



Governance structures for data and AI in the public sector

Impact paper and international comparison
April 2026



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Executive summary

The AI-enabled transformation of organisations in all sectors is progressing at pace, with a view to realising the opportunities it offers. However, these opportunities are balanced by significant challenges, not least for governments and public authorities.

The need to integrate AI into government activities and processes is now widely recognised, whether to counteract a shortage of skilled workers, operate more efficiently, or make state services digitally accessible. The pressure to address such issues is currently leading most governments to press forward with the implementation of AI use cases.

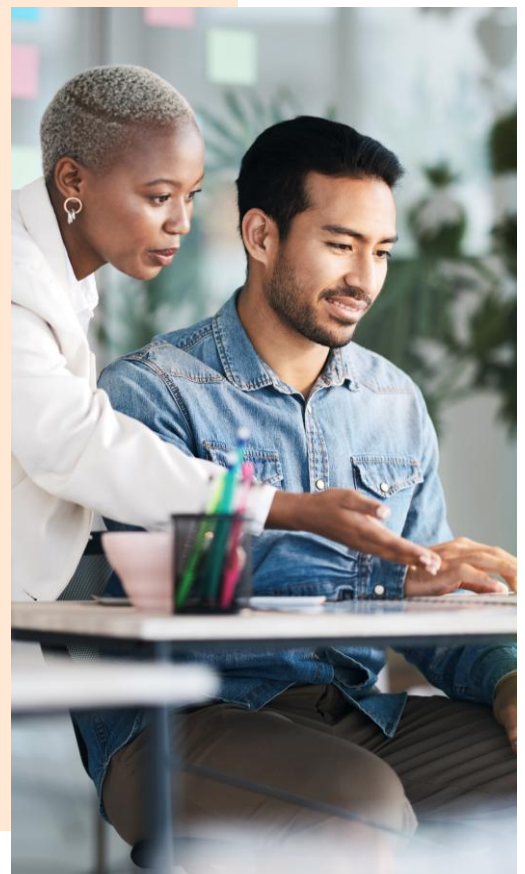
However, the outcomes remain uneven. Most public sector AI implementations are being approached and managed in a bottom-up manner, resulting in a disparate multitude of AI solutions that typically offer only limited benefits. A particular issue with these AI projects is the relatively low data maturity of the organisations involved, which restricts the meaningful scalability of their use cases.

Against this background, what steps should public sector bodies take to harness the full potential of AI? We have developed this report to answer that question, pulling together and synthesising the expertise and experience of public sector practice leaders from across the global PwC network. In doing so, we have zeroed in on the actions required around the three key pillars of AI success: Governance, Systems & Technology, and People.



Our main findings include:

- **Limited value creation:** While many governments implemented AI strategies and use cases, overarching value creation is hindered by three main factors: (1) low data maturity, (2) strict data privacy laws, (3) lack of AI steering (e.g. use-case portfolio).
- **Lack of political alignment and top-down decision-making:** Implementation of common data and AI standards has often failed due to particular interests of governmental entities and soft enforcement levers.
- **Challenges to effectiveness and scalability:** While many public sector entities have launched promising AI use cases, the data access and/or infrastructure needed to scale them are often lacking. Siloed systems and low interoperability impede data sharing and data structures are inconsistent.



Introduction: Breaking out of the AI logjam

Artificial intelligence is transforming industries across the globe—and the public sector is no exception.

Governments worldwide are striving to implement AI to improve the productivity, quality and accessibility of public service. But the reality is that use cases remain limited in their ability to create value, often being focused instead on citizen interactions with minimal data usage. The key to doing better? Understanding and addressing the improvements needed in three key areas: Governance, Systems & Technology, and People.

The size of the prize on offer means this is an effort worth making—and investing public money in. From predictive analytics to intelligent automation, AI offers unprecedented opportunities to enhance citizen engagement, improve decision-making, and streamline public service operations through reduced workloads.

However, to realise this potential at scale, public service organisations need to move beyond isolated pilots and discrete innovations. Strong foundations and robust data governance is essential. Without structured, accessible, trustworthy data, even the most promising AI initiatives risk remaining siloed experiments - rather than driving system-wide transformation.

While many public sector organisations have now launched promising AI use cases, they often struggle to scale them. A combination of factors—patchy access to data, fragmented infrastructure, and limited interoperability—all create challenges.

The root causes include, siloed systems that constrain data sharing and inconsistent data structures that have arisen from organically grown IT landscapes with no unified target architecture.

Persistent barriers common to most organisations include:

- Low data and analytics maturity
- Incomplete data strategies
- Talent shortages
- Inadequate upskilling / training initiatives
- A lack of comprehensive data catalogues
- Reactive rather than proactive approaches to data quality
- Weak governance frameworks with no clear roles or accountability
- A lack of either executive commitment or data-driven culture

Together, these issues **hamper scalability** and **stunt AI-driven value creation**.

So how can public sector organisations break out of the AI logjam.? Drawing on professional and experienced insights from across the PwC network, we've set out to identify successful approaches, structures, and models that can inform the development of an effective digital strategy. We highlight some leading practices and map out possible next steps for enabling scalable, data-driven AI in the public sector.



AI offers unprecedented opportunities to enhance citizen engagement, improve decision-making, and streamline public service operations”

Methodology and approach

This study is based on a structured questionnaire completed by PwC specialists working in public sector and AI-related roles across 19 countries worldwide. The questionnaire was divided into three sections—Governance, Systems & Technology, and People—and included 17 multiple-choice questions. The respondents were asked to assess the maturity of data and AI capabilities in a specific aspect of their country's public administration on a scale from 1 to 5, based on the data maturity model shown on page 6. The 17 questions that we asked our specialists in each territory are shown in the Appendix on page 18.

Having received and collated the responses from 19 PwC territories, we clustered the countries into three regional groupings:

- 1** Europe: Germany, Austria, Switzerland, France, Sweden, Luxembourg, Belgium, Netherlands, Norway, Denmark, Poland, Estonia, United Kingdom, and Spain.
- 2** Middle East & Asia: Singapore, Japan, United Arab Emirates.
- 3** North America: United States, Canada.

After evaluating the results, we split Europe into two subgroups:

- Europe front-runners—five countries whose overall average score across all three dimensions (Governance, Systems & Technology, and People) exceeded 2.6: Switzerland, Poland, Norway, Estonia, and the Netherlands.
- Europe without front-runners—10 countries with an average score of 2.6 or below: Belgium, Germany, UK, Sweden, France, Austria, Luxembourg, Poland, Latvia, and Spain.

In addition, we also implemented a Best-in-Class benchmark, which contains the respective best result per KPI in the assessment.

Following the initial survey and analysis, validation interviews were conducted to enrich the findings.



Our data governance maturity model

The various maturity ratings in this report are based on the proprietary data governance maturity model shown in Figure 1.

This was developed based on international benchmarking and evidence showing that in order to leverage their data assets effectively, governments must set central standards and build up a comprehensive target model to enforce application of these rules. Yet, at the same time, government entities need sufficient leeway to tailor their data assets to their specific business needs.

With these requirements in mind, our data governance maturity model differentiates between three different levels of maturity:

Decentralised: This is the model typically followed in the early stages of data maturity. There are no centralised data standards, and government entities have independent or siloed data agendas

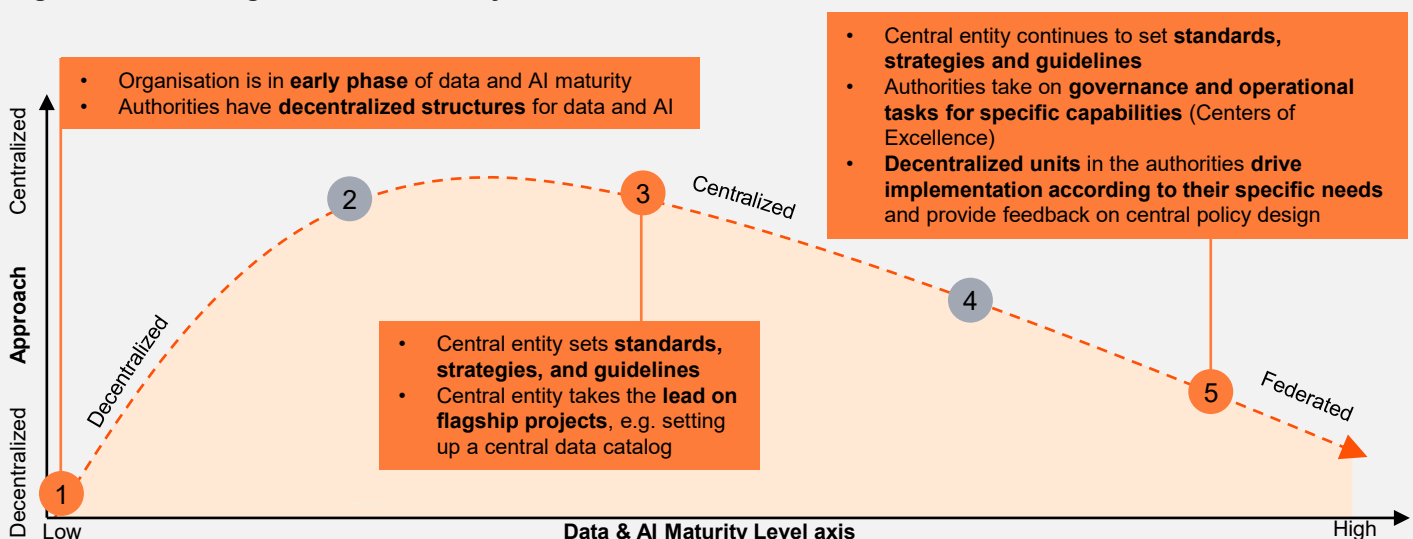
Centralised: This is the interim phase, where a central data authority provides and enforces policies, standards and guidelines, while also taking on an execution role on priority projects, such as integration of address data.

Federated: Here the centre retains policies, standards and guidelines for development, while individual entities take on capability-specific governance and operational roles (including through centres of excellence), drive execution, and provide bottom-up input to policy.

As Figure 1 shows, the data maturity curve moves from a decentralised, fragmented approach (1) to a centralised, command-and-control approach (2), and ultimately returns to a decentralised approach under a federated structure (3).

This end-to-end maturity journey can be divided into five levels or stages, as reflected in our questionnaire's multiple-choice options for each of the three key pillars.

Figure 1: Our data governance maturity model



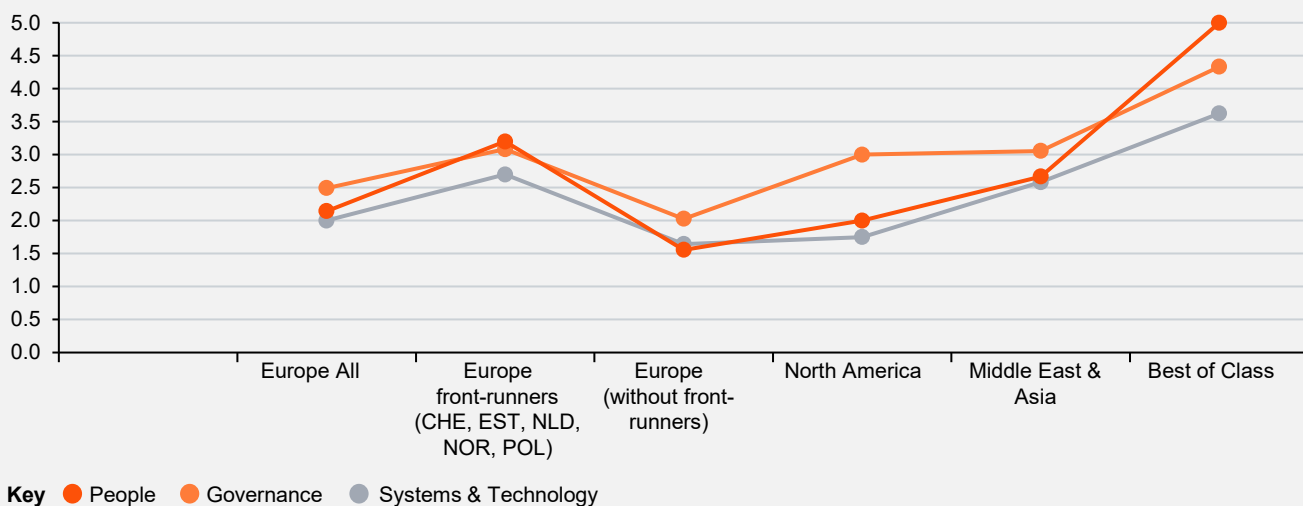
Key findings from our analysis

Overall trends

Across the three pillars of Governance, Systems & Technology, and People, the average overall result among public sector organisations was 2.3/5. This indicates medium-to-low average maturity.

Overall, the highest levels of maturity were found in Governance. By contrast, implementation of Systems & Technology is lagging behind, and development of data skills (People) is not yet a priority for public sector organisations in most countries. Taken together, this indicates that while strategic intent may exist, execution needs to improve.

Figure 2: Average maturity scores across the three areas



Digging deeper into our findings, some European countries stand out for consistently taking a more integrated and strategic approach to data governance, infrastructure, and workforce development, than their peers elsewhere. These countries—our ‘Europe front-runners’—are Switzerland, Poland, Norway, Estonia and the Netherlands.

This group is closely followed by countries in the Middle East & Asia, which also score relatively highly across the three pillars. North America shows moderate maturity in all areas, with relatively strong governance and fair progress in technology and skills development. When front-runners are excluded, Europe ranks lowest across all three pillars, indicating systemic challenges in aligning governance structures, technology frameworks, and skills-building initiatives. Based on our research, Europe’s lower scores across the board may reflect fragmented responsibilities, slower adoption of centralised data systems, and limited investment in data and AI related workforce capabilities. Indeed, skills development appears to be the most underdeveloped area globally, with no regions scoring above 3.0. This points to a universal need for stronger AI education and training programmes.

Globally, countries that perform well in Governance also tend to score higher in Systems & Technology and People. This implies that strong governance frameworks support superior technological infrastructure and skills development.

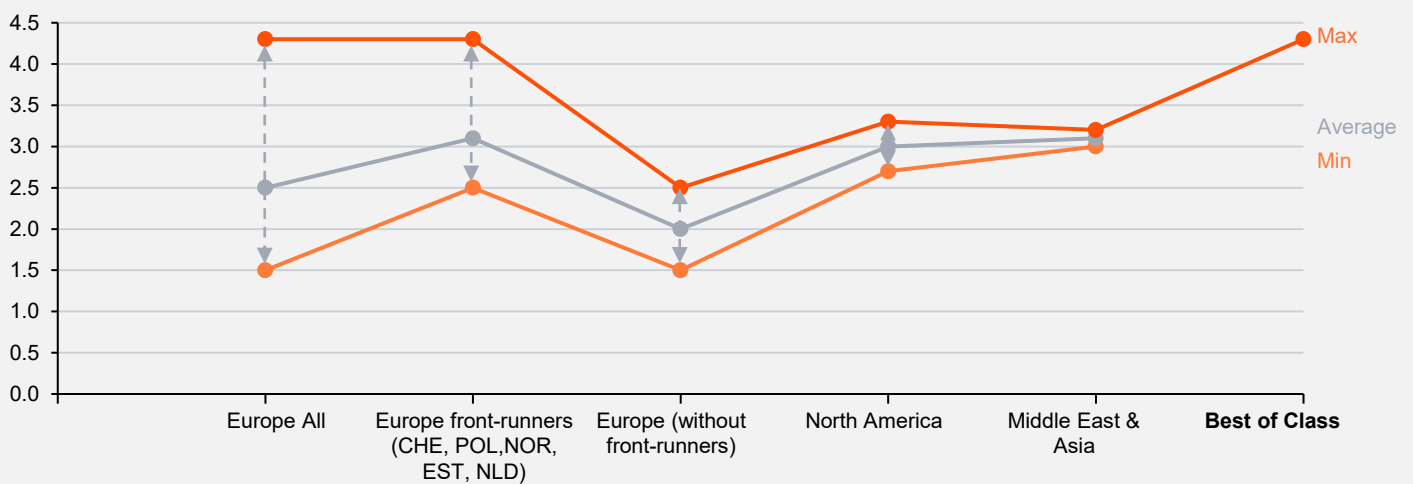


Pillar 1: Governance

The Governance pillar covers the extent to which governments establish structures, roles and responsibilities to ensure reliable, secure, and responsible use of data.

It deals with areas including how roles are defined, how data quality is safeguarded, and how privacy is protected and incidents managed. The focus is on the balance between decentralised practices and centralised standards, as well as on mechanisms that promote consistency, accountability, and trust.

Figure 3: Average maturity scores for Governance





Key trends

Governance of data protection, and of data and AI strategies, exhibits, on average, the greatest maturity. This indicates two things:

01

Data protection is a global priority

02

Most governments continue to push their AI agenda, while struggling with low maturity in foundational areas (roles & responsibilities and data quality control each have, on average, low maturity ratings)

Larger countries tend to face greater challenges in achieving high data quality—with more organisations involved, there will be a wider range of stakeholders to coordinate and governance structures are likely to be more complex. Compared to smaller countries, these factors make coordination more difficult and can impact the overall effectiveness and consistency of data management.

Such challenges are likely to be especially significant in federally organised countries. At a central level, governments in these countries will have high data and AI maturity (due to centralised initiatives and monitoring). But at the federal and local level, there will be pronounced variations in approach that often make it impossible to monitor and enforce central guidelines.



In-depth analysis

Even when the region's front-runners are included, Europe consistently scores lower across nearly all Governance dimensions, including data quality measurement and accountability. This indicates challenges in coordination, strategic maturity, and enforcement and oversight mechanisms, as well as slower adoption and/or integration of AI governance frameworks by European governments. Data-breach handling is the only area where Europe performs comparably to other regions, suggesting some alignment in incident response protocols. By contrast, countries in the Middle East & Asia and North America regions generally perform better, suggesting more centralised and/or more effective governance structures in those regions.

Overall, countries outside Europe rate themselves significantly higher for Governance (including AI governance), with stronger foundational governance structures than their European counterparts. Some of the core building-blocks for success include, 'hub & spoke' governance models, centralised reporting with KPIs spanning data quality, centralised incident response structures, and enforcement of standards by cross-ministerial decision-making bodies.





What good looks like

Centralised support structures—such as national incident response teams—can help by providing expertise and facilitating collaboration across diverse entities.

Canada



Canada's data strategy is a pioneering example of data governance, as it establishes **centralised oversight** for the entire public sector under the auspices of the **Treasury Board of Canada Secretariat (TBS)**.

Binding standards are defined through the **Office of the Chief Information Officer (OCIO)**, and compliance with these standards is audited annually via **the Management Accountability Framework (MAF)**.

This process **measures the compliance of ministries using precise indicators**, such as the maintenance of up-to-date data inventories, the implementation of metadata standards and the appointment of responsible data stewards.

In this way, Canada transforms strategic guidelines via the TBS into a measurable and highly binding control mechanism for the entire federal administration.

The Netherlands



The **Ministry of BZK (Binnenlandse Zaken)** defines strict data quality standards for **government datasets**. For example, open data must adhere to centralised metadata and linking requirements. If a published dataset violates the quality criteria published on the official portal, the central open data team will contact the data owner and temporarily remove the dataset for 21 working days while it is fixed. In addition to managing raw data, the Netherlands prioritises the transparency of the logic applied to such information.

A cornerstone of this strategy is the National Algorithm Register, which serves as a central repository for the public sector. Government agencies must disclose the algorithms they use and provide clear documentation on their purpose, the data sources used and the degree of human oversight involved. This initiative is a proactive measure that **subjects automated decision-making to public scrutiny and rebuilds trust in digital government processes**. To reinforce these standards, the Dutch Data Protection Authority (Autoriteit Persoonsgegevens) has set up a department specialising in algorithm oversight.

This department coordinates various regulators to ensure compliance with the GDPR and broader ethical and transparency requirements in the use of data and AI. Through this unified oversight, the Netherlands is ensuring a **consistent regulatory environment** in which the accountability of algorithms is monitored as stringently as the quality of the underlying data.

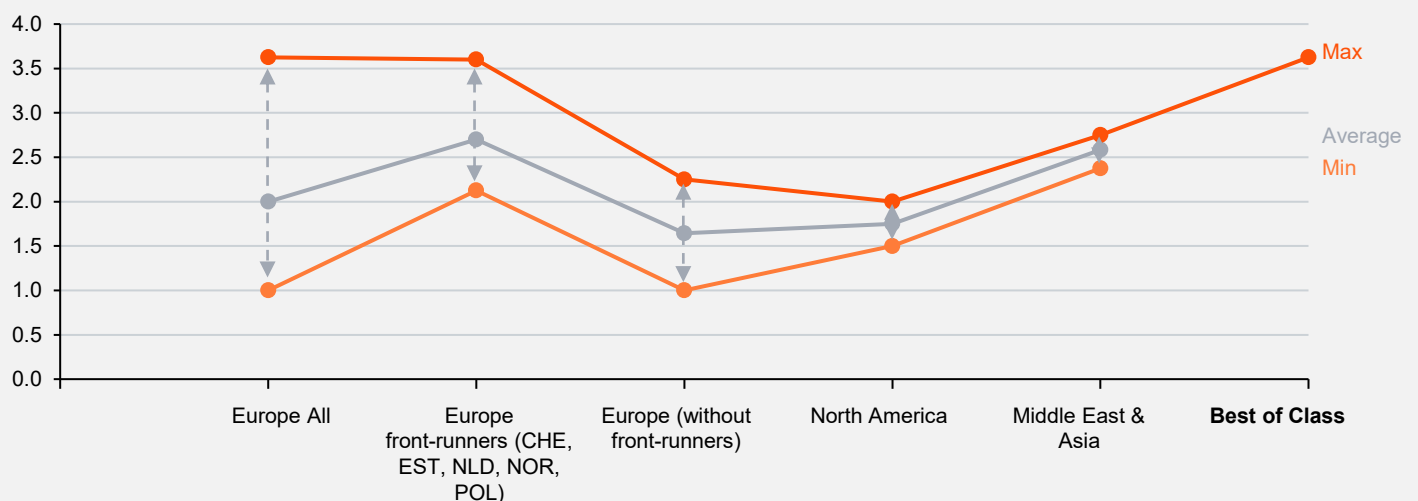


Pillar 2: Systems & Technology

This pillar covers the technical foundations that enable effective use of data and AI in government.

It looks at how data assets are organised and shared, the maturity of architecture and modelling practices, and the extent to which centralised or federated approaches are applied. It also assesses the existence of strategies, mechanisms, and lifecycle management processes for AI, as well as the breadth and maturity of AI use cases across entities. Overall, this pillar captures the technology readiness and strategic direction needed to scale data-driven innovation in the public sector.

Figure 4: Average maturity scores for Systems & Technology





Key trends

- 01 Operationalisation lags behind strategy.** Country rankings are consistently lower in Systems & Technology than in governance practices – expert opinions unanimously confirm this gap.
- 02 Legacy systems, federalism, and metadata misalignment** are the primary implementation barriers.
- 03 A significant central–local government divide persists.** Central governments show more consistent progress while local administrations often lack the resources to operationalise common standards – creating fragmented systems that complicate data aggregation and AI value creation.
- 04 Bottom-up initiatives outperform top-down approaches.** Grassroots efforts (e.g., Germany's Data Labs, Austria's DIO initiative) deliver tangible results, while top-down programmes often stall due to red tape or competing interests.
- 05 Tailored, level-specific approaches are essential** to close the gap between ambition and implementation.

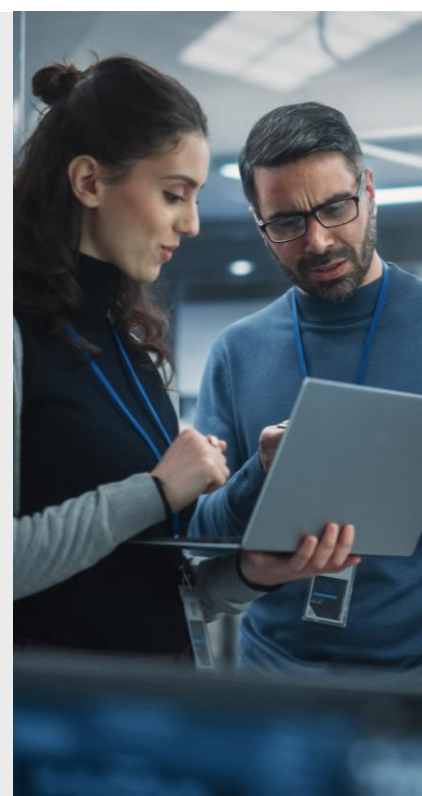
Overall, these findings underscore the need to close the strategy–implementation gap. This will require multi-level, tailored approaches that account for the structural realities of each country. Federalised and decentralised nations in particular must address the disparity between central and local governments, where fragmented systems and limited resources continue to hinder data aggregation and AI value creation.



In-depth analysis

Metadata and data catalogue maturity is highest in the Middle East & Asia, with Europe lagging behind. This points to less developed foundational data assets in many European government organisations. Centralised data catalogues and data-sharing mechanisms are more advanced in North America and Middle East & Asia, indicating strong cross-entity coordination and interoperability in those regions.

Enterprise data models and architecture frameworks appear to be challenging for government organisations worldwide, with low maturity scores across all regions. AI use-case management and lifecycle governance are well structured in Middle East & Asia, while processes for deploying and monitoring AI models appear to be more difficult in Europe. Development of use cases is uniformly low across all regions, indicating a shared need for more structured collaboration and innovation processes.





What good looks like

Bottom-up data maturity AI initiatives in larger and/or federalised countries include the launch of data labs in Germany and Austria.

Germany



Data Labs were initiated through the 2021 Federal Data Strategy, which outlined plans to establish a data lab in every federal ministry. These decentralised, ministry-specific innovation hubs enable data exploration, analytics, and AI experimentation directly within each department – rather than relying on a single central authority. Several ministries have already established their labs, with rollout continuing across all federal ministries.

Examples of data labs that have already been established:

- **Federal Foreign Office (AA)** | This lab operates PLAIN, a cross-ministerial platform for secure data-sharing and collaborative analysis. It also develops AI-based tools that help diplomats analyse and compare policy documents to improve foreign-policy work.
- **Federal Ministry of the Interior (BMI)** | The BMI data lab works closely with the Federal Statistical Office, providing analytical support, rapid data assessments, and AI-related services.
- **Federal Ministry for Economic Cooperation and Development (BMZ)** | The BMZ's data lab strengthens data and AI capabilities in international development cooperation, shaping data frameworks and fostering responsible data use for sustainable development.

Before 2021, data analysis capacities were scarce and datasets fragmented across silos. The data labs created a new institutional framework for data-driven policymaking. Since 2025, the newly established Federal Ministry for Digital Affairs and State Modernisation (BMDS) coordinates this approach, harmonising standards, governance, and best practices across all labs.

Austria



Austria's Data and AI Initiative (DIO) is a grassroots initiative designed to enhance the utilisation and governance of data and AI across various sectors. It develops comprehensive data frameworks that facilitate seamless data-sharing and collaboration among government entities and private companies, standardising data management and AI implementation to minimise fragmentation and maximise efficiency.

DIO supports the establishment of specialised data labs, where government agencies and businesses collaboratively work on AI projects and data analytics. These labs serve as hubs for knowledge exchange and continuous learning. DIO also actively engages with academic institutions and research organisations to incorporate cutting-edge AI methodologies into practical applications, hosting regular workshops and events on the latest trends in data and AI.

Overall, DIO aims to bridge the gap between strategic ambition and operational reality, positioning Austria as a leader in data innovation and AI excellence on the European stage.

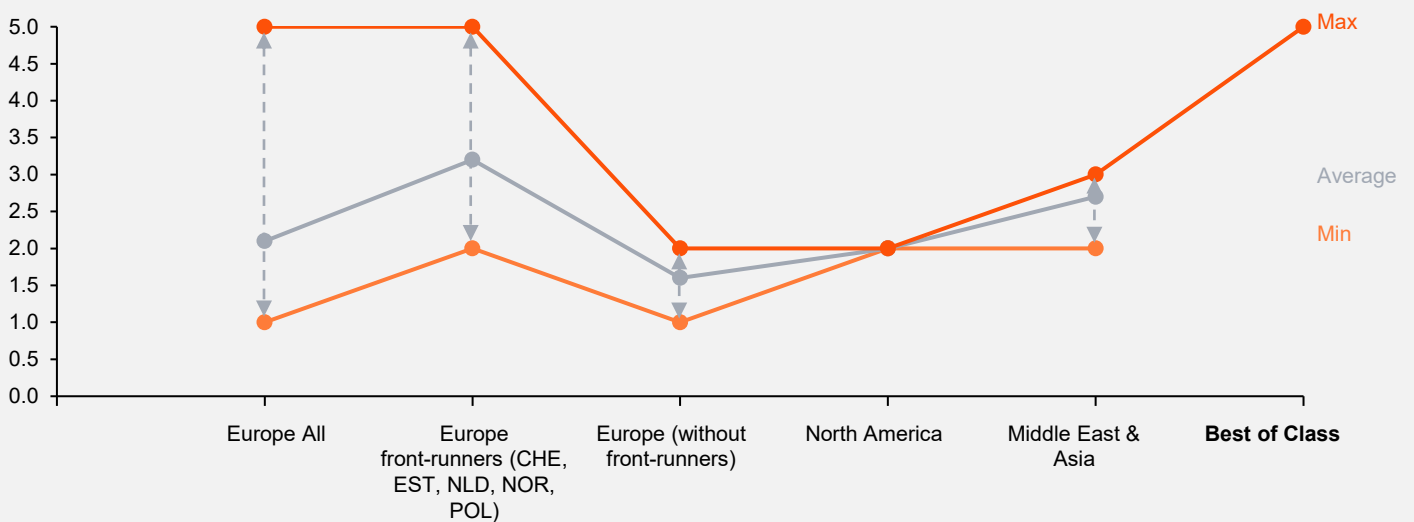


Pillar 3: People

This pillar focuses on how governments build and manage data and AI skills across the workforce.

Approaches range from uncoordinated, individual learning without central oversight to fully integrated, role-specific skills development that has been strategically embedded in workforce planning. The emphasis should be on ensuring that competencies are systematically developed, monitored, and aligned across entities to enable sustainable data and AI adoption.

Figure 5: Average maturity scores for people





Key trends

- 01 Skills efforts are growing but still early-stage.** Governments increasingly recognise the need for data and AI skills, yet programmes are rarely AI-specific and lack monitoring mechanisms to assess progress.
- 02 Governance maturity drives skills maturity.** Countries with stronger governance structures also tend to perform better in workforce development.
- 03 Horizontal use cases dominate.** Broadly applicable applications (e.g., document processing, chatbots, translation) are widely adopted due to low barriers and cross-departmental relevance.
- 04 High-impact vertical use cases remain rare.** Domain-specific solutions (e.g., healthcare analytics, tax fraud detection) offer significant potential but are held back by limited specialised skills and resistance to organisational change.

Overall, realising the full potential of data and AI skills development will require governments to move beyond generic training programmes toward targeted, AI-specific upskilling – supported by robust monitoring mechanisms to track progress and impact. At the same time, building on the success of horizontal use cases, governments should invest in the specialised skills and change management needed to unlock high-impact vertical applications across key public service domains.



In-depth analysis

Regionally, Middle East & Asia indicate more structured efforts in building and monitoring data and AI skills. Our findings show that governments in these regions understand the need to develop and track data and AI skills, supported by structured national programmes and strategic investments

North America follows, showing moderate progress in skills development. Europe's positioning suggests slower advancement and less emphasis on upskilling the workforce in Data-and-AI-related competencies. These findings highlight the need for more targeted and measurable approaches to AI skills development, especially in regions where governance and infrastructure are still evolving.





What good looks like

Where the People pillar is concerned, best-in-class countries distinguish themselves through a strategic and structured approach to data and AI skills development and centralised monitoring mechanisms.

Learning is guided by national standards, supported by dedicated institutions, and tracked through regular reporting. Leading countries align skills development with broader governance and infrastructure efforts, creating a coherent framework for workforce transformation. Examples of this Best-in-Class approach include:

The Netherlands



The Dutch central government has established a comprehensive, role-based strategy for developing data and AI skills across all ministries. Through the national IT Academy (RADIO), civil servants follow structured learning paths that begin with foundational data literacy and the widely accessible 'National AI Course', and progress to advanced topics such as machine learning, ethics, and domain-specific applications.

Core competencies—including **digital literacy, data literacy, and AI awareness**—are centrally defined and monitored via the Kwaliteitsraamwerk IV (KWIV). Ministries report annually on staff skills, training hours, and workforce flows, while departments tailor specialised curricula to their policy domains. This enables a shared national baseline and fosters deep, context-specific expertise.

Singapore



Founded in June 2021, the GovTech Digital Academy (TDA) serves as a **central centre of excellence for public sector officers in Singapore** and adopts a 'practitioner-to-practitioner' approach, whereby in-house experts pass on their knowledge directly from projects such as VICA1. A core component of the curriculum is the field of data science and AI, which has been continuously expanded in close collaboration with technology partners (e.g. Microsoft and AWS).

The spectrum ranges from basic 'literacy' courses for all civil servants to specialised 'AI Champions Bootcamps'. Singapore mentioned in their 2023 established National AI Strategy 2.0 to train so-called 'AI Bilinguals' – experts who combine specialist knowledge with AI application skills. By 2026, the academy is firmly embedded within the civil service through the newly established Institute of Digital Government (IDG), with training on AI ethics and data governance now **mandatory for 150,000 government employees**.

Advancing data and AI in the public sector: Foundational success factors

With public sector bodies worldwide seeking to harness the full potential of AI, our research points to four foundational success factors for these mission-critical initiatives:

1 Leadership commitment and data strategy: Senior management must recognise that data structure and quality are critical enablers for scalable AI. Quite simply, without accessible, well-managed data, AI cannot deliver its full potential. A top-down commitment to organising and prioritising data governance is essential, with a cross-ministerial decision-making body that can define, enforce, and monitor common standards for data management and AI across all departments. At the same time, decentralised implementation units within each ministry must be empowered to act. With unified tools, processes, and role models, these units can adapt central standards to their specific needs and ensure consistent execution across the public sector.

2 Investing in resources and capabilities: Public sector organisations should prioritise investments that strengthen their data and AI capabilities by allocating more financial, technical, and human resources. This should include upskilling staff, modernising infrastructures, and building dedicated teams. To justify continued investment, public sector organisations should focus on making the benefits of data and AI measurable. This includes developing frameworks to track return on investment (ROI), monitoring outcomes, and communicating value to stakeholders.

3 Establishing a standardised data catalogue: This is essential for creating transparency and consistency in public sector data usage. By establishing a unified catalogue enriched with metadata, and aligning it with a common tools landscape, public administrations can promote that shared standards and guidelines are applied across departments. This foundation enables scalable and interoperable data practices, allowing decentralised entities to work efficiently while adhering to central requirements. It is a key enabler for cross-government collaboration and the effective deployment of AI solutions.

4 Deploying a 'Hub & Spoke' model: Grassroots integration of data and AI labs is a key success factor. Rather than starting with top-down regulation or centralised planning, these labs focus on rapidly implementing use cases to demonstrate value and feasibility. This bottom-up approach allows teams to experiment, learn, and iterate before aligning with broader strategic frameworks. Setting up and executing such initiatives centrally would take significantly longer due to the complexity of standardisation and coordination. Instead, the lab model—seen in countries such as Germany—enables direct implementation first, followed by the development of best practices and guidance that can be scaled and shared across government entities.

Appendix:

Questions in the research questionnaire

Governance

1. How are responsibilities designed across government entities to ensure overall data quality and accountability?
2. How is data quality measured, reported and enforced within and across entities?
3. What processes are implemented to protect and enforce data privacy according to your defined policies and regulations?
4. What measures are in place to handle data breaches and privacy incidents?

Systems & Technology

5. How high is the level of maturity in data assets, i.e. metadata, data catalogue?
6. What artefacts are implemented regarding a centralised data catalogue consuming metadata from various government authorities?
7. How is data-sharing between entities enforced? What artefacts are implemented to facilitate data-sharing across entities while maintaining high data quality?
8. Is there a comprehensive enterprise data model implemented?
9. Is there a data architecture framework and a target data architecture framework in place, including a plan for how to reach it?
10. How mature is the data and AI strategy?
11. How is AI governance structured? What measures have been implemented to facilitate a shared vision on AI, including measurable success criteria across all entities?
12. Is there a clear process in place to manage existing use cases? What processes are implemented to support the deployment and monitoring of AI models?
13. How do entities effectively manage the lifecycle of disruptive AI innovations from initial introduction to widespread adoption?
14. How is the development of use cases organised within or between entities?
15. Please indicate how you assess the maturity level of the use of the following AI tools in public administration.
16. Are there any other AI tools or methods used by public administration you would like to add?

People

17. How is the development of data and AI skills across employees ensured and monitored?

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