

A series of five horizontal, overlapping abstract shapes in shades of blue and white, arranged in a descending staircase pattern from the top left towards the center of the page.

# A Playbook for Public Sector Chief Data Officers in the Era of AI and Data Spaces



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## Introduction

The proliferation of data — fueled by unprecedented advances in connectivity, computing, and artificial intelligence — is transforming businesses, public administrations, and societies. The public sector will play a strategic role in empowering citizens, civil servants, and private enterprises to use data intelligently to improve quality of life, tackle climate change, simplify government bureaucracy, drive innovation, and nurture talent.

As senior leaders in the public sector, chief data officers (CDOs) will ensure that organizational capacities and competencies; governance policies, structures, and processes; and data infrastructure, platforms, and analytics capabilities all align to deliver on strategic goals, including making the right data accessible to the right stakeholders.

Across the globe, policymakers are actively shaping the data economy. The U.S. Government Federal Data Strategy<sup>1</sup> aims to "accelerate the use of data to deliver on mission, serve the public, and steward resources while protecting security, privacy, and confidentiality." Emerging countries, from Asia-Pacific<sup>2</sup> to the Gulf region<sup>3</sup>, are making bold investments to gain competitive advantage in data and AI. However, Europe has put forward the most ambitious goals to bring together the accelerated growth of the data economy with responsible use of data and AI. The European Union (EU) has defined its vision through the European Strategy for Data (2020)<sup>4</sup> — a vision that will empower Europe to become a strategic player in the global data economy, while upholding European values, such as personal dignity, open and fair market competition, sustainable economic growth, and social justice.

### AT A GLANCE

#### KEY TAKEAWAYS

- » The value of the European data economy reached almost €500 billion in 2022, representing a growth rate of 8.9% over the prior year and 3.9% of GDP, up from 3.7% in 2021.
- » Data is deeply transforming businesses and public administrations, bringing economic and social value to citizens.
- » Turning data into value requires public sector CDOs to align strategies, organizational competencies and capacities, technologies, governance, and ecosystems.

<sup>1</sup> <https://strategy.data.gov/>

<sup>2</sup> <https://news.cgtn.com/news/2023-10-25/China-inaugurates-national-data-bureau-1obqU3dvBks/index.html>

<sup>3</sup> <https://ai.sa/>

<sup>4</sup> <https://digital-strategy.ec.europa.eu/en/policies/strategy-data>

Standing in the way of accomplishing those goals are a shortage of skills, lack of a strategic approach to innovation and a strategic mindset, a volatile macro-environment, and technical debt. Public sector CDOs will need to shape future strategies, organizational capacities and competencies, technical architectures, governance models, and ecosystem collaborations to realize the value of data.

This IDC Playbook provides public sector CDOs with insightful advice to empower them to embrace their strategic roles and execute their missions effectively and efficiently.

## Unique European Vision of the Intelligent and Responsible Use of Data

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The European vision shaping the data economy is founded on unique characteristics that CDOs should bear in mind:

- A dynamic regulatory environment
- Public trust and engagement
- Policy and strategy goals
- Ecosystem collaboration

### *Dynamic Regulatory Environment*

The EU's policies and regulations — such as the Data Governance Act<sup>5</sup>, AI Act<sup>6</sup>, Data Act<sup>7</sup>, Open Data Directive<sup>8</sup>, and Digital Decade program — and its list of high-value data sets<sup>9</sup> are creating the legal framework and funding vehicles to realize its vision of the accelerated and responsible use of data and AI.

Public sector CDOs who want to realize the potential of data and AI should invest in cybersecurity tools and best practices, and actionable governance guidelines and principles. They should also consider suitable digital sovereign infrastructures and platforms that enable the self-determination of technical choices and regulatory compliance.

### *Public Trust and Engagement*

Increasing cyber-risks, ethical questions around advances in AI and generative AI, and more demanding regulations are putting pressure on CDOs to ensure that populations can trust governments' ability to guarantee the quality and integrity of data and its use.

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<sup>5</sup> <https://digital-strategy.ec.europa.eu/en/policies/data-governance-act>

<sup>6</sup> <https://www.europarl.europa.eu/news/en/headlines/society/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence>

<sup>7</sup> <https://www.europarl.europa.eu/news/en/press-room/20231106IPR09025/parliament-backs-plans-for-better-access-to-and-use-of-data>

<sup>8</sup> <https://digital-strategy.ec.europa.eu/en/policies/legislation-open-data>

<sup>9</sup> <https://digital-strategy.ec.europa.eu/en/news/commission-defines-high-value-datasets-be-made-available-re-use>

Public CDOs must therefore bring more transparency into the process and into the effective use of data. For instance, the City of Amsterdam has developed an Algorithm Register<sup>10</sup> to provide citizens with a holistic understanding of the artificial intelligence systems and algorithms used by the city.

Public sector organizations are expected to communicate and engage citizens, such as through community organizations, to showcase the benefits of the intelligent use of data, as well as compliance with EU policies, sovereignty initiatives, and local laws.

### *Strategy and Policy Needs*

Too often, Technologists invest in new solutions for the sake of it. The ambition to make intelligent and responsible use of data needs instead to prioritize alignment with government policies and strategies to improve the livability and prosperity of the European economy and society.

CDOs should therefore identify use cases and aim to solve societal issues or improve internal productivity through the intelligent use of data. This requires CDOs to pay attention to future-proofing architecture, meaning that the effort to address specific business issues should not result in siloed datasets and non-reusable analytics applications. Investing in interoperability and continuous fast cycles of improvement through agile practices like DataOps must support the use-case-first perspective.

The U.K. Central Digital and Data Office (CDDO) has fostered data sharing via the creation of a data marketplace, which works as a hub in which civil servants can request access to specific datasets directly from the datasets' owners. This hub was initiated after research revealed that one of the main barriers to cross departmental data sharing was an inability of workers to find the right data. The CDDO therefore focused its efforts on facilitating exchange rather than building new platforms.

### *Ecosystem Collaboration*

Over the years, EU and domestic regulations have highlighted the need for data to be used cautiously and yet for data to be as open as possible. The development of European Data Spaces is the perfect example of the necessity to create an area where many stakeholders can benefit from data and information in a trusted manner. For instance, the Spanish example of the Intelligent Destination Platform<sup>11</sup> has the ambition to gather intelligence and enable private and public entities to work together and foster development. This example also draws attention to the importance of promoting the data capabilities of the organization among multiple stakeholders.

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<sup>10</sup> <https://algorithmeregister.amsterdam.nl/en/more-information/>

<sup>11</sup> <https://www.segittur.es/en/>

CDOs from the public sector must develop all the data-related processes in an open-by-design way. Public entities cannot work end-to-end on their own; they must involve third parties from the beginning — such as other public services, global technology companies, and local start-ups — to test solutions and shape their architecture road maps. CDOs must act as the ambassadors of their organizations' capabilities and of the potential outputs. Depending on the specific role, ambassadors' time and effort will be directed at external private partners, other public entities, and/or the general public.

## The Crucial Role of the CDO

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The role of the chief data officer is not new, but it is evolving rapidly. For a long time, CDOs were polarized at two extremes of a wide range of roles. Some of them were thought leaders advocating the value of data, but with limited resources or decision-making authority. Others were technical wizards heading small teams of data scientists and engineers deploying and managing data platforms and analytics solutions — such as open data portals, data lakes, data meshes, visual dashboards, and digital twins — in isolation from the rest of the organization. Nowadays, the CDO's role is still not always formalized, unlike that of the CIO or the chief technical officer (CTO), but the CDO is becoming a strategic leader in both the public and the private sector.

The convergence of societal, economic, technological, political, and legal factors is making data a critical asset for strategy, policy, management, and operational decisions, which is earning CDOs more senior leadership positions. This importance creates a new internal paradigm and raises questions about data ownership and related IT systems with other chief "x" officers (CXOs).

Public sector institutions and private enterprise now recognize that CDOs play a crucial role in making intelligent decisions about operational efficiency, competitive advantage, customer service, environmental sustainability, regulatory compliance, and much more. Appointing CDOs to executive positions requires clarity on how, for instance, they are to work with CTOs to define data platform road maps that maximize value for money through interoperable and reusable components and how they should work with chief information security officers (CISOs) to ensure secure and regulatory compliant data collection, archiving, access, and transfer.

Although they are moving to more strategic roles, not all CDOs are created equal. Multiple factors will influence CDO roles — mainly, those linked to organizations' legacy and historical backgrounds, such as:

- Organizational readiness (e.g., culture, competencies, technical architectures and infrastructures, and the quality and accessibility of data)

- Regulations and policies entitling public institutions and private enterprises to own, control, and process data — or preventing them from doing so
- Strategic goals that organizations intend to achieve with more intelligent use of data

Some aspects are inherent to the individuals appointed to CDO roles, like their mindset, skills, and vision and whether they are more inclined to fulfill technical or managerial responsibilities. Both organizational and mindset aspects must be considered equally in selecting the right CDO for a given position. In this respect, finding the right approach to the somewhat conflicting aspects of data privacy and data utilization is also important; depending on the priorities and sensitivity of the organization's data, the respective CDO must strike the right balance between regulatory compliance and unleashing the power of data to drive business and policy innovation.

Across the varied spectrum of factors that shape the role of the CDO, two critical attributes are influencing CDO types in the public sector:

- **The purpose of the CDO role:** Some public sector CDOs are mandated to promote the development of the data ecosystem for the whole country (or the whole region or city) and to drive impact in terms of sustainable economic development, diversity and inclusion, public safety, fair and open markets, technology innovation, skills development, and so forth. Other public sector CDOs are much more focused on the performance of their organizations, whether a ministry, a local or regional council, a commission, or an agency overseeing a particular domain, such as nature conservation, public safety, or scientific research. In this latter case, their purpose is to advance the intelligent use of data to enhance the quality of service, efficiency, compliance, and resilience of their respective institutions.
- **How the CDO executes the vision and strategic goals of the above:** Some public sector CDOs' regulatory and strategic mandates require them to operate technical data and analytics solutions to control and/or process data. Other CDOs are not tasked with managing technical capabilities; they are rather orchestrators of the data ecosystem, defining architecture and governance best practices and bringing together stakeholders.

Based on the above two attributes, four CDO archetypes can be identified:

- The **Evangelist** CDO's role is to shape policies, engage the ecosystem, and promote the importance of data. The Evangelist must oil the wheels, making every stakeholder aware of the impact and power of data in fostering social and societal improvements. The Evangelist influences policy choices on how to address societal challenges, rather than technical issues. For example, *Oficina del Dato* (the Data Office) was created within the Ministry of Economic Development and Digital Transformation's Secretariat for Digitalization and Artificial Intelligence (SEDIA), Spain, to promote the management, sharing, and use of data to accelerate the digital transformation of the public sector and of strategic sectors of the Spanish economy — agrifood, sustainable mobility, health, commerce, tourism, and Industry 4.0 (smart manufacturing).
- The **Strategist** CDO's role is to design, deploy, and operate technology solutions to ensure data is used more effectively. The Strategist must act at a higher level than local departments to generate interaction between them and to break boundaries, particularly for long-term projects. An example is Etalab, often considered as the French government CDO. Etalab provides ministries with support in facilitating the dissemination and reuse of their public information and manages a national open data platform. As a Strategist, Etalab's director also creates bridges between the worlds of research, public administration, and private enterprise to tackle societal challenges.

***"Our goal is to discover how we can really make use of data across many different verticals by capitalizing on common or horizontal methodologies and technologies."***

*CDO, the Federal Government of Spain*

***"Since its creation, Etalab has had the objective to facilitate and promote the openness of data and its impactful use."***

*Etalab director, the Government of France*



- The **Alchemist** CDO's role is to drive organizational enhancement by promoting data interoperability, data capability reuse, and data security through the orchestration of partners and suppliers. The Alchemist works alongside other agencies' and ministries' CTOs, CIOs, and CDOs to ensure they can make intelligent use of data to improve citizen experience, deliver on the promise of the once-only principle<sup>12</sup>, and increase the productivity and operational resilience of the civil service. The CDO for the Government of Estonia is an example of an Alchemist, fostering the use of artificial intelligence, open data, and citizen-centric data sharing across the Estonian public and private sectors and promoting the development of data literacy across the civil service. As an Alchemist, this CDO combines internal resources and competencies with the capabilities and capacities that the private sector can bring through widespread engagement with the ecosystem<sup>13</sup>.

*"Continuous knowledge exchange and collaboration between the public and the private sector have helped to find better solutions for the ecosystem of Bürokratt and for future wider use."*

*CDO, the Government of Estonia*

- The **Technologist** CDO's role is to design, deploy, and operate technology solutions. While the purpose of this role remains to empower civil servants through data capabilities, a Technologist will design, deliver, and operate analytics and AI applications, data platforms, and — in partnership with CIOs and CTOs — supporting infrastructure. The CDO of the U.K.'s HMRC is a good example of a Technologist. The role focuses on internally exploiting multilayer datasets to give taxpayers a clear understanding and clarity of their obligations, to make voluntary compliance easy, and to improve HMRC experts' capacity for risk assessment to reduce opportunities for complaints, errors, and tax avoidance.

*"As a CDO, you must make sure you go through the various layers of the organization and ensure information is available to all individuals and that they are able to interpret the data to make strategic decisions."*

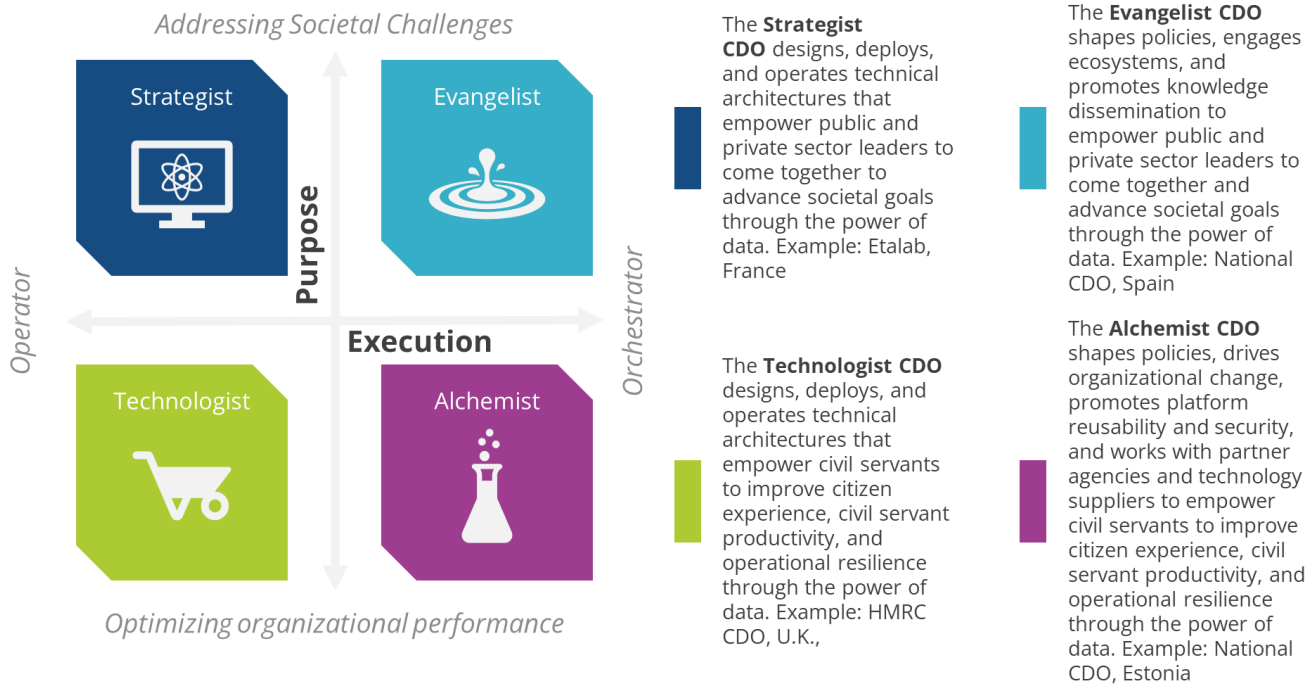
*CDO of HMRC, the U.K.*

<sup>12</sup> [https://commission.europa.eu/news/once-only-principle-system-breakthrough-eus-digital-single-market-2020-11-05\\_en](https://commission.europa.eu/news/once-only-principle-system-breakthrough-eus-digital-single-market-2020-11-05_en)

<sup>13</sup> <https://e-estonia.com/data-governance-for-innovation-who-controls-whom/>



FIGURE 1  
Four Archetypes of Public Sector CDOs



Source: IDC, 2024

Reality will push the boundaries of these four archetypes; the axes in the above figure are continuums. For instance, in terms of execution, orchestrator CDOs could, to support their roles, be responsible for operating lightweight data sharing platforms, such as open data portals and API catalogues, and identity management tools to regulate access to those platforms. In terms of purpose, some CDOs' organizations have indirect impacts on societal challenges. For example, CDOs of police authorities — whose primary priority is to use data intelligence to increase the effectiveness of policing, avoid crime, and apprehend criminals more rapidly — indirectly impact neighborhood livability.

Creating a CDO position and establishing a hierarchy for the role often translate into the creation of a dedicated budget and team. Depending on the archetype, the CDO may head a small (10 people max.) but influential cabinet or a large team of technical experts. The budget can be up to 3% of the agency's overall expenditure when it includes spending on IT tools and implementation costs.

### CDO Playbook: How to Make the Most of a CDO Role in an Organization

The definition of the four public sector CDO archetypes, notwithstanding the caveat of variations, is useful because it enables organizations to define the responsibilities; prioritize investments in capabilities and capacities; develop people competencies; design governance structures, policies, and processes; and adopt adequate policies to maximize the effectiveness of the CDO and team.

All CDO archetypes must make conscious choices in six areas to ensure their roles are successful:

- **Strategy:** What are the business goals and objectives of our organization? How should we rank them? And how should we align them with our data strategy?
- **Governance:** What regulations and ethical standards apply to our organization and department? What procedures and policies should we establish to ensure the quality of the data we process? And how can we foster the security and privacy of this data through existing or new procedures?
- **Architecture:** What are the technical characteristics needed to fulfil the strategic goals of our organization? How can we ensure their efficient usage? And which innovative capabilities should we embrace to better execute our management tasks?
- **Organization:** What is the optimum team size for our department to be impactful? And what skills do we require?
- **Ecosystem:** Who are the stakeholders (executives, departments, and external) we need to collaborate with to align data initiatives with overall strategy? And what is the best way to bring them onboard?
- **Funding and ROI:** What is a realistic budget for our team? What part of the organization should fund us? And what key performance indicators (KPIs) do we need to effectively assess our progress?

FIGURE 2  
A CDO Playbook for All Four Public Sector CDO Archetypes

Critical Capabilities and Capacity Considerations	Evangelist	Strategist	Alchemist	Technologist
Strategy	<ul style="list-style-type: none"> <li><b>Goal:</b> to shape the governance framework and architectural blueprint for intelligent, interoperable, trusted, and responsible use of data across the public and private sector</li> <li><b>Timeline for the goals:</b> 2–3 years</li> </ul>	<ul style="list-style-type: none"> <li><b>Goal:</b> to deploy and run a platform for the intelligent, interoperable, trusted, and responsible use of data across the public and private sectors</li> <li><b>Timeline for the goals:</b> 3–5 years</li> </ul>	<ul style="list-style-type: none"> <li><b>Goal:</b> to drive organizational changes and the interoperability and reusability of data via the alignment of internal stakeholders and external partners</li> <li><b>Timeline for the goals:</b> 1–2 years</li> </ul>	<ul style="list-style-type: none"> <li><b>Goal:</b> to improve the productivity and resilience of civil servants through the better use of data thanks to scalable analytics solutions and trusted data platforms and infrastructure</li> <li><b>Timeline for the goals:</b> 1–2 years</li> </ul>
Governance	<ul style="list-style-type: none"> <li><b>Role:</b> secretary or undersecretary, reporting to an elected official with the power to recommend policy changes and establish sandboxes to run PoCs that impact an entire jurisdiction</li> <li><b>Regulatory readiness:</b> works with legal experts to define how EU data, digital sovereignty, and AI regulations are implemented at the national level</li> <li><b>Risks:</b> fluid legal and governance frameworks and hard to quantify short-term ROI</li> </ul>	<ul style="list-style-type: none"> <li><b>Role:</b> technical director level reporting to a secretary or undersecretary</li> <li><b>Regulatory readiness:</b> works with legal experts to ensure the compliance of data platforms and infrastructure with EU data, digital sovereignty, and AI regulations by reusing available EU and national guidelines</li> <li><b>Risks:</b> project implementation, technical interoperability, scalability and security, and low platform adoption</li> </ul>	<ul style="list-style-type: none"> <li><b>Role:</b> technical director managing a government-wide/city-wide unit or reporting to a ministry with an orchestration role (e.g., economics)</li> <li><b>Regulatory readiness:</b> works with legal experts to define local policies that enable the ecosystem's compliance with EU regulations</li> <li><b>Risks:</b> A lack of visibility and of voice in terms of strategy and difficulty in matching public and private partners' requirements</li> </ul>	<ul style="list-style-type: none"> <li><b>Role:</b> technical director reporting to a chief operating officer, chief finance officer, or head of citizen services</li> <li><b>Regulatory readiness:</b> works with legal experts to ensure the compliance of data platforms and infrastructure with EU data, digital sovereignty, and AI regulations by reusing available EU and national guidelines</li> <li><b>Risks:</b> a lack of strategic awareness creating a mismatch between business expectations and technical capabilities</li> </ul>
Architecture	<ul style="list-style-type: none"> <li><b>Innovation:</b> a focus on shaping the design of reusable business, legal, and operational capabilities for data management, sharing, and analysis; a limited focus on functional and technical capabilities</li> <li><b>Usage:</b> limited use of technology — mostly, knowledge management and collaboration tools</li> </ul>	<ul style="list-style-type: none"> <li><b>Innovation:</b> a focus on a sourcing platform with business, legal, operational, functional, and technical capabilities aligned with business goals and the data ecosystem</li> <li><b>Usage:</b> a heavy user of operational and technical capabilities to run the platform</li> </ul>	<ul style="list-style-type: none"> <li><b>Innovation:</b> a focus on identifying high-value datasets and use cases to help the ecosystem converge toward common outcomes by fostering new ideas and accelerating their implementation through collaboration</li> <li><b>Usage:</b> a user of business and legal capabilities that enable data sharing across the ecosystem</li> </ul>	<ul style="list-style-type: none"> <li><b>Innovation:</b> a focus on aligning the missions of the department with the technologies and tools available — innovation in terms tool use rather than innovative new tools</li> <li><b>Usage:</b> a heavy user of operational, functional, and technical capabilities at all layers of the application/platform infrastructure</li> </ul>
Organization	<ul style="list-style-type: none"> <li><b>Size of the organization:</b> a small team — up to 10 people</li> <li><b>Competencies:</b> legal affairs, policymaking, data governance and architecture, ethical AI, communication and relationship management, and business modeling</li> </ul>	<ul style="list-style-type: none"> <li><b>Size of the organization:</b> medium-sized team (up to 25 people), augmented by experts hired from technology suppliers</li> <li><b>Competencies:</b> legal affairs, data governance and architecture, ethical use of AI, cloud/infrastructure management, sourcing, marketing, and communication</li> </ul>	<ul style="list-style-type: none"> <li><b>Size of the organization:</b> small-team-up to 15 people</li> <li><b>Competencies:</b> data governance and architecture, sourcing, market intelligence, communication and relationship management, policymaking</li> </ul>	<ul style="list-style-type: none"> <li><b>Size of the organization:</b> big team of technical experts (20 plus), augmented by experts from technology suppliers</li> <li><b>Competencies:</b> data management, cybersecurity, compliance, data science, cloud-to-edge infrastructure, and data analytics</li> </ul>
Ecosystem	<ul style="list-style-type: none"> <li><b>Who to engage:</b> engagement across the quadruple helix of the public sector, the private sector, academia, and community organizations</li> <li><b>How to engage:</b> workshops, one-to-one meetings, and thought leadership publications</li> </ul>	<ul style="list-style-type: none"> <li><b>Who to engage:</b> select members of the quadruple helix of the public sector, the private sector, academia, and community organizations — target data users and providers for the platform</li> <li><b>How to engage:</b> workshops, the publication of SLAs, and contracts and MoUs</li> </ul>	<ul style="list-style-type: none"> <li><b>Who to engage:</b> engagement with IT and Data senior audience inside the public sector, private companies, tech suppliers, market intelligence companies and academia</li> <li><b>How to engage:</b> workshops, PoCs conferences, informal meetings</li> </ul>	<ul style="list-style-type: none"> <li><b>Who to engage:</b> government LOBs and executives and private companies</li> <li><b>How to engage:</b> requirement-gathering workshops and benefit-realization presentations</li> </ul>
Funding and ROI	<ul style="list-style-type: none"> <li><b>Budget:</b> small (1% or less of department/agency expenditure) and ringfenced for policymaking, PoCs, and ecosystem engagement</li> <li><b>KPIs:</b> numbers of designed/influenced of policies and standards, ecosystem engagements, and companies (particularly SMEs) participating to PoCs; and the adoption of policies and standards, such as in public tender calls</li> </ul>	<ul style="list-style-type: none"> <li><b>Budget:</b> medium sized (1–2% of department/agency expenditure) and dedicated to platform CAPEX and OPEX, with OPEX possibly funded through service fees</li> <li><b>KPIs:</b> the quality, availability, and accessibility of datasets; data downloads/API calls; service continuity and security; and user satisfaction with the platform</li> </ul>	<ul style="list-style-type: none"> <li><b>Budget:</b> small (1% or less of department/agency expenditure)</li> <li><b>KPIs:</b> internal satisfaction, number of successful PoCs, number of workshops, citizen's satisfaction</li> </ul>	<ul style="list-style-type: none"> <li><b>Budget:</b> large (3% or more of department/agency expenditure) and allocated to technology products and services procurement</li> <li><b>KPIs:</b> the quality, availability, and accessibility of datasets; data downloads/API calls; the time to market of new analytics and AI applications; and service continuity and security</li> </ul>

Source: IDC, 2024

These profiles can be outlined as follows:

- Evangelist:** The Evangelist CDO's mission is to shape the data economy at the national level. To execute on that mission, the Evangelist should focus on guiding public and private sector stakeholders in their adoption of a governance framework and architecture to enable the intelligent, interoperable, trusted, and responsible use of data. To pursue these strategic goals, the Evangelist CDO needs a programmatic approach that entails 2–3-year initiatives measured against soft KPIs such as the number of policies and standards influenced, the number of companies participating in proofs of concept, and compliance with standards and guidelines relating to public procurement requests for information and requests for proposals. The scope of action is wide, encompassing international collaboration with organizations like Gaia-X and with private partners. The Evangelist does not need large teams but must recruit people with competencies that span legal affairs, business modeling, and data architecture and engineering and with mindsets open to collaboration and agile working.

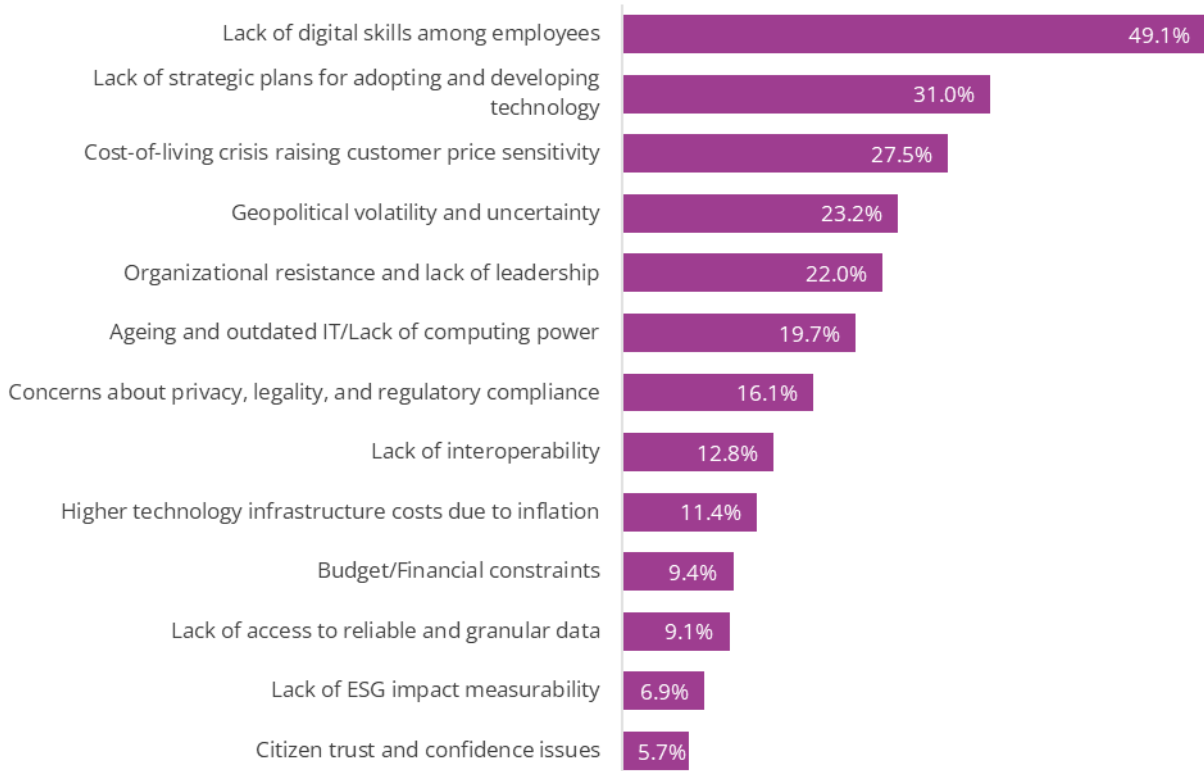
- **Strategist:** The Strategist CDO's mission is more operational. Strategic efforts must be focused on operating platforms that can foster the intelligent, interoperable, trusted, and responsible use and sharing of data across the public and the private sector. The Strategist must prioritize specific use cases, engage with stakeholders who can drive adoption and deliver value over 3–5-year timelines, and source the right technical products and services to develop and deploy operating platforms. Metrics should include such KPIs as the number of datasets the platform makes available, data quality, and the number of downloads and API requests. Having a mix of business modeling, sourcing, data infrastructure, and data platform skills is paramount for the Strategist CDO.
- **Alchemist:** The Alchemist CDO is an accelerator of digitalization and of data strategy implementation. The Alchemist must bring together siloed government entities with private sector and academic partners to improve citizen experience, civil servant productivity, and operational resilience. The Alchemist must uncover use cases that deliver value for money in terms of overall convenience, civil servants' satisfaction and productivity, and citizens' satisfaction. They must possess good knowledge of the EU's legal framework for data to ensure that data sharing across government agencies complies with regulations. The Alchemist must combine a sense of credibility through technical knowledge and diplomacy to foster collaboration.
- **Technologist:** The Technologist CDO's mission to drive high-performing public administrations through data requires the Technologist to prioritize strategic initiatives that help rapidly innovate and then scale data management, advanced analytics, and AI capabilities. The Technologist should work closely with functional directors, such as the finance director and citizen services director, to maximize the impact of the solutions that they deploy and scale them in terms of usability, security, and efficiency. Metrics for the Technologist include the number of short technical projects (3 to 6 months) delivered and an ability to future-proof cost-effective data platforms and infrastructure that increase the availability and quality of data and insights. Technologist teams primarily comprise technical experts, including data architects, data engineers, and data scientists, but also those with business acumen and governance, risk, and compliance skills.

## Considerations

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Public sector CDOs should be aware of the challenges and collaborate with public sector entities and technology partners to tackle them. IDC data shows that senior public sector leaders driving innovation suffer from a shortage of skills and a lack of strategic plans for adopting and developing technologies, which often lead to siloed solutions that are costly to operate and evolve. They also face a volatile macro-environment, technical debt, and organizational resistance to change.

**FIGURE 3**  
**EMEA Government Technology Innovation Key Challenges**



Source: IDC, 2024

CDOs who want to succeed in their missions should map the specific challenges of their organizations and build action plans to address them. Based on their estimation of the time and effort needed to tackle these barriers, they should communicate with stakeholders to set clear expectations.

For instance, to address the skills gap, CDOs should decide what combination of hiring, training, and technology-provider partnering will help their teams advance their agendas. In the case of interoperability, collaboration with national and international standards organizations will help foster trusted data exchange.

## Conclusion

Governments have the opportunity and responsibility to use data to improve citizens' quality of life, make their public services more efficient and responsive, and lead by example, showing the way to other industries when it comes to collecting, sharing, and processing data in a trusted and ethical manner. This responsibility is increasingly on the shoulders of the women and men who fulfill the role of the chief data officer — the CDO.

Governments creating or expanding the scopes of CDO positions should:

- Establish a clear mission — a **vision** of the outcomes they want to achieve through the intelligent and trusted use of data — and **align it with the priority stakeholders** they want to positively impact
- Design an **operating model** for the CDO and his team that maximizes impacts measured against mission KPIs
- Inventory existing organizational competencies and capacities, datasets, data architecture capabilities, and data governance policies and processes to identify areas in need of improvement and define an **action plan**
- Gain a deep understanding of national and international **regulatory requirements and ethical standards** and apply them to boost public trust in their use of data
- Identify — in collaboration with other program and IT executives — low-hanging fruit that can help **prove value for money** and build business cases for continued investments
- Select **technology partners that combine** an understanding of technical data and AI capabilities with experience in supporting organizational change and expertise in government missions and policies

## MESSAGE FROM THE SPONSOR

### Capgemini

Capgemini is a global business and technology transformation partner, helping organizations to accelerate their dual transition to a digital and sustainable world, while creating tangible impacts for enterprises and society. Capgemini has developed specific expertise in strategic areas such as digital sovereignty, data spaces, and environmental, social, and governance to address the various domains of the public sector, including administration, security, healthcare, welfare, defense, and tax and customs.

Building from a leadership positioning in data and AI, our network of experts helps governments and public sector organizations embrace data-driven solutions powered by scaled AI and GenAI to deliver improved citizen experiences, trusted societal outcomes, and increased operational efficiency. Last year, Capgemini was recognized as a Leader in *IDC MarketScape: European Professional Services for Data-Driven Government 2022 Vendor Assessment* (IDC #EUR149014122, February 2023). Connect with us to learn more about our expertise in the public sector:

<https://www.capgemini.com/solutions/data-and-ai-in-the-public-sector/>

## About the Analyst

Massimiliano Claps, Research Director, IDC EMEA Government Insights



Massimiliano (Max) Claps is a research director in the IDC Government Insights European team. Max's research empowers technology suppliers and public sector professionals to embrace disruptive technologies, such as artificial intelligence, edge computing, and cloud. Max Claps is also IDC's lead analyst worldwide for the railway and airline industries.

Remi Letemple, Senior Research Analyst, IDC Government Insights



Remi Letemple is a senior research analyst in the IDC Government Insights European team. Remi leads research on citizen experience, data strategies, and digital sovereignty and is a member of the Technology and Sustainability practice. Remi Letemple has developed qualitative and quantitative research methods over multiple consulting projects and has delivered over 50 workshops and conferences in recent years.



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