political and jurisdictional bodies. Last but not least, and since 2022, we see the success of past regulations (GDPR being adopted beyond Europe) and an acceleration of what in political science is called the normative power — also applicable to tech and all its fields — the EU's Data Act, Cyber Act, Cloud Act, Digital Market Act, AI Act are good example of this new attention to digital in our societies. The key, as always, will lie in the applicability, and on how these requirements are crafted into delivery.

## Call me by your culture

While the jurisdictional dimension of technology has gotten a seat at the table, culture always was there, as a spirit in motion that inhabits the doers of this world. Technology is more than just a set of tools; it has an inherent DNA fused with the collective identity of its users, the people. From liberal to socialist and conservative governments, one can see the nuance culturelle that taints a digital project, from its inception to its delivery and acceptance by end users. In the public sector, this is of absolute importance, as it will define the level of sovereignty needed for a cloud journey, the philosophical approach to the balance between privacy and purpose, the stance towards the value of data, or simply the main message of tech's purpose. You will best find this phenomenon in cities and their quest to be smart. Because being *smart* will be the intelligent use of the technology a city needs — whether it's about being a green smart city, a safe smart city, an attractive smart city, or a connected smart city; or because *smart* finds its essence in the people at the heart of the project, the city's people.

## Eat, pray, innovate

There is the law, there is the culture, and then there is yourself — on an organizational or individual level, technology comes as a buffet. A capability set of ideas and tools from which you make yourself a mix that will enhance your operations. In your way to this never-ending maturity journey, innovation labs and structures that resemble you will be your best playground to innovate. Equipped by a safe environment where failure is a step forward, and where you can bring yourself in front of your ideas, innovation labs enable all further steps with higher pace.

Public sector organizations today have taken this route and take good note of marrying it with a purpose to create better futures. The Data Sharing Support Center's work on Data Spaces in the EU, the Future4Care's quest on better start-up healthcare, the Department of Work and Pensions' use cases by its Innovation Lab, or the Generalitat de Catalunya's work for citizens — all those are an illustration of this movement, and in all those efforts Capgemini is privileged to support a leadership that lives within the organization's body and structures.



# TECHNOVISION 2023-24: Public Sector Edition

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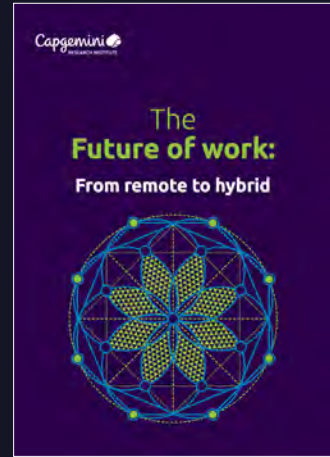
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