

2024 Open Data Maturity Report

Highlights

This study has been prepared as part of data.europa.eu. data.europa.eu is an initiative of the European Commission and is the official portal for European open data. The Publications Office of the European Union manages data.europa.eu.

European Commission

Directorate-General for Communications Networks, Content and Technology
Unit G.1 – Data Policy and Innovation
Email: CNECT-G1@ec.europa.eu

data.europa.eu

Email: info@data.europa.eu

Authors – Capgemini Invent

Martin Page PhD
Arman Behrooz
Maddalena Moro

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Chapter 1: Introduction

Background: open data policy in the European Union

The Open Data Directive ([Directive \(EU\) 2019/1024](#)) encourages EU Member States to make as much publicly accessible information as possible available for reuse. Moreover, the directive establishes minimum standards to harmonise national rules and practices, reduce barriers to reuse and facilitate innovation through public sector data reuse.

The open data directive embraces the potential to generate important social, economic and environmental benefits by promoting innovative uses of public information, particularly through high-value datasets (HVDs). The implementing regulation on HVDs ([Commission Implementing Regulation \(EU\) 2023/138](#)) specifies six specific categories of HVDs: geospatial, earth observation and environment, meteorological, statistics, companies and company ownership, and mobility. The regulation mandates that HVDs be accessible free of charge, in machine-readable formats, and with minimal legal or technical restrictions. Public sector bodies must provide them via application programming interfaces (APIs) and, where applicable, as bulk downloads.

Measuring open data in Europe

Under the data.europa.eu initiative, the EU Publications Office and the Directorate-General for Communications Networks, Content and Technology conduct an annual survey of national representatives to evaluate the maturity of countries in the field of open data and to document their year-on-year progress. Thirty-four European countries participated in the 2024 open data maturity (ODM) assessment, including EU Member States (EU-27), EFTA countries, and EU candidate countries.

- The **Member States** are Belgium, Bulgaria, Czechia, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland and Sweden.
- The **EFTA countries** are Iceland, Norway and Switzerland.
- The **candidate countries** are Bosnia and Herzegovina, Albania, Serbia and Ukraine.

The structure of this report

This short report presents key findings and trends from the 2024 Open Data Maturity Report, providing a concise overview for those seeking essential insights. First, we will summarise how the assessment measures open data maturity, followed by an overview of results by country group. We will then provide an explanation and a summary of results for each of the four ODM dimensions (**policy**, **portal**, **quality** and **impact**), including both quantitative and qualitative highlights per country group. Lastly, we will offer a brief interpretation and contextualisation of the results.

Chapter 2: Methodology

The ODM assessment evaluates the progress and effectiveness of open data initiatives across four thematic dimensions that are intended to capture the end-to-end value chain of open data: **policy**, **portal**, **quality** and **impact**. Since 2018, the questionnaire to assess the four dimensions has been revised to adapt to policy changes and the progress of European countries in their ODM. Each of the four dimensions is subdivided into indicators, which are subthemes of the dimensions. The definitions of the four open data dimensions are summarised in Table 1.

Table 1: Dimensions of the ODM methodology and their indicators

Dimension	Description
Policy	Examines countries' open data policies, governance models, and implementation measures. This dimension comprises three indicators: (a) policy framework , (b) governance of open data and (c) open data implementation .
Portal	Examines national open data portal functionality, user-centred improvements, data availability across domains, and strategies for portal sustainability. This dimension comprises four indicators: (a) portal features , (b) portal usage , (c) data provision and (d) portal sustainability .
Quality	Assesses the measures by portal managers to ensure systematic metadata harvesting, quality monitoring, compliance with the DCAT-AP standard, and effective data deployment on national portals. This dimension incentivizes ensuring open data is high-quality, machine-readable, properly licensed, suitably formatted, and supports a linked data approach. This dimension comprises four indicators: (a) metadata currency and completeness , (b) monitoring and measures , (c) DCAT-AP compliance and (d) deployment quality and linked data .
Impact	Analyses the willingness, preparedness and ability of countries to measure both the reuse of open data and the impact created through this reuse. This dimension comprises three indicators: strategic awareness , (b) measuring reuse and (c) impact created , within the areas of (i) government, (ii) society, (iii) environment and (iv) economy.

Data for the assessment is gathered through a voluntary questionnaire distributed to open data representatives from participating countries, in collaboration with the European Commission and the Expert Group on Public Sector Information. The questionnaire examines processes, activities, initiatives, and outputs that characterise a mature open data ecosystem. Responses are then validated by the research team to ensure completeness, relevance, and adequate justification with supporting evidence. Subsequently, a consultation round is conducted with respondents to clarify data and allow them to review and validate the results.

In 2024, the methodology underwent an update, as it does periodically. Firstly, questions with prior-year data were pre-filled, enabling respondents to confirm or update answers and ensuring year-on-year consistency in responses. In addition, some questions were removed, some questions were revised or the requirements for evidence reformulated, and some new questions were added. Moreover, the dimensions and indicators remain unchanged from the previous version of the methodology, but the allocation of scores within each dimension were rebalanced for equal weighting, with a few exceptions.

Chapter 3: Overall open data maturity

In 2024, countries across Europe continued, on average, to improve their ODM. The average score for all participating countries rose by 1 percentage point (pp) from 2023, reaching 80 % in 2024. The EU-27 average remained the same as in 2023, at 83 %, despite an update to the method for the assessment that introduced stricter requirements and some new questions (Figure 1). **France** (100 %), **Poland** (98 %) and **Ukraine** (97 %) remain in the top three positions. The fourth spot in 2024 is taken by **Slovakia** (96 %), which increased its score by 4 pp from the previous year. **Czechia**, in eighth position (94 %), is the only new entrant into the top 10 since last year. The maturity scores of countries in the top 10 are within a 6 pp range of each other, demonstrating the similarly high levels of maturity of these countries. This narrow range also arises from countries continuing to improve year-on-year. Overall, 18 participating countries improved their maturity level over the past year, 4 countries remained at the same level and 13 countries experienced a drop in their overall maturity score.

EU Member State trends

The stability of the EU average overall maturity score at 83 % is attributed to a mixed performance across the dimensions, with some showing increases while others experiencing declines. Specifically, increases were experienced in the **impact** (+ 4 pp) and **policy** (+ 2 pp) dimensions, while decreases were experienced in the **portal** (– 3 pp) and **quality** (– 3 pp) dimensions. The **policy** dimension remains the most mature dimension (91 %), followed by the **portal** (82 %) and **impact** (80.5 %) dimensions. The **quality** dimension is the least mature dimension on average (79.7 %).

The biggest climber is **Latvia**, which increased its score by 10 pp compared with 2023. Latvia's rise in overall score is driven by increases in its scores on the **impact** (+ 21 pp) and **quality** (+ 14 pp) dimensions. Latvia also improved in the **policy** (+ 7 pp) and **portal** (+ 3 pp) dimensions. The second-largest climber is **Croatia**, which increased its score by 9 pp. Croatia improved the most in the **impact** dimension (+ 17 pp), followed by the **portal** (+ 14 pp) and **policy** (+ 10 pp) dimensions. The third-largest climber is **Czechia**, which increased its score by 6 pp compared with 2023. There was no change in the **quality** and **impact** dimensions; this increase in Czechia's score was driven by a significant improvement in the **portal** dimension (+ 20 pp) and a 5 pp increase in its score on the **policy** dimension.

The largest decreases were experienced by **Bulgaria** (– 13 pp), **Germany** (– 9 pp) and **Finland** (– 5 pp). The update to the assessment method could have influenced these decreases in maturity scores. In total, 13 Member States experienced decreases in their overall maturity scores.

European Free Trade Association country trends

In this year's ODM assessment, **Switzerland** increased its overall score by 1 pp to an overall maturity score of 80 % in 2024. This increase in Switzerland's overall score was driven by its improvement of 5 pp in the **policy** dimension, 3 pp in the **impact** dimension and 1 pp in the **quality** dimension. Although **Iceland's** overall maturity score decreased, the country did report increases in its scores on the underlying **policy** and **impact** dimensions.

Candidate country trends

All four candidate countries participating in this year's ODM assessment improved their overall maturity score from the previous year. **Ukraine** (97 %) remains the most mature candidate country, followed by **Serbia** (84 %). Among the candidate countries, **Serbia** had the most significant annual increase in overall score (+ 9 pp). This increase was driven by notable improvements in the **impact** (+ 16 pp) and **quality** (+ 17 pp) dimensions. **Albania** also improved its overall maturity score by 5 pp, achieving a maturity score of 47 %.

Read the analyses by dimension in the following chapters for further details on the factors underlying these trends.

2024 overall maturity and dimension scores

Protocol order, per group of countries

- Overall maturity
- Policy dimension
- Portal dimension
- Quality dimension
- Impact dimension

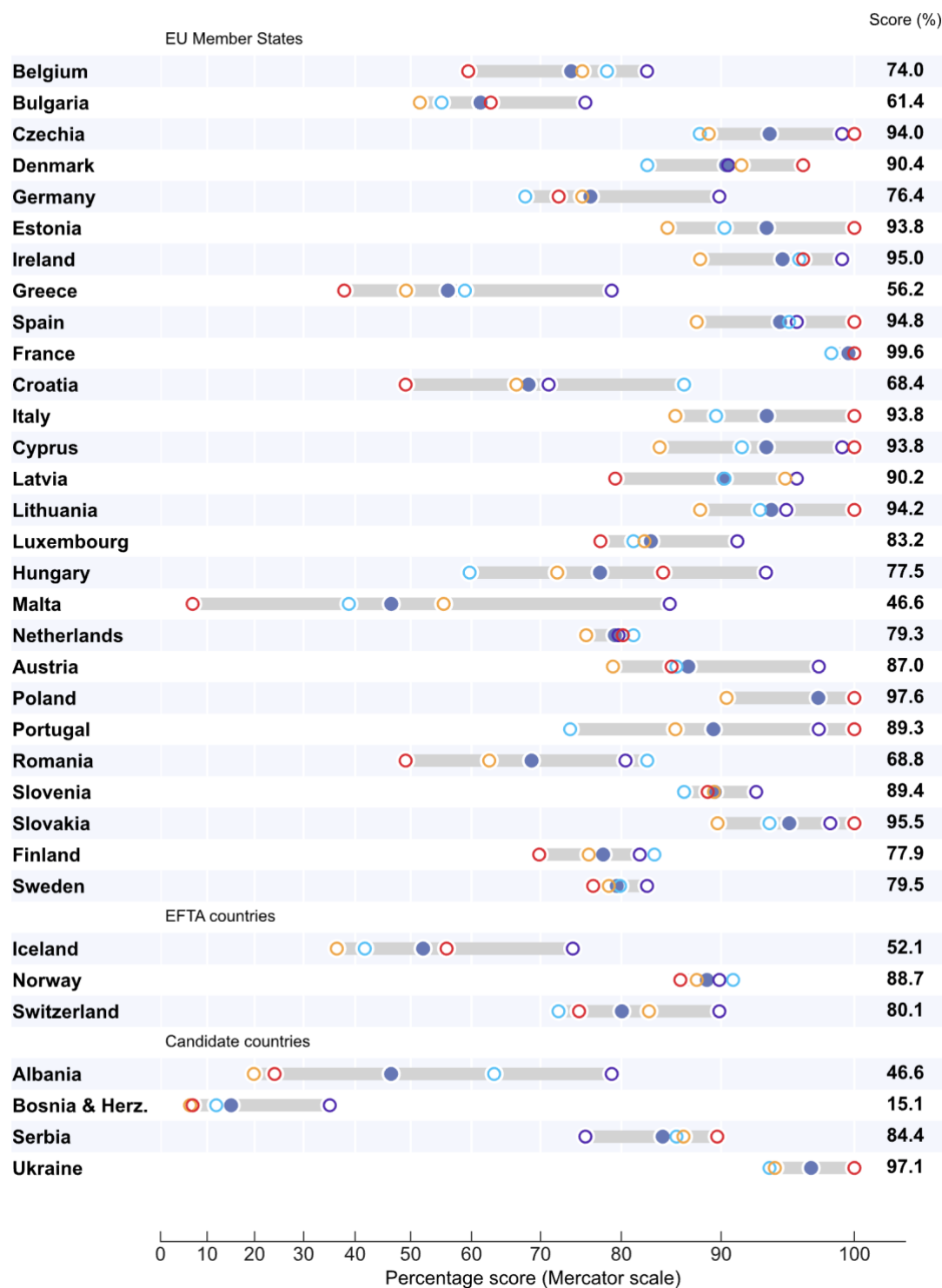


Figure 1: In 2024, the EU average remained at 83 %, and the average for all participating countries increased by 1 pp to 80 %. (EFTA: European Free Trade Association; YoY: year-on-year).

Chapter 4: Open data policy

The **policy** dimension of the ODM assessment is designed to encourage the practical implementation of policy measures. Governance structures, operating models, processes and activities are needed to realise the ambitions outlined in policies and strategies. In brief, the policy dimension investigates countries' policies and strategies regarding open data, the national governance models for managing open data and the measures deployed to implement the policies and strategies (Table 2).

Table 2: Indicators of the policy dimension.

Indicator	Key elements
Policy framework	An open data policy and strategy are in place at the national level to provide a long-term strategic vision and action plan for open data. The strategies incentivise open data reuse in both the public and private sectors and access to real-time, geospatial and citizen-generated data. Activities regarding HVDs are in place.
Governance of open data	Governance models and regular coordination activities across public sector bodies are in place to ensure open data publication at all government levels and to support local and regional open data initiatives. Regular exchanges occur between open data providers and reusers from academia, businesses and other non-governmental organisations.
Open data implementation	Data publication plans and implementing processes exist. The number of public bodies that charge above the marginal costs of dissemination for the reuse of their open data is monitored. Training activities for civil servants working with data are organised, as are society-wide open data literacy initiatives.

Overall performance on the policy dimension

According to the EU-27 average in 2024, the policy dimension remains the most mature dimension of the ODM assessment, scoring 9 pp higher than the second-ranked portal dimension. The average maturity of Member States in the policy dimension in 2024 is 91 % (Figure 1). This represents a 2 pp increase from 2023, marking the first time that the maturity score for this dimension has surpassed 90 %. This increase has primarily been driven by the 4 pp rise in the 'open data implementation' indicator, which showed the largest growth among the three policy indicators, reaching 92 %. The 'policy framework' indicator also increased (+ 2 pp), reaching 90 % maturity (Figure 2).

In terms of individual country performance, **Estonia** (100 %), **France** (100 %), **Italy** (100 %), **Poland** (100 %) and **Ukraine** (100 %) are tied for first place in this dimension (Figure 3). **Czechia** (99.2 %), **Ireland** (99.2 %) and **Cyprus** (99.2 %) are a close second, all scoring full points on the 'policy framework' indicator. **Cyprus** scored full points on the 'governance of open data' indicator, and **Czechia** and **Ireland** scored full points on the 'open data implementation' indicator. Overall, 16 Member States scored above the EU-27 average of 91 %.

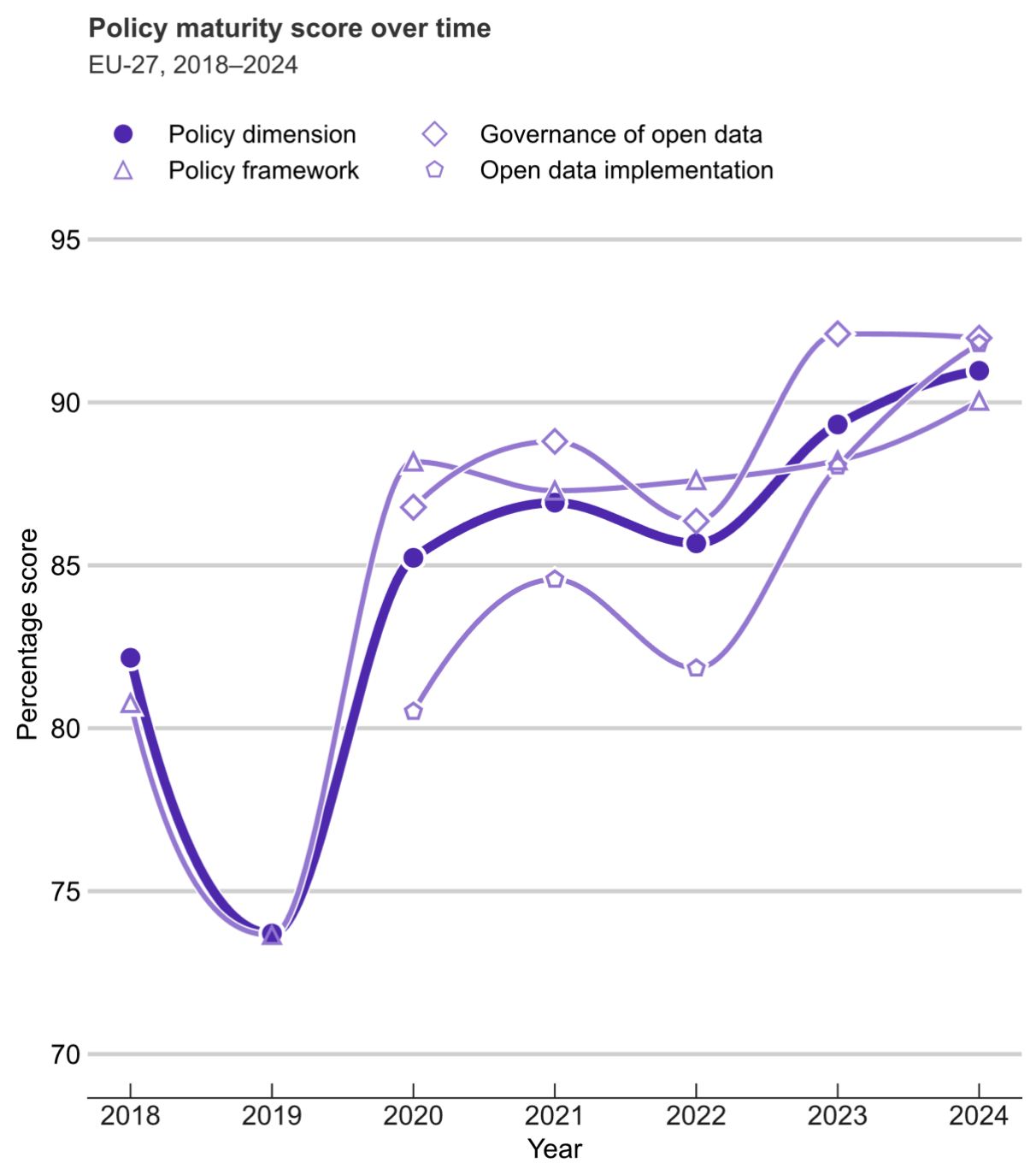


Figure 2: The EU-27 average score on the policy dimension has risen steadily over the past three years (2022–2024)

2024 policy maturity scores

Protocol order, per group of countries

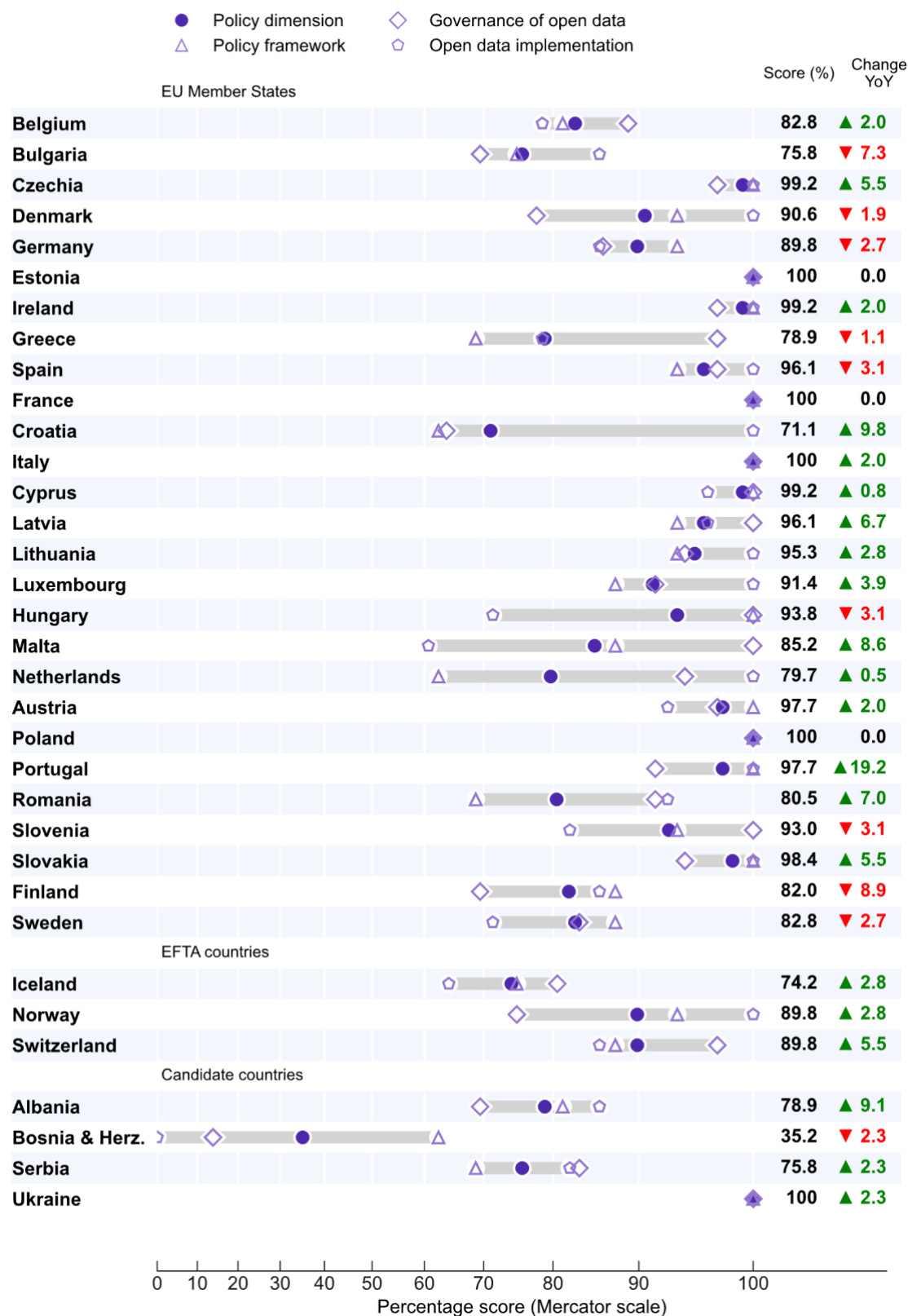


Figure 3: Twenty participating countries improved their score on the policy dimension in 2024. (EFTA: European Free Trade Association; YoY: year-on-year).

Highlight from Estonia – training programmes for civil servants' data competencies

An important practice observed as part of this year's report is that countries are creating structured training programmes to develop their civil servants' data competencies.

One notable example is **Estonia**, which is implementing a comprehensive strategy for strengthening the data skills of its civil servants and ensuring effective data management and open data practices across the public sector.

In 2024, Estonia aimed to train over 2 500 data specialists across 10 targeted training sessions and between one and four online courses. This training aimed to cover key areas such as data quality and open data publication, contributing to improved national open data standards. Already, [open data licensing training by Creative Commons](#) and a [data working group webinar](#) have been held.

Estonia has also introduced detailed competency profiles for data engineers and analysts and is currently developing a profile for data stewards. These profiles serve as the foundation for nationwide training programmes and provide input for higher education curricula, ensuring future civil servants are equipped with relevant skills.

This best practice contributes to Estonia's excellence across all three policy dimension indicators, particularly in the 'open data implementation' indicator.

Portugal (+ 19 pp), **Croatia** (+ 10 pp) and **Albania** (+ 9 pp) showed the greatest year-on-year improvement in the policy dimension. **Portugal's** increased score can be attributed to its significant progress across all three indicators. Namely, it achieved the second-highest improvement in the 'policy framework' indicator, which can be attributed to its recent addition of an open data strategy and its open data policies outlining measures to incentivise the publication of and access to citizen-generated data, fostering the discoverability of open data on data.europa.eu and outlining measures to support the reuse of open data by the private sector. Portugal also achieved the second-highest increase in the 'open data implementation' indicator, which can be attributed to the recent addition of its governance structure ensuring the facilitation of local and regional open data initiatives at the national level and a publicly accessible document outlining their country's open data governance structures. Finally, Portugal achieved the greatest improvement in the 'governance of open data' indicator, which can be attributed to its recent addition of having publication plans for open data at the public body level and processes for ensuring that its open data policies and strategy are implemented.

Croatia's increased score on the policy dimension can be attributed to its 19 pp increase in the 'policy framework' indicator, which was the highest increase among all countries, as well as its reporting of a regular exchange of knowledge and experiences between its national open data team and the wider network of open data officers. **Albania's** increased score on the policy dimension can be attributed to its 27 pp increase in the 'open data implementation' indicator, which was the second-highest increase among all countries, as well as its recent addition of measures for supporting the reuse of open data by the public sector in its national policies/strategy.

Highlight from Portugal – sector-specific citizen-driven data initiatives

One of the trends highlighted in this year's report is the inclusion of sector-specific initiatives in national policies and strategies aimed at promoting citizen-generated data.

For example, **Portugal** has outlined key measures to ensure open data and data reuse in its transversal action plan for public administration digital transformation (part of the broader strategy for public administration digital transformation for 2021–2026). A central priority is establishing and maintaining an open data ecosystem that actively engages multiple stakeholders. Portugal promotes this initiative, in part, through citizen science projects that encourage public participation and collaboration in the open data space. In the field of marine biology, several entities in Portugal, both governmental and non-governmental, including non-profit organisations, collaborate with public bodies to actively involve citizens in data-generation efforts.

A notable example is the [Algarve Centre of Marine Sciences \(CCMAR\)](#), one of Portugal's leading marine research centres, which collaborates closely with the public [Portuguese Institute for Sea and Atmosphere \(IPMA\)](#). The Algarve Centre of Marine Sciences encourages citizens to contribute to marine conservation [efforts](#). For example, the New Marine Species of the Algarve (NEMA) project invites citizens to report sightings of non-native marine species in the Algarve. At the same time, the Algarve Stranding Network (RAAIg) gathers public reports of stranded marine animals, such as dolphins and turtles, to monitor marine health. Citizens are also encouraged to report algal blooms, which can indicate ecological disturbances, and to document benthic species for the Marine Forests project via platforms like iNaturalist. Additionally, the Biomares programme fosters community involvement by inviting public observations of marine life in the Professor Luiz Saldanha Marine Park, promoting biodiversity conservation efforts.

Highlight from Croatia – Working Group for the Coordination of State Information Infrastructure Projects and Digital Transformation

Establishing working groups is a particularly common method that countries use to facilitate exchanges between the national open data team and the wider network of open data officers.

For example, **Croatia** fosters collaboration across government bodies through the Working Group for the Coordination of State Information Infrastructure Projects and Digital Transformation. This group, which includes representatives of various governmental entities responsible for digitalisation such as the open data team and open data officers, meets regularly to discuss updates and share progress on digital transformation initiatives.

Ten countries' scores on the policy dimension decreased year-on-year. In general, such decreases may have been influenced by new questions in the survey that asked for further details about governance structures and by the updating of policies and strategies compared with the previous year.

Chapter 5: Open data portals

The **portal** dimension of the ODM assessment is designed to encourage national portals to offer features and functionalities that meet user needs and deliver a positive user experience. A well-designed, user-friendly portal can boost the adoption of open data and help transform casual users into active reusers. In brief, the portal dimension investigates the functionality of national open data portals, how user needs and behaviours are incorporated into portal improvements, the availability of open data across various sectors and strategies to ensure the portal's long-term sustainability (Table 3).

Table 3: Indicators of the portal dimension

Indicator	Key elements
Portal features	Portal features ensure access to datasets and relevant content, and include more advanced features such as SPARQL Protocol and RDF Query Language (SPARQL) search, discussion forums, rating of datasets, means of requesting datasets and transparency on the status of requested datasets. Activities are conducted to promote the visibility and reuse of high-value datasets (HVDs) through the portal.
Portal usage	Traffic to the portal is monitored, and analytics tools are used to gain insights into users' behaviour and the most and least consulted data categories. In addition, the portal offers application programming interfaces (APIs) or SPARQL end points through which advanced users can access the metadata programmatically.
Data provision	Most data providers contribute data to the national portal, and actions are taken to support data publication. In addition, access to real-time data is provided through the portal, and data that does not stem from official sources (e.g. citizen-generated data) can be uploaded. Furthermore, data from regional or local sources is discoverable on the national portal.
Portal sustainability	A strategy to ensure the sustainability of the portal has been determined, and activities are conducted to ensure the portal's visibility, including through a social media presence. In addition, user surveys are conducted regularly and feed into a review process to improve the portal.

Overall performance on the portal dimension

In 2024, the portal dimension is the second-best performing dimension among the EU-27, achieving a maturity score of 82 % (Figure 4). This is despite its being the only dimension to have experienced a decreased score compared with 2023, with a drop of 3 pp. The reduced score on the portal dimension in 2024 can be attributed to a decrease in all four of the underlying indicators in this dimension, with the '+portal features' indicator showing the largest decline (– 6 pp). This decline may be partially influenced by changes in the methodology, including introducing new questions that set higher requirements.

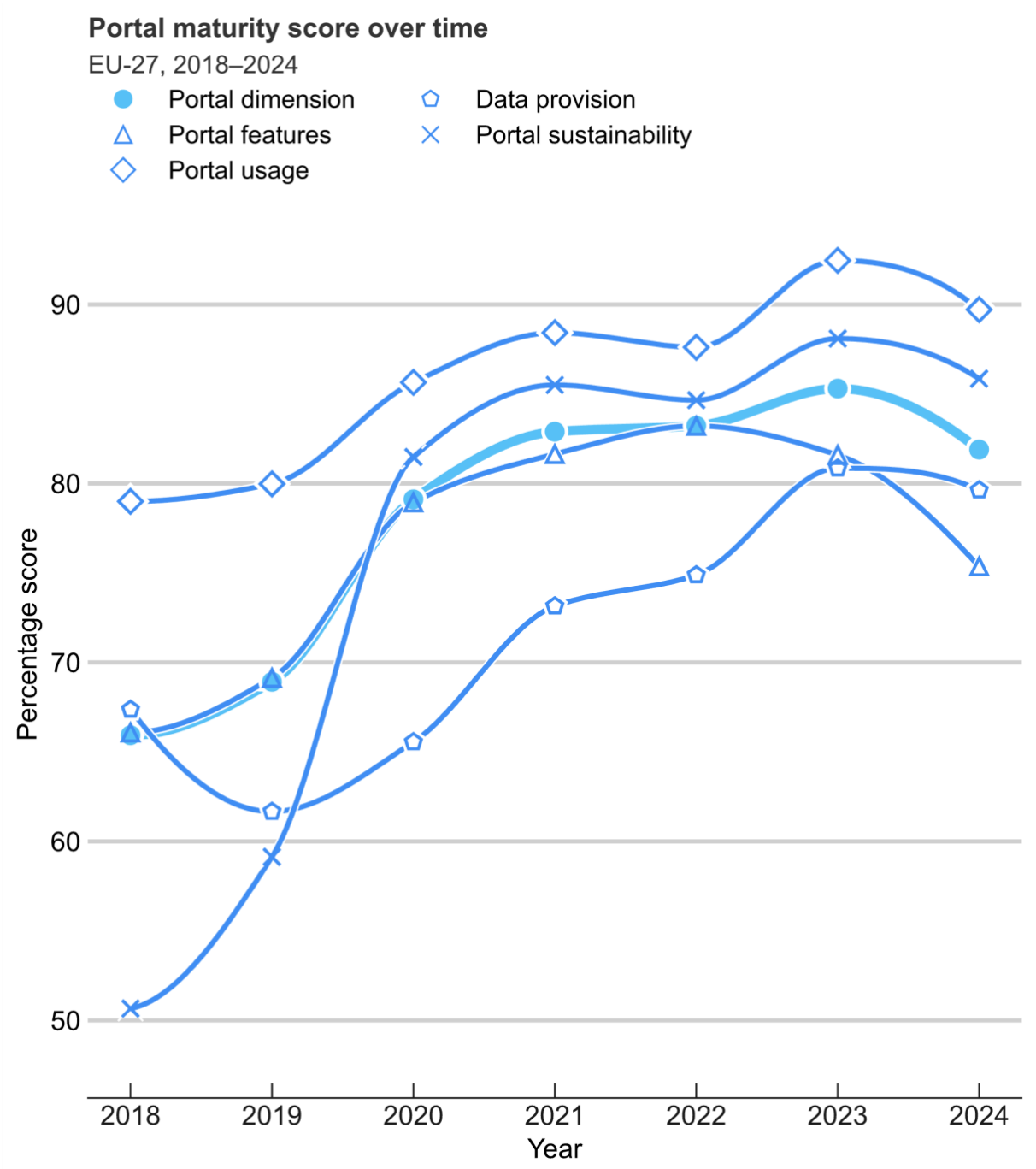


Figure 4: The EU-27 average score on the portal dimension decreased year-on-year

Regarding individual country performance, **Poland** stands out as the only participating country to report having conducted all of the activities assessed in the questionnaire, earning a 100 % score on this dimension, a 2 pp increase from 2023 (Figure 5). **France** follows closely in second place, with a maturity score of 98.5 % (a 2 pp increase from 2023). In total, 20 countries surpass the EU average of 82 %, with 11 countries achieving scores above 90 %. Notably, among these are **Ukraine**, a candidate country with a score of 94 %, and **Norway**, a European Free Trade Association (EFTA) country with a score of 91 %.

Czechia (+ 20 pp) and **Croatia** (+ 14 pp) achieved double-digit improvements in their maturity scores compared with 2023. **Albania** (+ 9 pp) and **Slovakia** (+ 9 pp) are also among the most improved countries in this dimension. **Czechia's** improved maturity can be attributed to progress across all four indicators of the portal dimension. The country achieved a notable increase in the 'portal usage' indicator (+ 48 pp), reflecting a focus on enhancing user engagement, including monitoring trends and user preferences and enabling regular updates to better align the portal's offerings with user demand. Many countries, including **Czechia**, have integrated capabilities for programmatic metadata queries via APIs and SPARQL access points, demonstrating a well-defined technology stack. The Comprehensive Knowledge Archive Network (CKAN) remains the most widely adopted platform, followed by Udata and LinkedPipes. The LinkedPipes extract, transform and load (ETL) tool, the LinkedPipes Data Catalog Vocabulary – Application Profile (DCAT-AP) viewer and Openlink Virtuoso are used by **Czechia**, which bases its implementation on open-source DCAT-AP-compliant tools.

Highlight from Czechia – analysing users' experiences through a questionnaire

One of the key practices highlighted in this year's report is basing portal improvements on user feedback.

Czechia, for example, initiated research at the beginning of 2024 focused on users' experiences of its national portal and data catalogue. The research involved a questionnaire, distributed via a newsletter and [published on the portal](#), and direct interviews and focus group sessions with users. The findings from this research are currently being analysed and will inform the strategy for developing the portal in 2025.

Croatia saw a large improvement in the 'data provision' indicator (+ 21 pp). Croatia allows both official and non-official providers to publish open datasets, and the national portal aggregates data from various local and regional portals across the country. However, a common challenge, also reported by other countries, has been the incomplete harvesting of metadata from all local and regional portals. While some countries automatically harvest the data from other sources, other countries strike ad hoc agreements with regional and local bodies to extract their data. Croatia has set up an automated synchronisation system with three of the seven regional and local portals identified, specifically those of [Rijeka](#), [Zagreb](#) and [Varaždin](#). This advancement ensures that the national portal is updated more frequently, moving Croatia closer to establishing a comprehensive one-stop shop for data across the country.

2024 portal maturity scores

Protocol order, per group of countries

- Portal dimension
- △ Portal features
- ◇ Portal usage
- ◇ Data provision
- × Portal sustainability

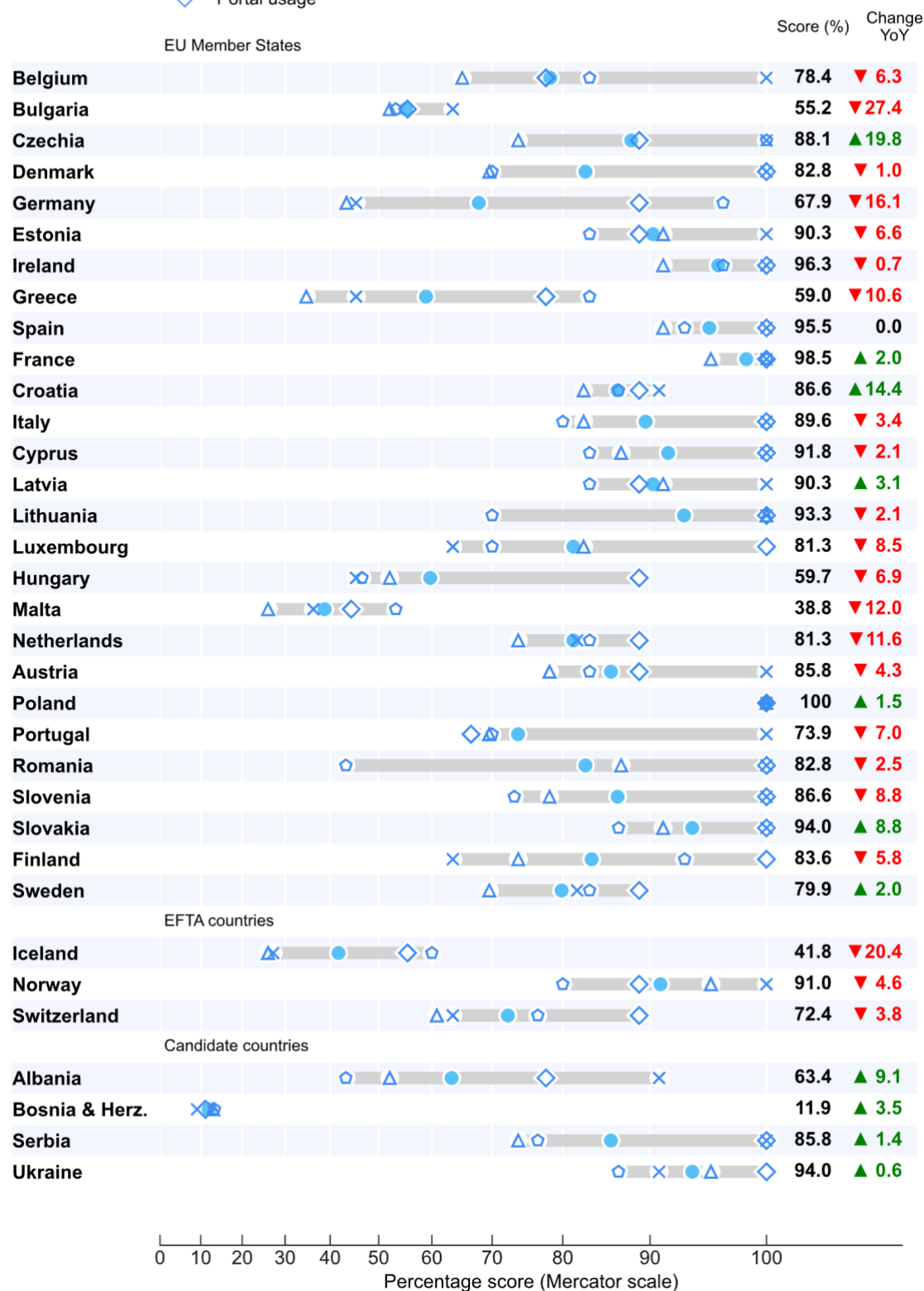


Figure 5: The majority of countries had a decreased score on the portal dimension in 2024. ((EFTA: European Free Trade Association; YoY: year-on-year).

Highlight from Croatia – supporting local and regional portals in publishing metadata

One of the key practices highlighted in this year's report is countries providing support to data providers at the local and regional levels to increase the quality and quantity of data on the national portal.

The Central State Office for the Development of Digital Society and the Information Commissioner in Croatia play key roles in supporting public authorities and users in the process of publishing open data. As government bodies responsible for promoting and facilitating the publication of open data at both the national and the local levels, they provide comprehensive assistance through the following activities.

- **Online education (webinars).** They organise webinars focused on open data, where public authorities and other interested parties receive training on the importance of open data, the processes involved in publishing metadata and how to effectively manage and use open data. These webinars serve as a key resource for building capacity and awareness among data publishers.
- **Guidelines on reuse of open data.** They provide detailed guidelines aimed at helping public authorities understand how to reuse open data. These guidelines outline the best practices for publishing metadata, ensuring the data's quality and encouraging its use in innovation and decision-making processes by various stakeholders.
- **Direct communication and assistance.** They maintain open channels of communication via email and over the telephone, through which public authorities can seek advice on their legal obligations to publish open data on the national open data portal. They also offer technical and legal assistance in ensuring the smooth publication and management of this data, helping authorities to comply with relevant laws and standards.

Slovakia achieved full maturity scores on the 'portal usage' and 'portal sustainability' indicators. Countries with high maturity in portal sustainability, like Slovakia, have long-term strategies for maintaining the national portal. This includes making the portal's [source code](#), documentation and other relevant artefacts publicly accessible, often hosted on platforms like GitHub or GitLab. Such transparency and open access to resources foster community trust and allow developers to contribute to ongoing improvements, reinforcing the portal's sustainability and adaptability over time.

Highlight from Slovakia – the SPARQL end point

One of the key practices highlighted in this year's report is the offering of tools to data providers to assist them with publishing data.

Slovakia has implemented a SPARQL end point with predefined queries to assist data providers in monitoring and improving the quality of their metadata. This tool allows providers to track key metrics, such as metadata quality, and to benchmark their performance against other providers. With these insights, providers can more effectively ensure that their data aligns with national standards and user expectations.

Additionally, a [dedicated web page](#) offers an overview of basic statistics. This web page provides an overview of metadata quality indicators, enabling providers and stakeholders to easily assess the consistency and completeness of the metadata available on the national platform. The goal is to promote high standards in metadata management and to facilitate continuous improvement through accessible, data-driven insights, thereby leading to increases in the usability of the datasets and supporting a more transparent and reliable open data ecosystem.

Albania achieved the most significant progress on the ‘portal sustainability’ indicator (+ 48 pp), with progress also made on the ‘portal features’ indicator (+ 7 pp). Key improvements included implementing a long-term strategy to ensure the portal’s sustainability and initiating regular monitoring of published data characteristics, such as category distribution, the ratio of static to real-time data and how these metrics evolve over time. This monitoring process allows the portal team and data providers to make informed improvements, ensuring higher performance and more relevant data offerings on the national portal.

Highlight from Albania – action plan for portal sustainability

One of the key practices highlighted in this year’s report is the setting up of long-term strategy plans for better maintenance of the portal.

For example, in **Albania**, the National Agency of Information Society, which oversees the opendata.gov.al portal, has appointed dedicated contacts who coordinate regularly with representatives from other institutions to boost the number of available datasets. Additionally, the agency collaborates closely with the Prime Minister’s Office, which plays a key role in leading high-level initiatives, including the preparation of annual reports and documentation for the Open Government Partnership. These reports are made publicly accessible on opendata.gov.al. As part of the World-Bank-supported programme ‘Improving equitable access to high-standard, sustainable public services at central and sub-national levels’, an action plan and strategy are being developed to enhance the open data portal’s functionality and ensure its long-term sustainability.

Chapter 6: Open data quality

The **quality** dimension of the ODM assessment encourages national portals to publish datasets with high-quality data and metadata. The ODM methodology emphasises metadata quality, since national portals aim to make datasets discoverable and harvest metadata. The methodology also investigates whether portal managers have materials and processes to assist and incentivise data publishers to provide high-quality data. In brief, the quality dimension assesses the measures adopted by portal managers to ensure the systematic and timely harvesting of metadata and the monitoring mechanisms in place to ensure the publication of metadata that is compliant with the DCAT-AP metadata standard and several deployment quality requirements (Table 4).

Table 4: Indicators of the quality dimension

Indicator	Key elements
Metadata currency and completeness	A systematic approach is in place to ensure that metadata is up to date. Programmes that harvest metadata automatically are used to ensure that changes at the source are reflected with minimal delay on the national portal. The portal provides access to a vast range of historical and contemporary data. Preparations are under way to ensure that high-value data is interoperable with high-value datasets (HVDs) from other countries.
Monitoring and measures	Mechanisms are in place to monitor metadata quality on the national portal and compliance with licensing standards. Measures are in place to assist data providers in publishing high-quality metadata and choosing the right type of licence for their data.
DCAT-AP compliance	Compliance with the DCAT-AP standard regarding mandatory, recommended and optional classes is monitored. Guidelines and learning materials help data providers in ensuring compliance with DCAT-AP.
Deployment quality and linked data	A model is used to assess the quality of data and metadata deployment. The percentage of published open data that complies with specific deployment quality requirements, including having links to other data sources, is known, and improvements in terms of deployment are monitored.

This chapter will first present overall performance on the policy dimension and then provide a summary of the results and best practices for each indicator.

Overall performance on the quality dimension

The quality dimension is the least mature dimension of the ODM assessment according to the EU-27 average in 2024 (Figure 6). The average maturity of EU Member States in the quality dimension is 79.7 %. This is a 3 pp decrease from 2023, primarily driven by a 6 pp decrease in the ‘monitoring and measures’ indicator and a 3 pp decrease in the ‘DCAT-AP compliance’ indicator. These decreases may be attributed to the introduction of 11 new questions or criteria related to the quality dimension in this year’s questionnaire, which introduced a higher set of requirements that were not previously measured. In addition, several countries reported lower metadata quality scores on the same questions asked last year.

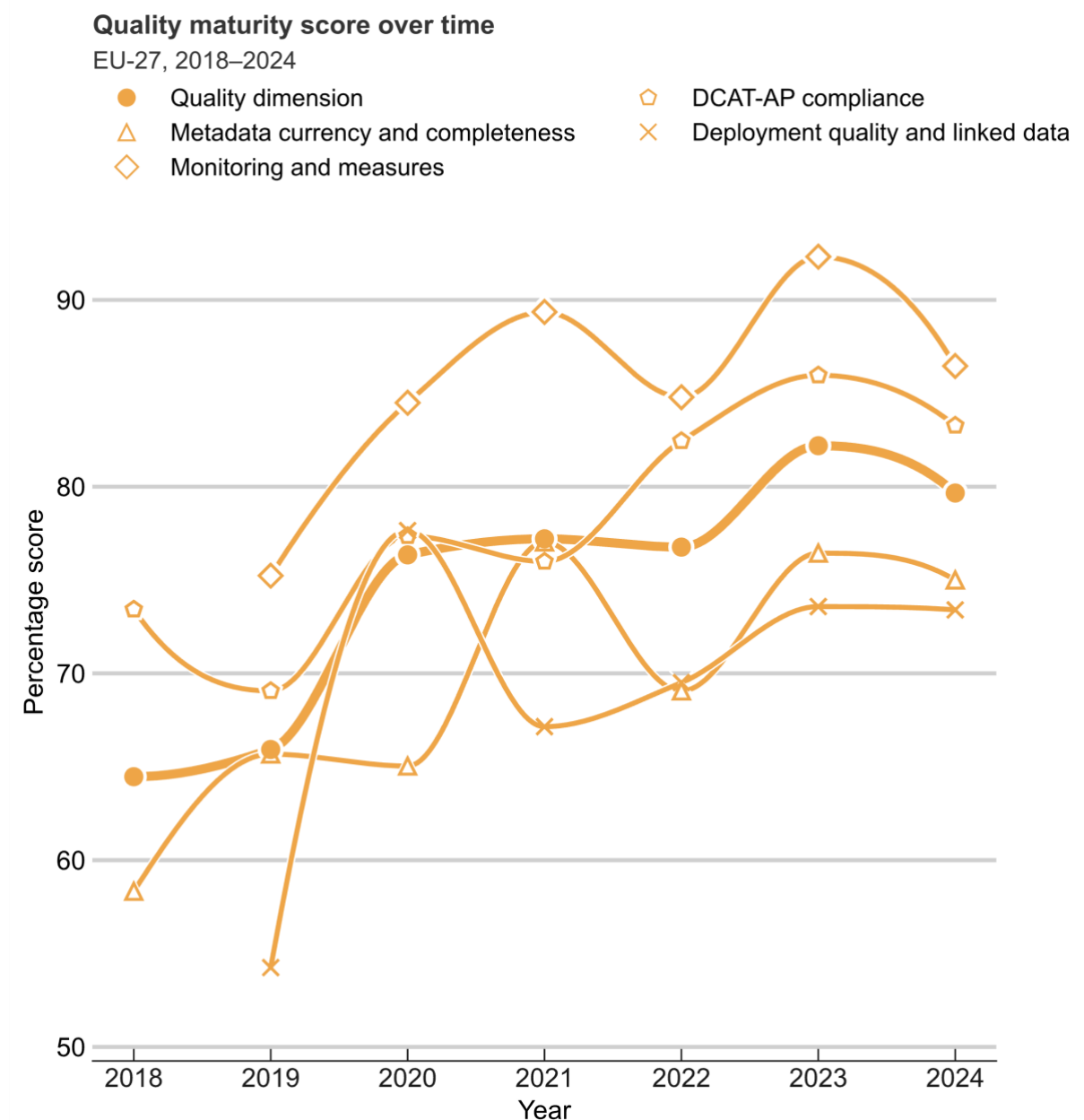


Figure 6: The EU-27 average score on the quality dimension decreased year-on-year but is still more mature than in years before 2023

In terms of individual country performance, **France** (100 %) is the most mature in the quality dimension, achieving full points in all four of the underlying indicators (Figure 7). **Latvia** (95 %) and **Ukraine** (94 %) follow closely, both demonstrating full maturity (100 %) in the ‘monitoring and measures’ indicator. Ukraine also demonstrates full maturity in the ‘DCAT-AP compliance’ indicator. In addition, **Denmark** (92 %) and **Poland** (90 %) are also notable performers, both achieving above 90 % maturity in this dimension. Denmark is the only country besides France to achieve 100 % maturity on the ‘deployment quality and linked data’ indicator, while Poland scores full points on the ‘monitoring and measures’ and the ‘DCAT-AP compliance’ indicators. Overall, 15 Member States score above the EU average of 79.7 %.

Highlight from France – automated metadata harvesting

One of the key practices highlighted in this year's report is the use of fully automated harvesting systems for metadata, whereby metadata is updated from the source rather than edited manually.

France ensures that 100 % of the essential metadata on its national portal, data.gouv.fr, is obtained automatically from the source through a comprehensive and robust system. The platform offers several methods for data publication:

- direct publication,
- publication via application programming interfaces (APIs),
- publication through harvesting.

Data.gouv.fr supports the harvesting of various metadata formats, including DCAT, Comprehensive Knowledge Archive Network (CKAN) and GeoNetwork. Data providers can set up a harvester, which the data.gouv.fr team must then validate to ensure accuracy and compatibility. This process involves establishing the mapping of fields for essential metadata while retaining additional properties for traceability.

Once harvesters are properly configured, data.gouv.fr can retrieve 100 % of the essential metadata for their model. Currently, harvested data accounts for approximately 50 % of the data.gouv.fr catalogue, highlighting the effectiveness and efficiency of this automated system in maintaining up-to-date and accurate metadata on the national portal.

Serbia (+ 17 pp), **Latvia** (+ 10 pp) and **Belgium** (+ 5 pp) demonstrated the greatest year-on-year improvement in the quality dimension. **Serbia's** improvement can be attributed to substantial progress on the 'DCAT-AP compliance' indicator (+ 50 pp). Serbia now reports that it investigates the most common causes of non-compliance with DCAT-AP standards. Additionally, 90 % of Serbia's datasets now include metadata referencing a web page where the data can be accessed. Serbia also achieved a 6 pp increase in the 'deployment quality and linked data' indicator. This increase can be attributed to the recent introduction of a model for assessing the quality of data deployment in the country.

Highlight from Serbia – discussion modules to improve metadata quality

One of the trends highlighted in this year's report is the use of data quality assessment techniques that either combine or go beyond the widely used 5-star open data model and the findable, accessible, interoperable and reusable (FAIR) principles.

In **Serbia**, each dataset comes with a discussion module through which users can share feedback regarding datasets. This feature allows users to share positive and negative opinions, report anomalies and directly suggest improvements to the dataset provider. Serbia uses this discussion module to facilitate more in-depth and actionable feedback, helping to improve the quality of data over time. This enables a rich dialogue between users and data providers, promoting continuous data quality improvement. See an [example](#) of the discussion module in action with the Address Register, a fundamental public register containing data on streets (determined by local government decisions) and house numbers across the Republic of Serbia.

2024 quality maturity scores

Protocol order, per group of countries

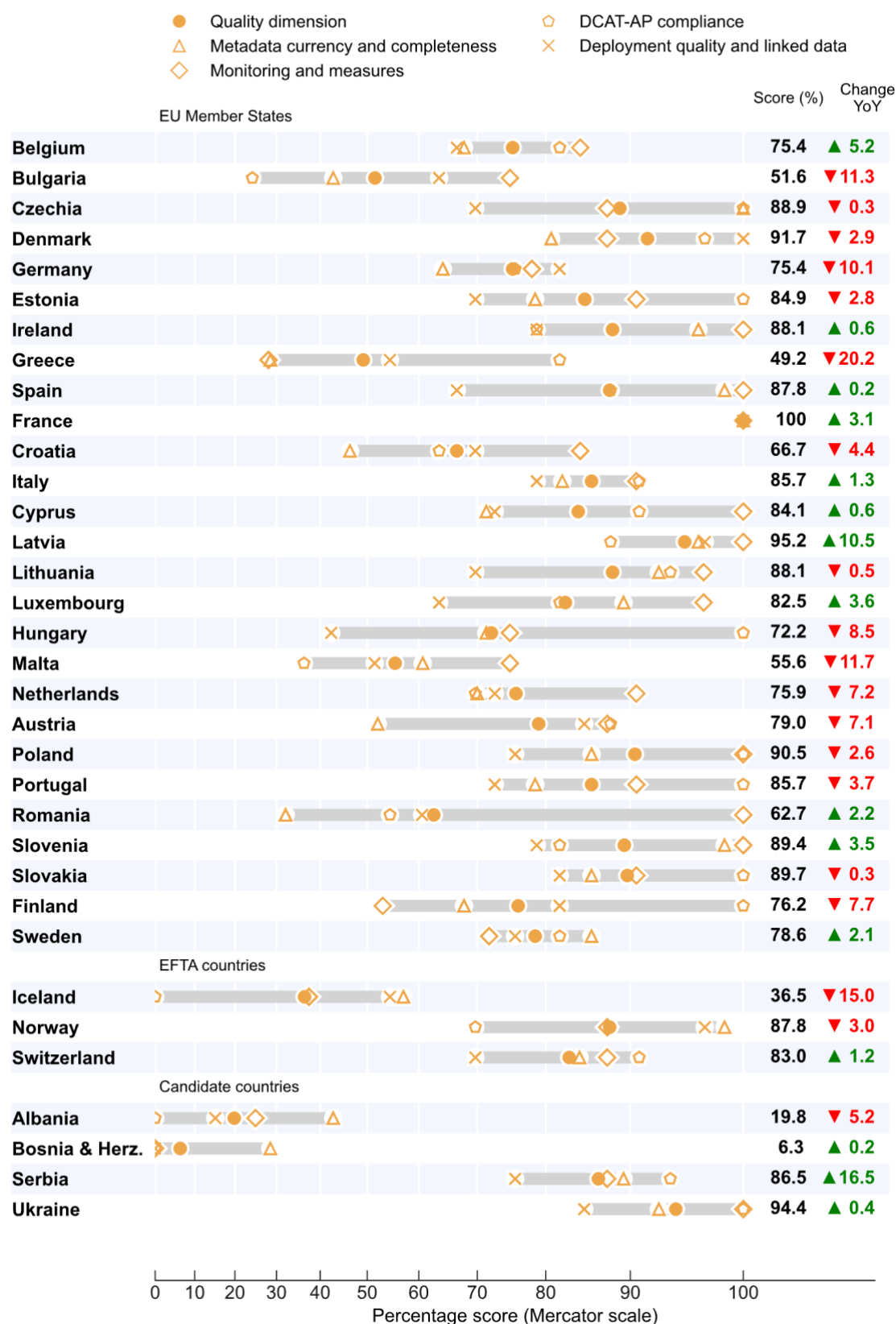


Figure 7: The scores of the majority of countries decreased on the quality dimension in 2024. (EFTA: European Free Trade Association; YoY: year-on-year).

Latvia's increase in its score on the quality dimension can be attributed to its 13 pp increase in the 'DCAT-AP compliance' indicator. Additionally, Latvia saw a 19 pp increase in the 'monitoring and measures' indicator, which may be attributed to its recently starting to publish information on the quality of its metadata on its open data portal. **Belgium's** increase in its score on the quality dimension can be attributed to its 22 pp increase in the 'metadata currency and completeness' indicator and 14 pp increase in the 'deployment quality and linked data' indicator.

Highlight from Belgium – enhancing metadata through automated pipelines

One of the key practices highlighted in this year's report is the use of an automatic metadata harvesting process that is operated under a centralised model, whereby multiple sub portals are interconnected under a single catalogue.

In **Belgium**, using command line tools, metadata is automatically collected and then enhanced through SPARQL queries and Simple Knowledge Organisation System (SKOS) data, which helps improve the structure and quality of the metadata. Once enhanced, the metadata is pushed on [GitHub](#) (a web-based platform for version control and collaboration), where different teams can access it. Finally, [data.europa.eu](#) collects the enhanced metadata from GitHub, ensuring that high-quality, standardised metadata is available at the European level. This workflow supports both automation and the enhancement of metadata quality across various systems.

Chapter 7: Open data impact

The Open Data Directive ([Directive \(EU\) 2019/1024](#)) and the High-Value Datasets Regulation ([Regulation \(EU\) 2023/138](#)) promote the reuse of public sector information to deliver economic, environmental and societal benefits. Reuse involves processing open datasets by combining them with other sources and applying analytical tools to generate insights or solutions, creating measurable impact across various fields. The **impact** dimension of the ODM assessment encourages countries to monitor open data reuse and address user needs. It evaluates how countries define and measure reuse, assess user needs and provide reuse examples across governmental, social, environmental and economic domains (Table 5).

Table 5: Indicators of the impact dimension

Indicator	Key elements
Strategic awareness	There is a national definition of open data reuse. Mechanisms are in place at the national, regional or local level to monitor and foster open data reuse, including in relation to HVDs. A methodology exists to measure the impact derived from reusing open data.
Measuring reuse	Tools are in place to understand which datasets are reused and how. There is a process for gathering and classifying reuse cases systematically. Activities are performed to better understand reusers' needs.
Created impact - governmental - social - environmental - economic	The impact created by open data has been systematically studied, and reuse examples exist that showcase the impact of open data in the governmental, social, environmental and economic domains.

Overall performance on the impact dimension

In 2024, the impact dimension is the third most mature dimension of the ODM assessment, with the EU-27 scoring 80.5 % on average (Figure 8). Maturity in this dimension has grown during 2022–2024, increasing by 6 pp between 2022 and 2023 and by 4 pp between 2023 and 2024. This increase at the dimension level has been driven by improvements in all three underlying indicators. Like the dimension overall, the indicators have demonstrated stable growth during 2022–2024, with the 'measuring reuse' indicator and the strategic awareness' indicator reaching 88 %, an increase of 7 pp and 5 pp on 2023, respectively., and the 'created impact' indicator reaching 75 % (an increase of 3 pp on 2023). The 'measuring reuse' indicator has grown the most since 2023, highlighting countries' efforts to set up methodologies for collecting and classifying reuse cases and to enhance activities aimed at understanding reuser requirements.

In terms of individual country performance, 11 countries reported performing all the activities investigated in the questionnaire, scoring 100 % on this dimension (Figure 9). **Denmark** and **Ireland** followed closely, reaching a nearly perfect score of 97 % and scoring 100 % on the 'strategic awareness' indicator. **Ukraine** is the only non-EU country to have scored 100 % on this dimension. Overall, 18 countries scored above the EU average of 80.5 %.

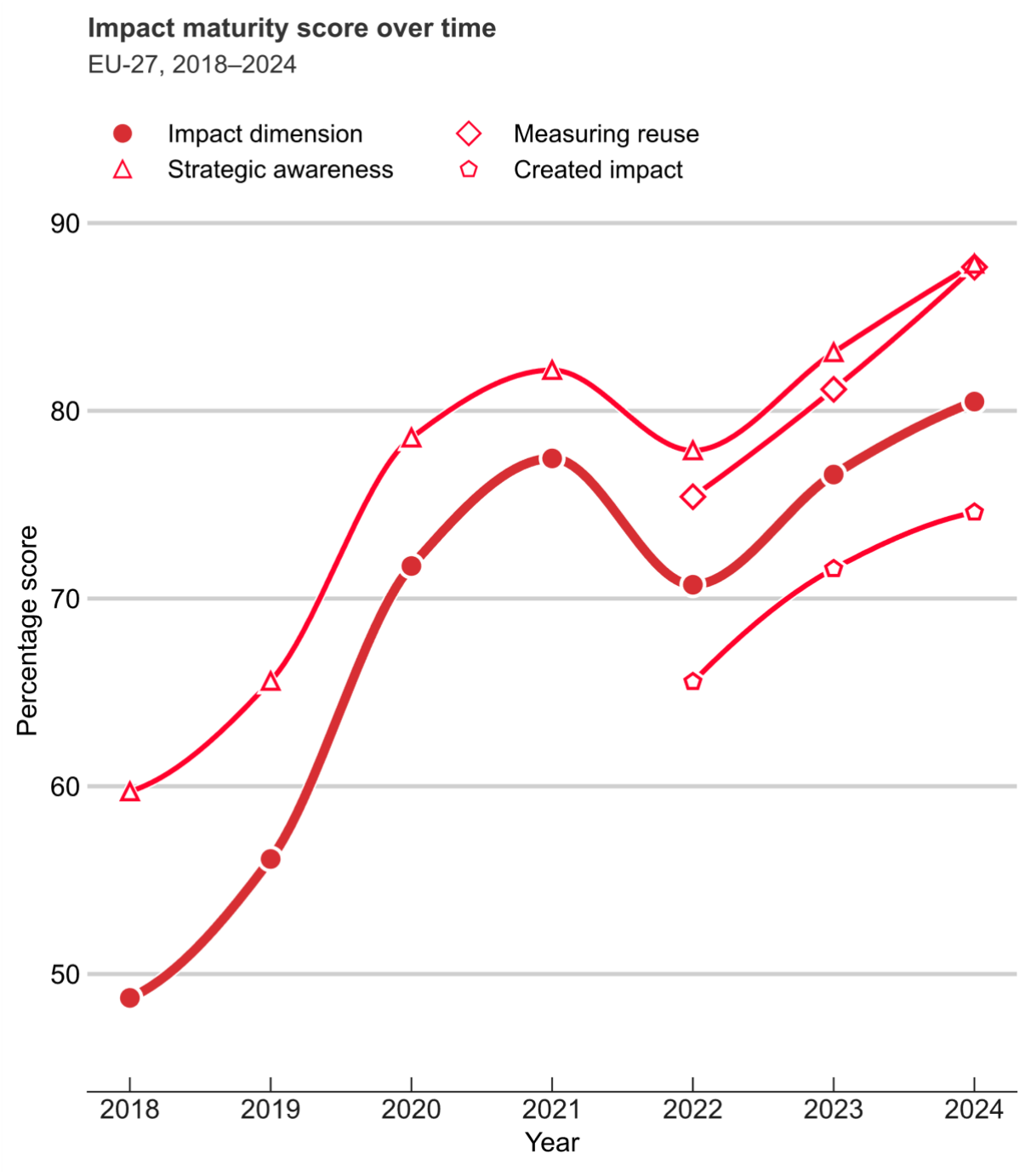


Figure 8: The EU-27 average score on the impact dimension has risen steadily during 2022–2024

2024 impact maturity scores

Protocol order, per group of countries

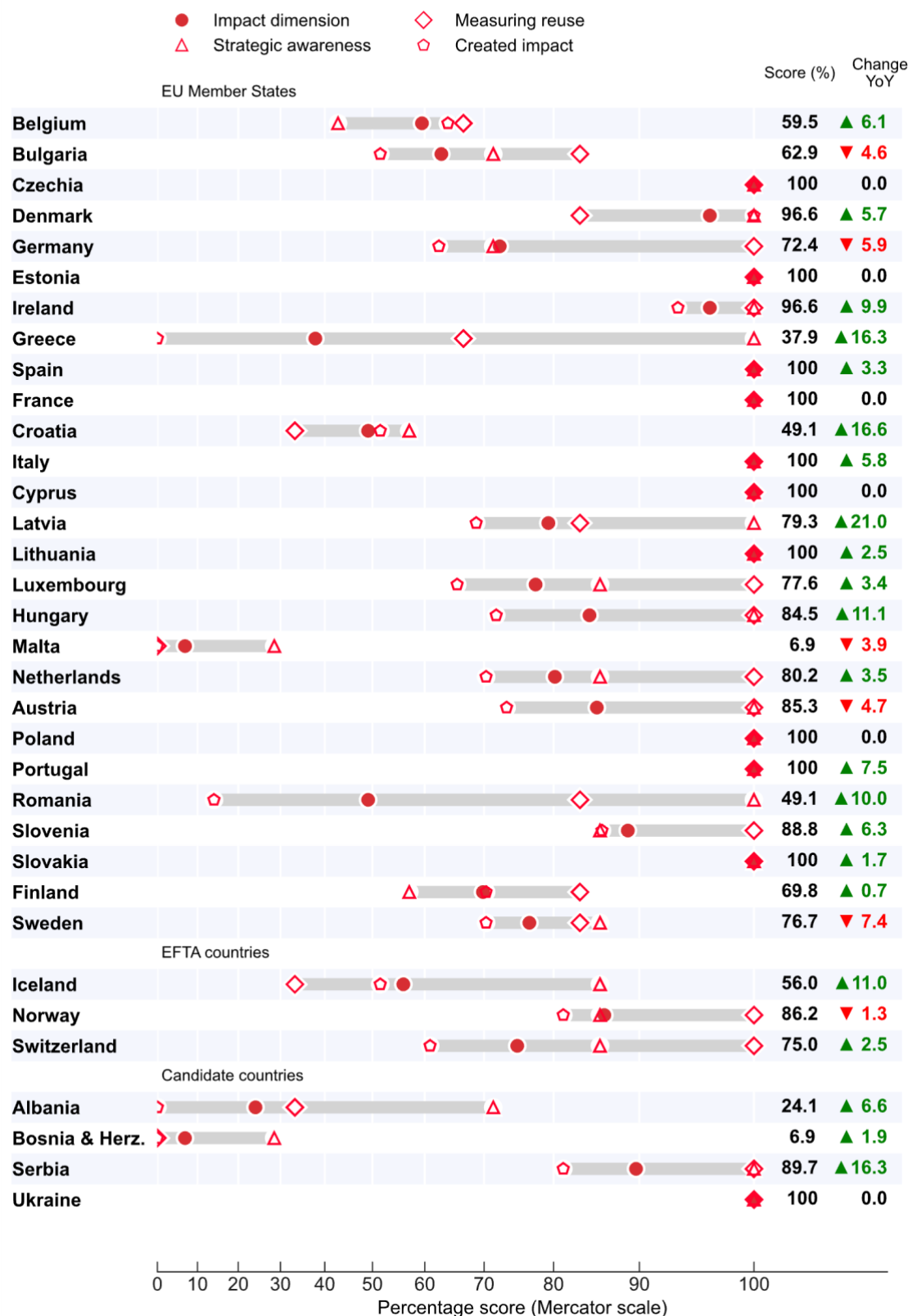


Figure 9: Twenty-two participating countries improved their score on the impact dimension in 2024. (EFTA: European Free Trade Association; YoY: year-on-year).

Highlight from France – measuring the impact of open data

Measuring the impact of open data presents a challenge, primarily due to the lack of a standardised definition of open data impact and the difficulty of quantifying the effects of open data reuse. To address this, many countries have developed standardised frameworks that combine qualitative and quantitative indicators to make the impact of open data more tangible. In several instances, these national frameworks have drawn inspiration from, or been aligned with, efforts undertaken at the EU level, particularly through initiatives like data.europa.eu.

In **France**, the data.gouv.fr team conducted an extensive impact survey in 2023 to measure how open data influences various sectors. The survey was guided by a methodology developed in France for impact measurement, which was inspired by EU-level work, specifically the [indicators for an open data impact assessment](#) framework. This framework is structured to measure the effects of open data on multiple dimensions, including governmental, environmental, social and economic impacts. The two main components of the framework are as follows.

- **Outputs.** The study measured indicators like the number of datasets, views, downloads, reuses and discussions in 2023, helping to quantify data usage and engagement.
- **Outcomes.** Reuse cases were selected from the data.gouv.fr reuse catalogue, the beta.gouv.fr platform for digital public services, and research publications. These cases were chosen based on their potential impact, the availability of information and their relevance across the four impact categories.

For each use case, the survey team analysed the specific impacts of data reuse, sometimes conducting interviews with the creators to better understand the services and benefits. The findings are presented in a paper that can be downloaded from data.gouv.fr.

Latvia (+ 21 pp), **Croatia** (+ 17 pp), **Serbia** (+ 16 pp), and **Greece** (+ 16 pp) are countries that showed the most significant year-on-year improvements in the impact dimension. **Greece's** improved maturity relates primarily to a large increase in the 'measuring reuse' indicator, because Greece now reports having set up monitoring mechanisms to collect and classify reuse cases. Like many countries, Greece has launched several initiatives to monitor open data reuse, such as actively involving academic institutions and the private sector in [performing studies](#) and [analyses](#) on open data usage. Additionally, efforts to increase public awareness are evident through the workshops, open dialogue sessions and hackathons that have been organised and that foster a culture of open data across different sectors. In future years, Greece can use these methods to gain a better overview of existing reuse cases and further improve its ODM maturity score.

Highlight from Greece – the Open Data Hackathon

An important practice observed in this year's report is organising hackathons that involve numerous stakeholders to foster a culture of reusing open data across different sectors.

For example, the [Open Data Hackathon](#) in **Greece** is an initiative to promote innovation using open data. The event encourages participants – developers, entrepreneurs, students and professionals – to create prototype applications addressing challenges related to digital transformation across various sectors like energy, transport and real estate. It aims to foster collaboration between public and private sectors, create an innovation ecosystem and improve citizen services. The hackathon includes a mix of participants from different fields and offers mentorship, with prizes and opportunities for those who design the best solutions.

Latvia's improved maturity is primarily driven by increased awareness of reuse cases that demonstrate open data impact, particularly in the environmental and economic sectors. The country has made significant strides in monitoring environmental impact, a trend observed in several countries. Many countries, including Latvia, have also introduced initiatives to raise public awareness of open data through official guidelines for both the public and government bodies. For example, Latvia's '[Open by default](#)' [guideline](#) sets the standard at making all data open unless there is a strong reason not to, encouraging widespread data transparency and reuse.

Highlight from Latvia – the transport website

This year, a generalised trend across countries is the reporting of reuse cases that focus on monitoring air and water quality, carbon dioxide emissions and the transport sector. For example, the website transportdata.gov.lv in **Latvia** serves as a platform for open transport data. It offers various datasets, including traffic statistics, public transport schedules, infrastructure information and vehicle registration data. The website provides interactive maps to visualise transport datasets. Users can also find analytical tools they can use to explore and interpret the data more effectively. This functionality enhances the usability of the datasets, allowing for better insights and informed decision-making regarding transport planning and development.

This resource is useful for researchers, developers and policymakers, as it enables informed decision-making, promotes transparency and encourages innovation in transport solutions. Users can access and utilise these datasets for analysis and application development, which benefits public services and urban planning.

Chapter 8: Maturity-based clustering

To group the countries into clusters, the overall maturity scores were plotted from lowest to highest. Groups were demarcated where observable gaps in the ordered scores were identified. From the lowest to the highest performing, the four clusters are **beginners**, **followers**, **fast-trackers** and **trendsetters**. The clusters are visualised in Figure 1.

The distribution of composite maturity scores is skewed towards higher scores. The clusters are as follows.

- **Trendsetters (94–100 %).** Cyprus (CY), Estonia (EE), Italy (IT), Czechia (CZ), Lithuania (LT), Spain (ES), Ireland (IE), Slovakia (SK), Ukraine (UA), Poland (PL) and France (FR).
- **Fast-trackers (83–90 %).** Luxembourg (LU), Serbia (RS), Austria (AT), Norway (NO), Portugal (PT), Slovenia (SI), Latvia (LV) and Denmark (DK).
- **Followers (74–80 %).** Belgium (BE), Germany (DE), Hungary (HU), Finland (FI), the Netherlands (NL), Sweden (SE) and Switzerland (CH).
- **Beginners (15–69 %).** Bosnia and Herzegovina (BA), Albania (AL), Malta (MT), Iceland (IS), Greece (EL), Bulgaria (BG), Croatia (HR) and Romania (RO).

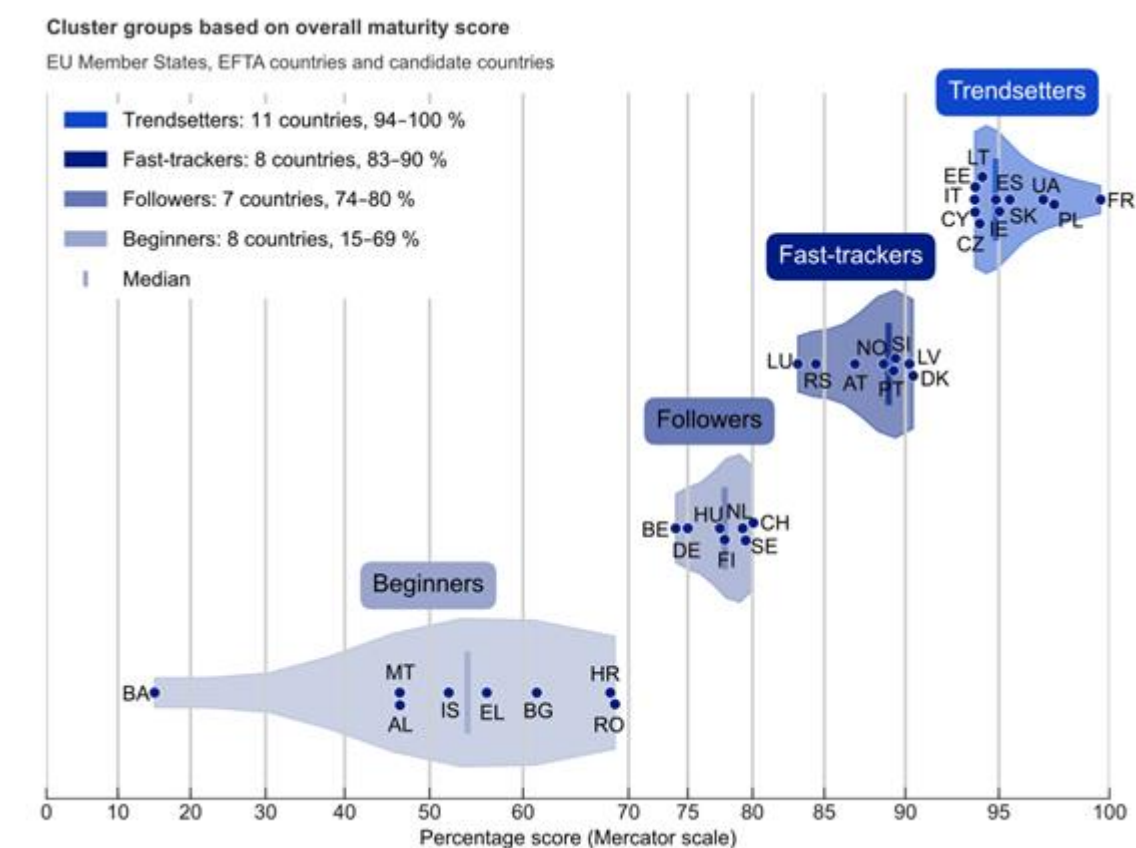


Figure 1: Four-group clustering of participating countries based on overall maturity score

Chapter 9: Conclusions

Countries in Europe remain stable in terms of their ODM. This is despite an update to the ODM assessment methodology that set higher requirements for several questions. The intention of the update was to systematically stimulate ODM in Europe and to keep pace with policy and technological developments while ensuring consistency and comparability with previous ODM assessments.

In the EU, the **policy** dimension remains the most advanced, with its average score showing year-on-year improvement. The underlying 'open data implementation' indicator increased its score the most, reflecting the fact that EU Member States continue to implement their open data policies through specific measures and activities and have systems to assist data holders and address policy challenges. All Member States report ongoing efforts to implement the HVDs regulation. Notable progress has been made, with advancements exceeding 10 pp across categories and tasks compared to 2023.

The **portal** dimension remains the second most mature but experienced the largest average year-on-year decrease in score among the four dimensions. In particular, the 'portal features' indicator experienced the greatest decrease. Overall, national portals probably remain similar to 2023, with the decrease in maturity scores related to the higher requirements set in this year's questionnaire.

Scores for the **quality** dimension also decreased on average compared to 2023, and it is narrowly the dimension on which countries scored the lowest. Several countries recorded lower metadata quality scores for the same questions asked last year, presumably reflecting more accurate reporting than in the previous year.

The **impact** dimension again experienced the greatest year-on-year improvement. Building on the improvements from last year, Member States took further action to document the reuse of open data and collect and classify reuse cases. This translated into a greater awareness of available reuse cases, especially in the environmental and economic domains. However, examples of reuse cases are still more readily available than systematically collected data on the impact created by open data.

In 2025, open data teams must continue to navigate the evolving data-sharing landscape and help implement, or coordinate with their peer civil servants leading, new and complementary government initiatives on data sharing. For example, the Data Governance Act ([Regulation \(EU\) 2022/868](#)) and the Data Act ([Regulation \(EU\) 2023/2854](#)) introduce measures to increase data availability and overcome technical obstacles to the reuse of data. Specifically, under the Data Governance Act, Member States must establish national single information points (NSIPs) to assist potential reusers in finding information on what protected data can be reused under specific conditions. Information will be collected from NSIPs and incorporated into the European Register for Protected Data held by the Public Sector, which will require their metadata to be structured and provided in a specific way; other technical and operational requirements for NSIPs will also need to be met. In addition, [common European data spaces](#) continue to be developed to increase the availability of data-sharing tools and services for the pooling, processing and sharing of industry data in accordance with European values and principles and with full respect for data providers' rights and for confidentiality.



2024 Open Data Maturity Report
Celebrating 10 years of ODM

