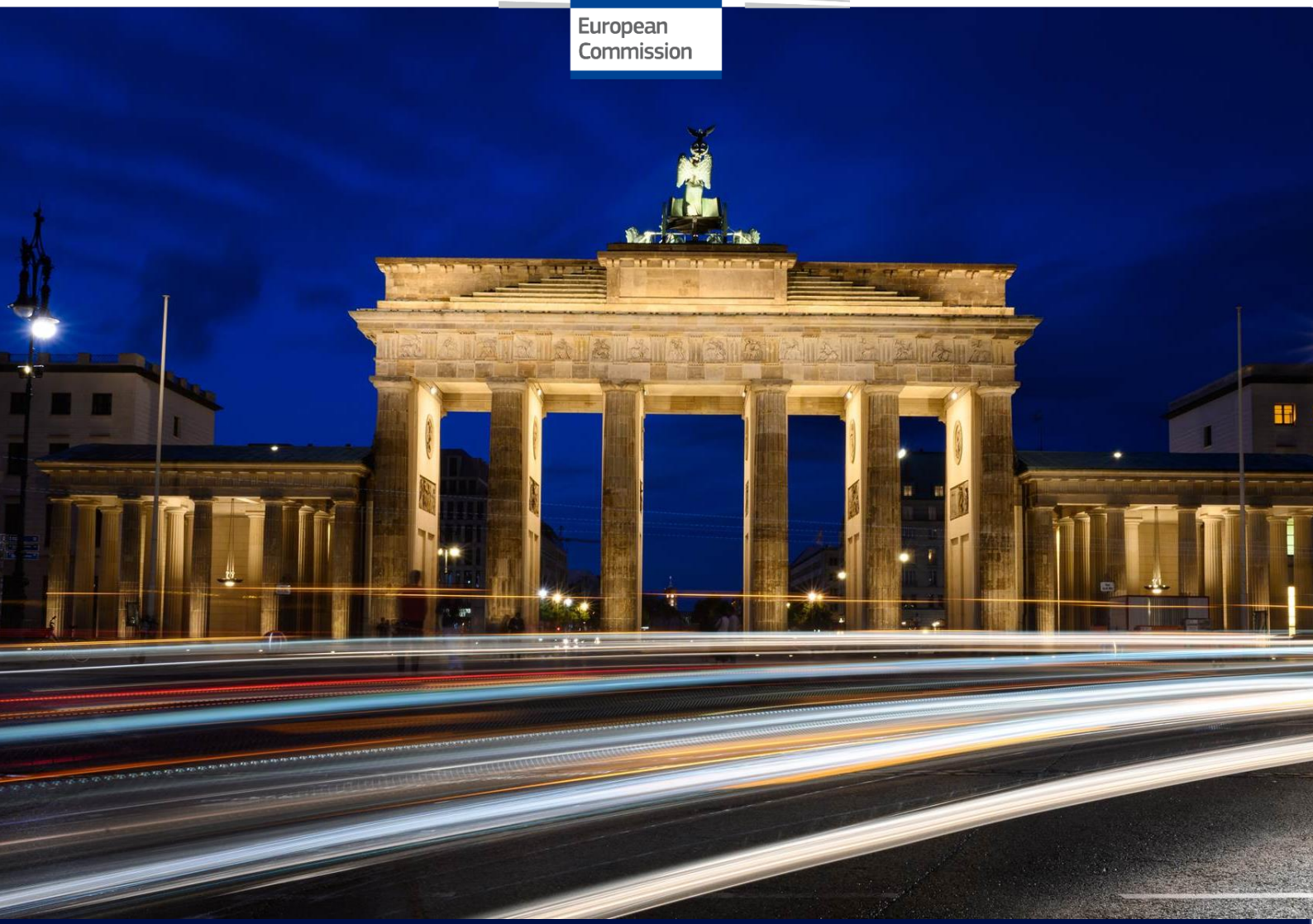
European Commission



Report on the monitoring of the Berlin Declaration

Directorate General for Informatics

July 2023

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Foreword

Digitalisation is one of the most powerful tools we have to meet the challenges of today. It is not a goal in itself, but rather a means to other ends. Digital technologies can make life easier for people, open up new forms of social participation, improve efficiency, and enable new solutions needed to meet challenges such as the demographic and climate changes. Several examples of how such technologies are used to improve lives across Europe can be found in this second edition of the Berlin declaration monitoring report.

Digitalisation is linked to almost all developments of public services today. That's why it's crucial to make sure digitalisation is carried out ethically. The Berlin Declaration on Digital Society and Value-Based Digital Government sets out a number of key principles and accompanying policy areas intended to safeguard the alignment of the digital transition with our common European fundamental rights and values. This is necessary work. We can't allow a digital transition that leaves some citizens behind, undermines trust, or is environmentally unsustainable, especially when we know that digital technologies could be used to strengthen these same areas. The Berlin Declaration and this second monitoring report help us to focus on these issues by giving us evidence and insights into how Member States are applying these principles.

In last year's report we saw that the EU Member States had reached the highest level of implementation of the policy area related to the strengthening of trust through security in the digital sphere. In this report, we are pleased to find that progress has been made in several areas, most noticeably in the area of empowerment and digital literacy. We can also note that there are no setbacks in any of the policy areas. However, in some cases, progress is slow, and in two policy areas in particular, there hasn't been any improvement since last year. The first of these areas is social participation and digital inclusion which is lagging behind. The second is trust and security, for which although the results are relatively good, there is still work to be done. The current war unleashed by Russia against Ukraine is a harsh example of the importance of this.

The signatories of the Berlin Declaration set out to implement a number of policy actions by the end of 2024. In light of the results presented in this year's report, I encourage governments to do more in order to reach these goals and strengthen these principles. Although the time frame of the Declaration is only up until the end of next year, the common values that the Declaration seeks to support will continue to be of the utmost importance for digital governments across the EU.

I would also like to take the opportunity to thank all involved in the making of this report. This has truly been a collective effort by the European Commission, the Swedish presidency of the Council, and all Member States that have provided the data and the inspiring examples of the relevant practices and policies across the 27 Member States. We hope that this report can help create a sustainable digital transition and build sustainable, democratic digital societies that work for everyone all across our Union.

The journey continues – the final progress report is foreseen next year during the Belgian presidency of the EU. Let us make sure to transform the lessons from this year into a success in 2024.

Anna Eriksson

Director General of DIGG (Agency for Digital Government)

Executive Summary

Overview and main results of the 2022 BDM data collection

Context

What is the rationale behind this report?

- In December 2020, and the signature of the Berlin Declaration by all EU Member States, each country agreed to a set of 22 Policy Actions to be implemented in their national frameworks by 2024. The European Commission was then called upon to implement and monitor progress towards these Policy Actions and overall principles of the Declaration.
- It relates to the first edition of the State of the Digital Decade Report which assesses the presence of online and citizen-centred key public services by 2030.

Objectives

What are the goals of this report?

- Provide evidence on how the EU public administrations are driving a value-based digital transformation, showcasing Member States' progress towards achieving the Policy Actions outlined in the Berlin Declaration.
- Discover good practices and lessons learnt; and
- Support decision-makers in implementing their digital priorities and policies.

Particularities

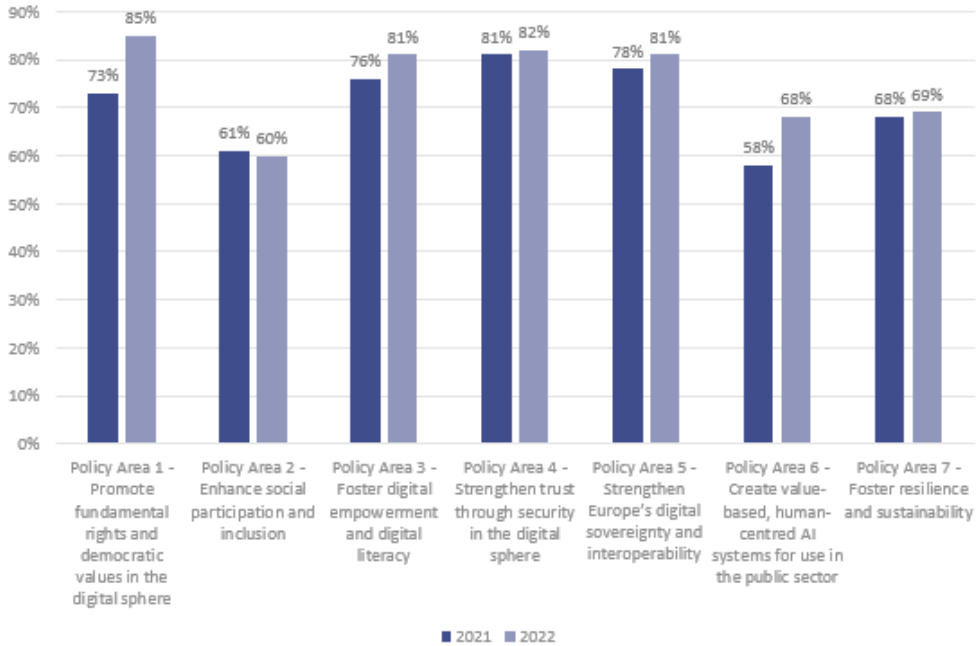
How does it differ from last year's report?

- It highlights more qualitative evidence on three selected themes: the respect for fundamental rights and democratic values; empowerment and digital literacy; and human-centred systems and innovative technologies in the public sector.
- It allows for comparison against last year's results, but with only little progress visible as it is only the second year of monitoring.

Key results

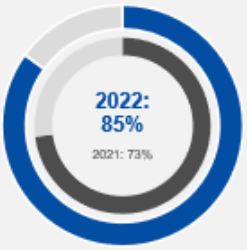
All Policy Areas, at EU average level, are experiencing a positive growing trend – some at a slower pace than others – except Policy Area 2 where there is a decrease of 1 p.p.

Policy Areas where Member States are scoring the best are not necessarily where they have progressed the most compared to 2021

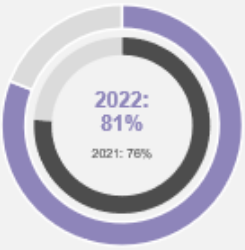


Most progressing Policy Areas

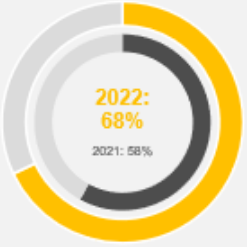
Policy Area 1



Policy Area 3



Policy Area 6



Key trends for Policy Area 1 - Promoting fundamental rights and democratic values in the digital sphere

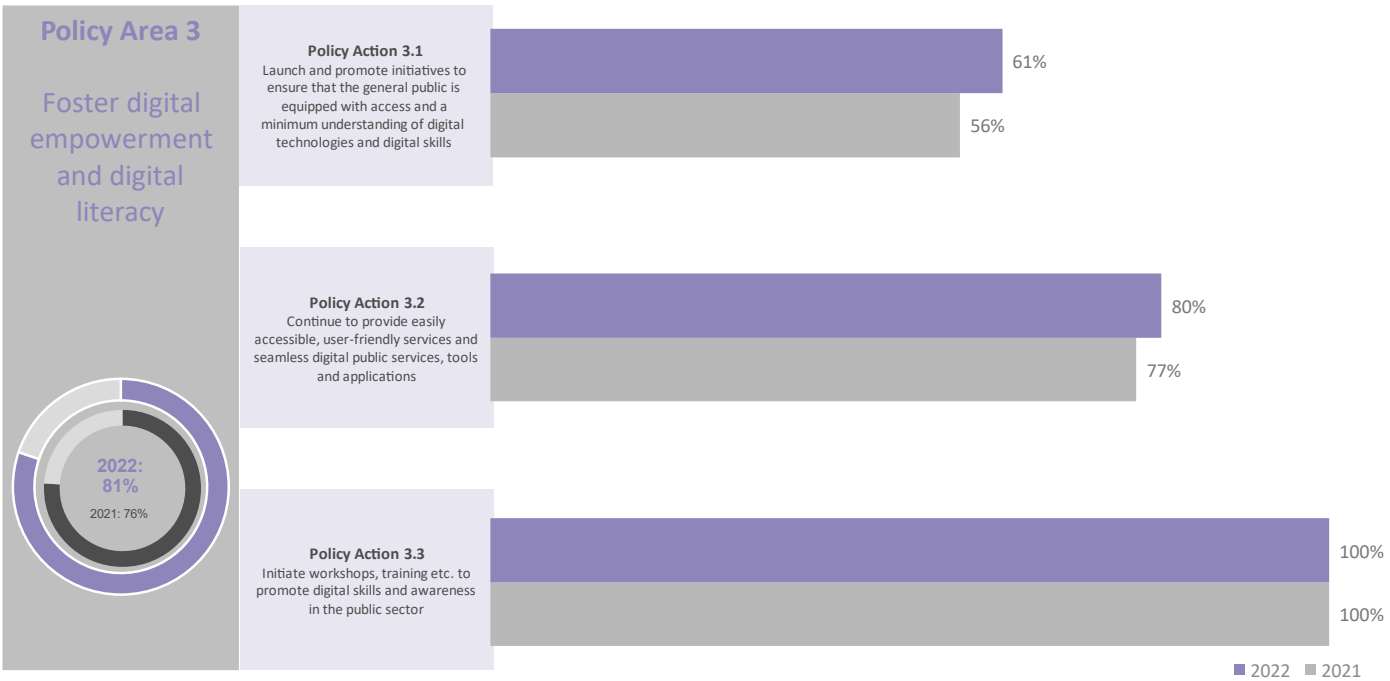
	Progress compared to 2021	Explanatory factors
Policy Area level	• 24 Member States increased their overall score • Increase of 12 percentage points, at EU average • Highest scoring and highest increase among all Policy Areas, at EU average	• Member States have increasingly created platforms and portals to provide information and foster debate on the topic of fundamental rights • Member States put in place strategies, projects and councils to promote fundamental rights and democratic values in the digital sphere
Policy Action level	• Policy Action 1.1, relating to the translation of abstract fundamental rights regulations into tangible policies, showcases a slow progress of 3 percentage points compared to 2021 • Policy Action 1.2, relating to the implementation of projects with the aim of increasing awareness of the relevance of a value-based digital transformation, showcases a significant progress with an increase of 12 percentage points compared to 2021 • Policy Action 1.3, relating to the establishment of ethical and technological expert councils, showcases the most significant increase of 13 percentage points compared to 2021	Overall, the increased scores on all Policy Actions of Policy Area 1 entail that the majority of Member States have improved their implementation status on said Policy Area and considered the topic of fundamental rights and democratic values in the digital sphere as a top priority for the year 2022-2023. • Policy Action 1.1: This slower progress can be explained by the fact that no explicit mention of fundamental rights is included in Member States' new innovation policies, as the topic is already enshrined in overarching national official texts (e.g., Constitution) • Policy Action 1.2: The progress can be explained by the change in KPIs compared to 2021, leading to a change in the answers provided by NCPs and a computation change • Policy Action 1.3: The significant progress is due to a growing establishment of ethical and technological expert councils by the Member States.

2022 results, at EU Average, for Policy Area 1 and related Policy Actions

Key trends for Policy Area 3 - Fostering digital empowerment and digital literacy

	Progress compared to 2021	Explanatory factors
Policy Area level	• 24 Member States increased their overall score • Increase of 5 percentage points, at EU average	• Launch, in April 2022, of a Skills and Talent Package by the European Commission • Member States have introduced new strategies and initiatives (incl. training) to increase their citizens' and businesses' digital skills and competencies.
Policy Action level	• Policy Action 3.1, relating to the promotion of initiatives to ensure that the general public is equipped with access and minimum understanding of digital skills and technologies, showcased a progress of 5 percentage points, compared to 2021 • Policy Action 3.2, relating to the accessibility and user-friendliness of digital services, showcased an increase of 3 percentage points, compared to 2021 • Policy Action 3.3, relating to the organisation by Member States of workshops and training to promote digital skills and awareness reached 100% of implementation in 2022	Overall, the increased scores on all Policy Actions of Policy Area 3 entail that the majority of Member States have improved their implementation status on said Policy Area and considered the topic of empowerment and digital literacy as a top priority for the year 2022-2023. • Policy Action 3.1: Further progress is foreseen in this area with the adoption of 2 proposals for a Council Recommendation on digital education • Policy Action 3.2: This slight change can be explained by the fact that the KPI (stemming from the secondary data source Eurostat) was replaced by a proxy indicator • Policy Action 3.3: It appears that Member States have focused on organising various workshops, trainings, to promote digital skills and awareness in the public sector

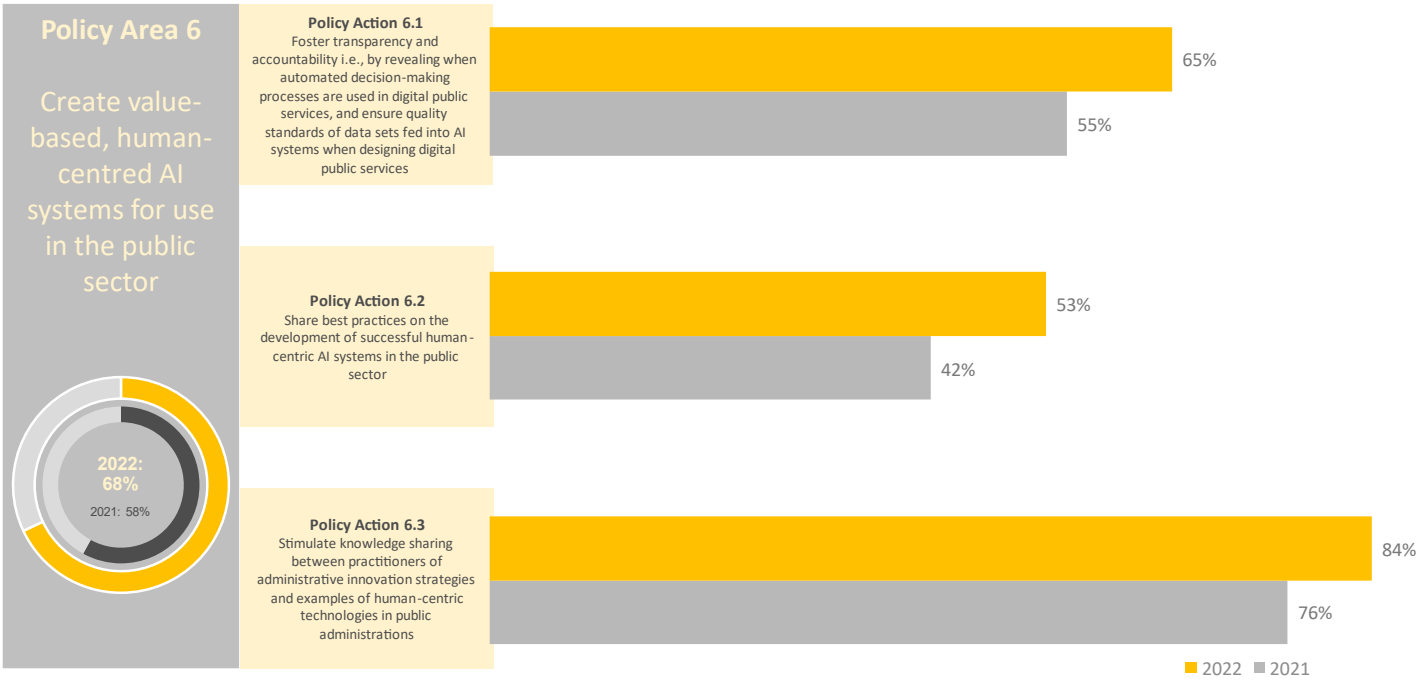
2022 results, at EU Average, for Policy Area 3 and related Policy Actions



Key trends for Policy Area 6 - Create value-based, human-centred AI systems for use in the public sector

	Progress compared to 2021	Explanatory factors
Policy Area level	• 18 Member States increased their overall score • Increase of 10 percentage points, at EU average	• Key pillar in the proposed Interoperable Europe Act to develop new skills and scaling up interoperability solutions for reuse • Member States introduced regulatory measures for the uptake of emerging technologies and human-centred digital solutions in their countries
Policy Action level	• Policy Action 6.1, relating to the fostering of transparency and accountability when designing digital public services, showcased an increase of 10 percentage points, compared to 2021 • Policy Action 6.2, relating to the sharing of best practices on the development of successful human-centric AI systems, showcased a progress of 11 percentage points compared to 2021 and passed the 50% threshold of implementation in all EU Member States • Policy Action 6.3, relating to the knowledge-sharing of administrative innovation strategies and human-centric technologies, showcased an increase of 8 percentage points compared to 2021	Overall, the increased scores on all Policy Actions of Policy Area 6 entail that the majority of Member States have improved their implementation status on said Policy Area and considered the topic of human-centered systems and innovative technologies as a top priority for the year 2022-2023. • Policy Action 6.1: The implementation of automated decision-making processes is still in its preliminary phase or limited to specific cases; but with the adoption of new EU regulation (DSA, AI Act), the implementation level of this Policy Action will certainly further increase • Policy Action 6.2: The increase in the level of implementation of this Policy Action could be explained by the adoption of various initiatives on this topic at EU level (e.g., AI Watch) • Policy Action 6.3: The results show that there is an increasing support for knowledge sharing by the Member States

2022 results, at EU Average, for Policy Area 6 and related Policy Actions



Introduction

The Berlin Declaration and its monitoring - Policy context

By adopting the Berlin Declaration on Digital Society and Value-based Digital Government (hereafter, 'the Declaration') in December 2020 under the German Presidency of the Council, European leaders have reaffirmed their commitment and dedication to assert the role of public administrations in driving a user-centric and value-based digital transformation of European societies. Building on commitments made in the Tallinn eGovernment Declaration, this Declaration reinforces, through 7 key principles, that digital transformation in Europe should be based on democratic values and ethical principles. Thus, the Berlin Declaration recognises the public sector as an essential element of the European Single Market and a driver for new and innovative technological solutions for public services and societal challenges.

This work is in line with actions launched by the European Commission, in particular with the Digital Decade presented by the European Commission President Ursula von der Leyen in 2020 to ensure that the EU shapes its digital transformation according to its values and strategic interests. This initiative includes the 2022 Digital Decade Policy Programme, which sets out ambitious targets to be reached by the EU and Member States by 2030 and that is monitored on a yearly basis, starting in 2022-2023 with the publication of the first edition of the State of the Digital Decade Report. Among other key progress indicators, the above-mentioned Report aims to assess the presence of online and citizen-centred key public services by 2030. Still, in line with the objectives of the Digital Decade framework, the European Commission, the Council and the European Parliament adopted, in January 2022, a Declaration on Digital Rights and Principles aiming to continue the EU efforts to promote value-based digital transformation. Before this, in March 2021, the European Commission issued a Digital Decade Communication, making the digitalisation of public services one of the four cardinal points of the Digital Compass.

In order to monitor the implementation of this Declaration by Member States, the European Commission created the Berlin Declaration monitoring mechanism (BDM). Its primary advantages include showcasing the progress and efforts made by Member States towards achieving the Policy Actions outlined in the Declaration, as well as shedding light to good practices and lessons learnt along the way. In addition, this work is meant to support decision-makers at both EU and national levels in implementing their digital priorities and policies, identify any gaps or areas of improvement where the Member States and the Commission could intervene and provide support.

The results of the first data collection were summarised in a progress report, published in 2021 under the French EU Council Presidency. Before the second data collection exercise, some improvements were made to the BDM framework, in particular its KPIs, as well as the online survey, to facilitate the exercise for the Member States, based on their feedback. More information on these changes and their

[1] The first edition of the State of the Digital Decade Report will be shortly published.

implications regarding the comparability of results throughout time is available in Chapter 2 'BDM progress at country level' and Appendix 1.5 'Revision'.

Specificities of this year's Report

This second report, published under the Swedish EU Council Presidency, aims to provide an overview of the progress made by the Member States in implementing the Policy Actions of the Declaration compared to last year, as well as to bring together a set of good practices to inspire Member States and to present a state-of-play of the road toward a value-based digital society.

The report analyses data stemming from the data collection of the Berlin Declaration monitoring (BDM) exercise, which reports and highlights, on a yearly basis, the measures taken by each Member State to reach the above-mentioned Policy Actions, and identifies good practices and lessons learnt from each of them.

A novelty of this report compared to last year's is that it intends to highlight more qualitative evidence, in particular on three topics jointly selected by the European Commission and the Swedish Presidency of the Council. The focus on these three topics also stems from the desire to place this report into the current broader political context. These topics are the following:

- **Respect for fundamental rights and democratic values**: On 15 December 2022, the European **Declaration on Digital Rights and Principles** was signed by the Presidents of the European Commission, the European Parliament and the Council, reflecting the shared political commitment of the EU and its Member States towards the implementation of more rights and principles linked to the digital sphere. This Declaration contains a set of European digital rights and principles that reflect EU values and promote a sustainable, human-centric vision for digital transformation.
- **Empowerment and digital literacy**: The European Commission declared 2023 as the European Year of Skills following the adoption of a new Skills and Talent Package in April 2022. The implementation of the initiatives set out in this package will be a key priority in the **2023 Commission work programme**, including a Cybersecurity Skills Academy.
- **Human-centred systems and innovative technologies in the public sector**: On 30 November 2022, the European Commission published its proposal for an **Interoperable Europe Act**, which aims to strengthen cross-border interoperability and cooperation in the public sector across the EU. One of the objectives of the cooperation framework introduced by this Act is to stimulate public innovation, including regulatory sandboxes and and public-private "GovTech" cooperation.

More information about these selected topics is provided at the core of this report.

As this year's data collection exercise is only the second one, it is important to note that little progress is visible compared to last year. Nonetheless, the report provides interesting insights on what has been happening in the 26 EU Member States that took part in the 2022 edition of the Berlin Declaration monitoring mechanism, and their positioning vis-à-vis the implementation of the recommendations compared to the **previous report**. A deeper analysis will be possible in the future edition of the report, in 2024, which will also be the last progress report of the Berlin Declaration given that the Member States agreed to implement the 22 Policy Actions in their national frameworks by this date.

Structure of the Report

This year's report is structured as follow:

- The present **Introduction** gives an overview of the current EU policy context and its link with the rationale behind the Berlin Declaration, its monitoring mechanism, and this year's report. It also presents the selected topics on which this report will focus as well as its objectives.
- **Chapter 1** provides a state of play at the EU level regarding the implementation of the Berlin Declaration by looking at the evolution of the EU average compared to last year. It also gives a more in-depth aggregated analysis of the Member States' evolution in the above-mentioned topics over one year. Finally, this chapter presents the main conclusions and EU trends that can be drawn from the previous findings, as well as considerations for the future.
- **Chapter 2** presents a more detailed view of each of the 27 EU Member States' performance in implementing the commitments set out in the Berlin Declaration. Hence, it provides, for each country, its results at Policy Area, Policy Action, and KPI levels, in comparison to their 2021 performance and to the EU average. It also gathers a set of good practices for each country.
- **The appendices** provide more detail on the objectives and methodology adopted in the frame of the BDM, as well as the database displaying the Member States' results, and an overview of the Policy Areas and Policy Actions model that is directly inspired by the text of the Berlin Declaration.

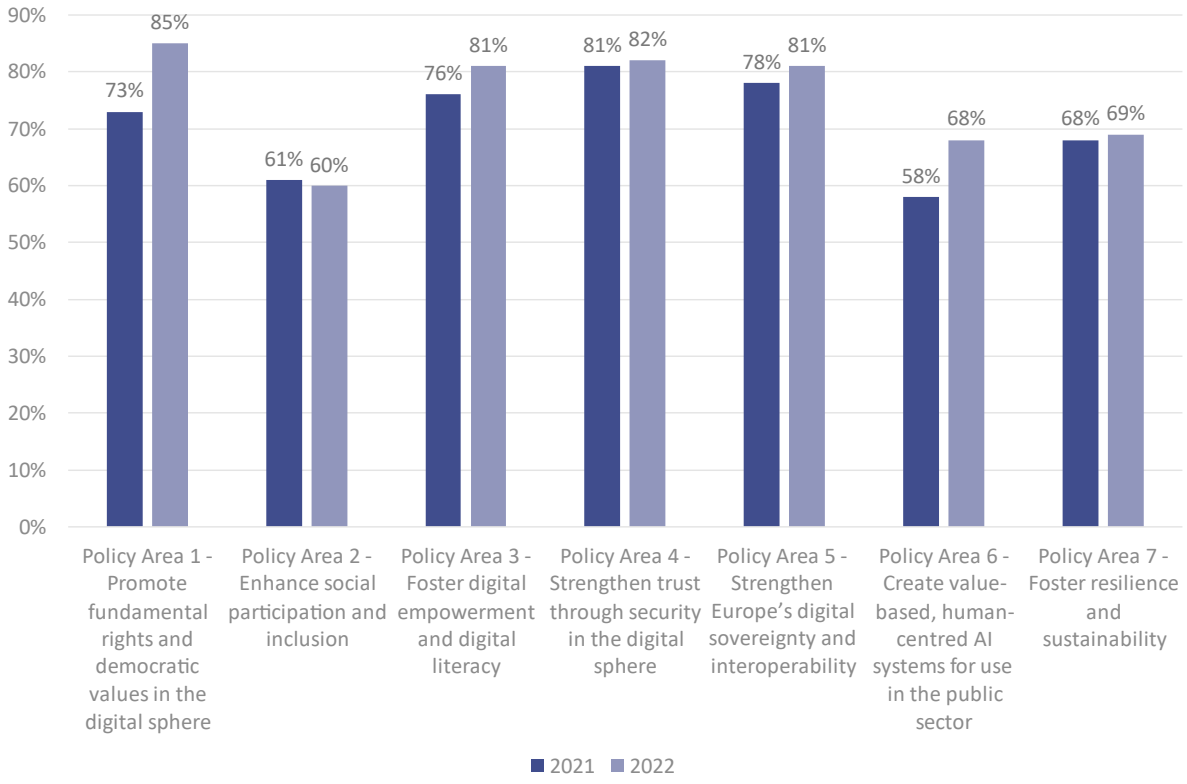
1. 2022 BDM results at EU level and deep dive into three key topics

This Chapter provides a high-level overview of the 2022 results of the BDM at the EU level for all Policy Areas and their related Policy Actions[2]. It also aims to present the main findings that can be drawn when comparing the results of this year's data collection with those of the previous one (Section 1.1). Additionally, it provides an in-depth analysis of the Member States' scores in the three selected topics, i.e., 'Respect of fundamental rights and democratic values', 'Empowerment and digital literacy', and 'Human-centred systems and innovative technologies in the public sector', over a period of one year (Section 1.2). Finally, it presents a summary of the main findings and trends that can be drawn at the EU level, as well as considerations for the future (Section 1.3).

1.1. Overview of the progress and challenges encountered at the EU level when implementing the Berlin Declaration

As shown by below Figure 1, there has been a positive evolution for all Policy Areas over the year, except Policy Area 2 which experienced a slight decrease by 1 percentage point. However, while most of the Policy Areas in which Member States have improved the most over the year in addressing the commitments of the Berlin Declaration, there are others for which they are still encountering challenges.

Figure 1 - Policy Areas' results over time at the EU level

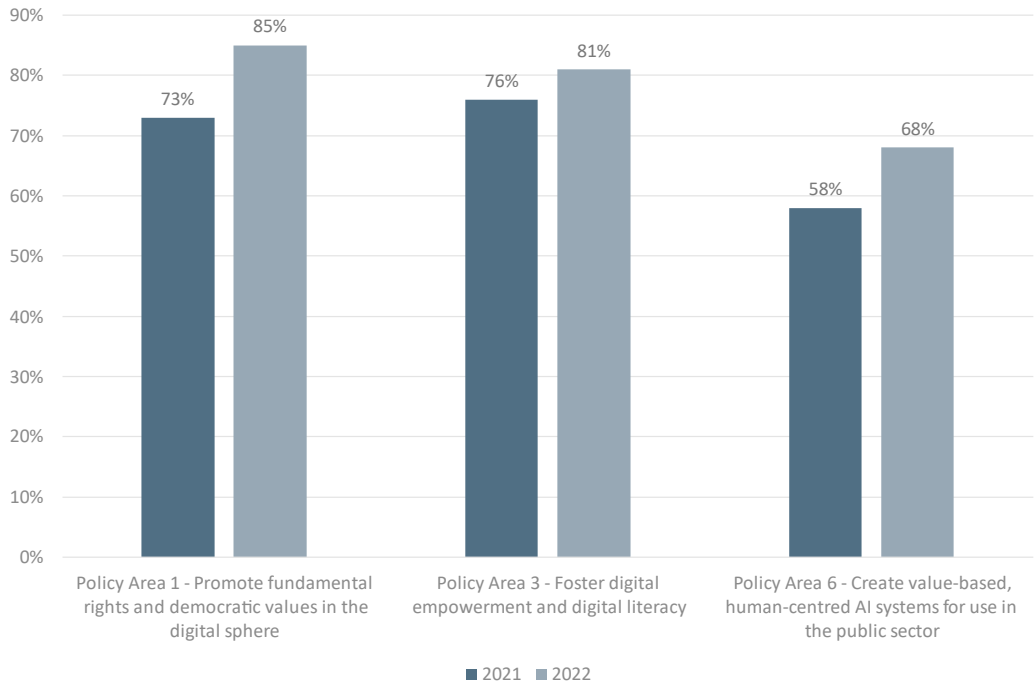


[2] An overview of the architecture of the BDM, hence the relation between its Policy Areas and related Policy Actions, is available in Appendix III – Policy Areas and Policy Actions of the Berlin Declaration.

a. Progressing Policy Areas

As seen in Figure 1 above, for all seven Policy Areas of the BDM Member States have reported higher scores compared to last year's results, however, some progressed at a slower pace than others. It can also be discerned from Figure 2 below that the three Policy Areas having progressed the most are **Policy Area 1** - 'Promote fundamental rights and democratic values in the digital sphere', **Policy Area 3** - 'Foster digital empowerment and digital literacy', and **Policy Area 6** - 'Create value-based, human-centred AI systems for use in the public sector'.

Figure 2 - Most progressing Policy Areas' results over time at the EU level



According to the Berlin Declaration, Policy Area 1, 'Promote fundamental rights and democratic values in the digital sphere', can be defined as a world where all human beings are equally entitled to be treated with respect and fairness, both in the analogue and in the digital sphere[3]. Digital transformation should always be conducted with total respect for every person's fundamental rights, as laid out in the Charter of Fundamental Rights of the European Union, as well as shared fundamental and democratic values like respect for others, transparency, and privacy, among others. In light of the European Declaration on Digital Rights and Principles adopted in February 2023, this topic is of primal importance for all public administrations in the EU. In fact, 24 Member States have increased their overall scores in this Policy Area, raising the EU average from 73% to 85%, equivalent to an increase of 12 percentage points for Policy Area 1. Such a score makes it the highest-scoring Policy Area for the year 2022, as well as the biggest increase compared to the year 2021. Indeed, Member States have created platforms, portals, and put in place strategies, projects and even councils aimed at promoting fundamental rights and democratic values in the digital sphere.

[3] Source: European Commission (2020) *Berlin Declaration on Digital Society and Value-based Digital Government*, News Article. Retrieved from: https://digital-strategy.ec.europa.eu/en/news/berlin-declaration-digital-society-and-value-based-digital-government

Box 1 – Success stories (Policy Area 1 – 'Promote fundamental rights and democratic values in the digital sphere')

Poland's promotion of a safer use of the internet by children

The Polish National Research Institute, NASK, has been continuing the coordination of the Polish Safer Internet Centre (PSIC) activities. As part of the PSIC three projects are being implemented: Saferinternet.pl – whose aim is to increase public awareness of the threats posed by new technologies and promote safer use of the internet by children and young people; a helpline for children and youth and a helpline for parents and teachers in matters of children's safety. Help is provided to young Internet users, parents, and professionals in cases of risks related to the use of the Internet; and Dyżurnet.pl – a hotline where anyone can anonymously report cases of content prohibited by law on the Internet, such as material depicting the sexual abuse of children, paedophilia, and racist and xenophobic content. In addition, since October 2022, NASK has also been coordinating a new project '*Make it clear - educating young people against disinformation online*', which is addressed primarily to young people aged 11-17 parents, teachers, and specialists working with children. The project aims to develop information competencies in youth, a conscious and critical approach to the content available in the media, particularly in social media.

Germany's portal to help Ukrainian refugees

Another example of an initiative put in place to foster fundamental rights and democratic values, is the creation, in Germany, of the portal Germany4Ukraine in response to the increased arrival of Ukrainians in Germany, due to the Russian invasion. As a reaction to this situation, the Federal Ministry of the Interior and Community quickly set up the help portal as a central and secure digital point of contact for Ukrainian refugees. The online portal was published in a basic version on 16 March 2022, and shortly thereafter an associated mobile application was made available in all common app stores. Since then, the portal's offerings have been extensively expanded. It currently contains information on eleven key topics[4] in Ukrainian, Russian, English, and German. It currently records over 1 040 000 website visits and 64 000 app downloads.

Policy Area 3, 'Foster digital empowerment and digital literacy', can be defined, as per the Berlin Declaration, as the ability for every citizen and business in Europe to be able to understand the risks and benefits of the digital world to allow them to navigate through it more easily and make reasoned decisions regarding their digital footprint. In this regard, European citizens should be encouraged to develop their digital skills, which should also include ethical, technical, legal, ecological and social aspects. Thus, in April 2022, the European Commission launched a Skills and Talent package, meant to attract the right talents in the EU, and simplify procedures for foreigners, among others. The Skills and Talent package was also pointed out as a key priority in the 2023 Commission Work Programme.

[4] These topics include including Entry, Residence and Return, Accommodation, Rapid assistance in case of emergency, Healthcare, Labour and social Affairs, Arrival, Integration Courses and Language Support, Mobility, Education and Research, Family and Child", Networks and leisure activities and News. Additionally, access to four administrative services that are particularly relevant for the target group is offered via the portal: the online service "Electronic Residence Permit", the online application for integration courses, the online ID card procedure "AusweisApp2" and the digital application line for applying for unemployment benefit (ALG II).

In addition, 2023 is the European year of Skills, so Member States are paying particular attention to improving their progress in terms of digital skills, including digital literacy of public servants, as well as reskilling and upskilling of their workforce[5]. Indeed, 24 Member States have increased their overall scores in this Policy Area, raising the EU average from 76% to 81%, equivalent to an increase of 5 percentage points for Policy Area 3. To do so, Member States have introduced new strategies and initiatives (including training) aimed at increasing their citizens' and businesses' digital skills and competencies.

Box 2 – Success stories (Policy Area 3 – 'Foster digital empowerment and digital literacy')

Spain's digital skills initiative

Spain has put in place the 'Generation D Pact', which is a digital skills initiative launched in 2022 by the Spanish government, as part of the National Digital Skills Plan of the Digital Spain 2026 Agenda. The 'Generation D Pact' partners have committed to identify, create, promote or disseminate employment and learning initiatives aimed at the acquisition and improvement of digital skills by signing a Manifesto. The aim is to create a cohesive, coordinated and complete ecosystem to make visible and involve Spanish society in the digital transformation process, to close the digital skills gap, raising the percentage of the Spanish population with these skills from the current 70% to 100%.

Germany's platform on digital skills

Germany, on the other hand, launched its new Digital Academy, a free platform offering online and offline courses for German federal employees to promote their digital skills, support cultural change, and create networking. The Academy aims at preparing federal employees to adapt to an increasingly digital environment. Learning offerings are designed to upskill the public sector for future challenges by teaching both technical competencies and new ways of working enabled by new technology, such as agile project management, digital leadership, remote collaboration and teamwork and tech-enabled service delivery and policymaking.

Lastly, Policy Area 6, 'Create value-based, human-centred AI systems for use in the public sector', can be defined, as per the Berlin Declaration, as the need for the EU to strengthen its role in the research on secure and trustworthy technology design and that the opportunities of Emerging Disruptive Technologies (EDT) are put at the service of all European Member States' citizens and businesses. In fact, innovation in the public sector appears as one of the key pillars in the proposed Interoperable Europe Act, including regulatory sandboxes and GovTech cooperation, to develop new skills and scaling up interoperability solutions for reuse[6]. It appears, from the 2022 results of the BDM monitoring mechanism, that 18 Member States improved their scores for this Policy Area, raising the EU average from 58% to 68%, equivalent to an increase of 10 percentage points for Policy Area 6. Many countries have started introducing regulatory measures for the uptake of EDTs and human-centred digital solutions in their countries, most particularly AI-based solutions.

[6] Source: European Commission (2022) *Interoperable Europe Act Proposal*. Retrieved from: https://commission.europa.eu/publications/interoperable-europe-act-proposal_en

Box 3 - Success stories (Policy Area 6 – 'Create value-based, human-centred AI systems for use in the public sector')

Sweden's human-centred digital solution

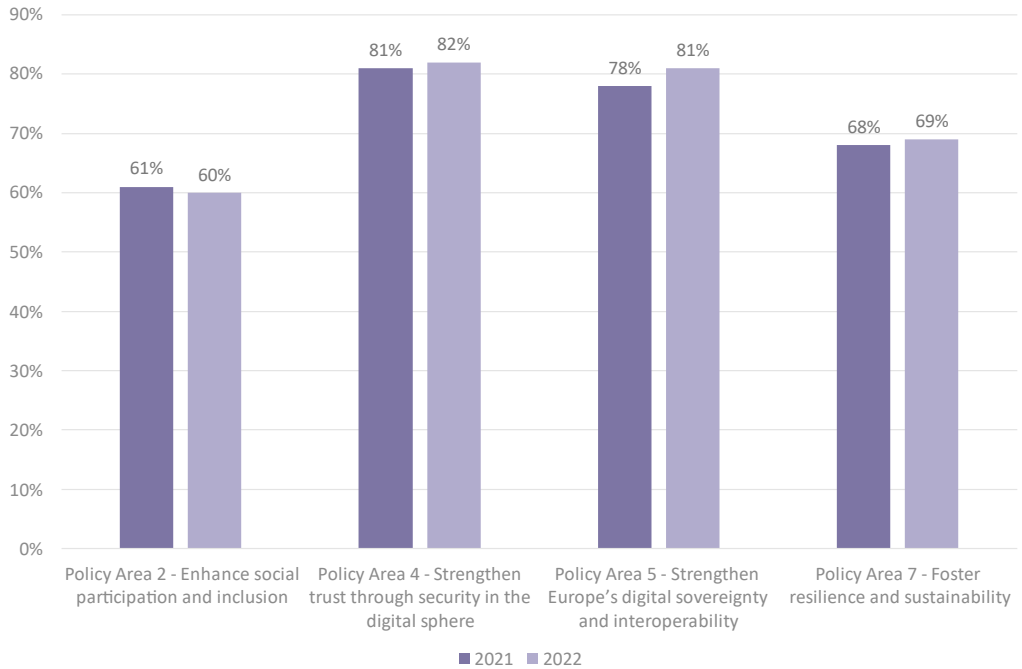
In northern Sweden, the municipality of Skellefteå has developed a human-centred digital solution to support and enable people to participate in the city's cultural centre '*Sara kulturhus*'. The digital solution combines technologies from artificial intelligence (AI) and augmented reality (AR) to help in both the presentation of information, and the physical navigation within the cultural centre for people with for example visual impairments, and/or cognitive and mental disabilities. The CIO of Skellefteå municipality Michael Carlberg Lax deems it imperative to use the potential of AR and AI to solve challenges about navigation, visualisation and accessibility.

Ireland's certificate in Artificial Intelligence

In Ireland, on the other hand, the Department of Public Expenditure & Reform (DPER) partnered with TU-Dublin University and a private course provider In July 2021 to design and implement a Foundation Certificate in Artificial Intelligence for public servants. The course helps satisfy commitments arising from the 'Digital First and Embedding Innovation' commitments outlined in Ireland's Civil Service Renewal 2030 Strategy and recognises the need for a strong ethical focus on the application of AI in the delivery of public services. Given the efficiencies that AI empowered solutions can bring to the delivery of public services, public servants must be knowledgeable about the potential of AI and our operational responsibilities regarding its deployment. The course is 60 hours long (split over 12 weeks) and is provided free of charge for public servants whose application passes an assessment test. The assessment test ensures that the person is working for an organisation planning for AI in the delivery of their services.

b. Challenging Policy Areas

Figure 3 - Least progressing Policy Areas' results over time at the EU level



It appears from Figure 1 and Figure 3 above that for the remaining Policy Areas (2, 4, 5 and 7) Member States have reported little progress over the course of the year, and even a slight decrease for Policy Area 2, 'Enhance social participation and inclusion', by 1 percentage point. For this Policy Area, Member States have implemented few new initiatives, compared to last year. Among others, Member States should work towards further enhancing social participation and inclusion in their countries by putting co-creation and collaboration with citizens into practice and further encouraging the use of digital tools to foster the participation of citizens in political decision-making, which is the Policy Action (2.1) where they have reported the lowest scores. In addition, Member States should continue working on inclusivity and accessibility (Policy Action 2.2), to ensure that the digital transformation is accessible for all.

Box 4 – Challenges encountered by Member States (Policy Area 2 – 'Enhance social participation and inclusion')

From the information obtained through the BDM data collection, there are different explanatory factors to this slow progression within Member States in implementing this Policy Area, and in particular Policy Action 2.2 which relates to inclusivity and accessibility. For instance, in **Sweden**, a lack of resources hampers the assessment of their review cases (i.e., public sector websites and applications) with regard to their compliance with the European accessibility standards of the Directive (EU) 2016/2102 on the accessibility of the websites and mobile applications of public -sector bodies.

In other countries, such as **France**, improvements are foreseen in the coming months/years as many actions are being put in place to improve the accessibility of services such as the training of developers and teams across the administration, the implementation of requirements for contractors, and the creation of monitoring tools.

A similar scenario can be observed for Policy Area 4, 'Strengthen trust through security in the digital sphere', for which the EU average was already high last year and therefore only recorded a few increases in 2022. In fact, with a score of 81%, Policy Area 4 had received the highest score in 2021, which may explain why the increase has not been significant in 2022. Member States should work towards further strengthening trust in their countries through security, by, among others, promoting the rollout and use of notified eID means and introducing incentives for the private sector to use European trustworthy and notified eID.

Box 5 – Challenges encountered by Member States (Policy Area 4 – 'Strengthen trust through security in the digital sphere')

Some Member States are still at an early stage with regard to the implementation if incentives to promote the rollout of eIDs for the private sector (Policy Action 4.1). For instance, in **Hungary**, one of the objectives of the National Digital Citizenship Programme 2022-2026 is to introduce a digital identification solution based on and compliant with the revised eIDAS Regulation and to enable the private sector to use the future Hungarian eID solution for their own services as well.

Similarly, in other countries such as **Ireland**, discussions are ongoing regarding potential public/private collaboration on the creation of an eID solution, and they are taking into account the current debate around the revision of the eIDAS Regulation.

For others, like **Malta**, no private entity is yet involved in the eIDAS framework. In line with the proposed revision of the eIDAS Regulation, Identity Malta Agency, Malta's identity management solution, will contribute to the onboarding of the private sector at a later stage.

Regarding Policy Area 5, **'**Strengthen Europe's digital sovereignty and interoperability**'**, eight Member States improved their scores in this Policy Area in 2022, entailing an increase of 3 percentage points for the European average compared to 2021. Nonetheless, it is worth pointing out that with a European average of 81%, Policy Area 5 is one of the areas where Member States are the most advanced. Nonetheless, potential areas of improvement for Member States exist, notably when it comes to establishing common standards and modular architectures, which is the Policy Action (5.2) where Member States progressed the least.

Box 6 – Challenges encountered by Member States (Policy Area 5 – 'Strengthen Europe's digital sovereignty and interoperability')

With regard to the aforementioned Policy Action 5.2, it appears that, for some Member States such as **Denmark**, the Single Digital Gateway Regulation had major consequences for the country, since a large amount of digital services need to be converted and adapted so that foreign users can gain access to them. Additionally, a wide array of technical prerequisites either carry some limitations or are not yet in place.

Lastly, Policy Area 7, 'Foster resilience and sustainability', is also one of the areas where Member States have been slower in implementing changes and new measures. In fact, the European average for this Policy Area showcases an increase of 1 percentage point in 2022 compared to the European average of 2021. Although the reported European average of this Policy Area is high (69%), potential areas for improvement could be to work more on evaluating the environmental impacts of ICT in their countries, using a multi-criteria lifecycle analysis and also to establish a strategy aimed at expanding the lifespan of digital equipment in the country.

Box 7 – Challenges encountered by Member States (Policy Area 7 – 'Foster resilience and sustainability')

Such trend could be explained by the fact that, in some countries, like **Finland**, there is no formal policy encouraging national agencies to use devices throughout their entire lifespan (Policy Action 7.2). Rather, a national centralised ICT service provider, Valtori, ensures such management of the agencies ICT equipment, mainly for cost and sustainable reasons. For example, ICT equipment is recycled from one employee to another, and their lifespan is secured by regular software and information security updates. Finland also had a national survey to identify the carbon footprint of state ICT services and acts to reduce it.

c. European Commission's policies and initiatives

In what concerns the commitments stipulated in the Berlin Declaration and addressed to the European Commission, the Box 8 below focuses on the selected initiatives of the Commission over the past year in tackling these commitments, as they differ from the ones set out for the Member States. It provides a high-level overview of the main initiatives and projects that have been implemented by the Commission over the past year or that are still ongoing, bearing in mind the three selected topics.

Box 8 – Selected EC initiatives in 2022 relevant to the Berlin Declaration

Digital Decade Policy Programme

On 14 July 2022, the European Parliament and the Council reached a political agreement on the 2030 Policy Programme 'Path to the Digital Decade', whose aim is to set up a monitoring and cooperation mechanism to achieve the objectives and targets related to digital transformation set out by the 2030 Digital Compass. The programme lays out digital ambitions for the next decade in the form of clear and concrete targets. Its main goals can be summarised as follows:

- A digitally skilled population and highly skilled digital professionals, with the goal of reaching 20 million employed ICT specialists;
- Secure and sustainable digital infrastructures, with Gigabit connectivity for all, high-speed mobile coverage (at least 5G) everywhere;
- Digital transformation of businesses, with a target of 75% of companies using Cloud, AI or Big data and to double the number of unicorn startups;
- Digitalisation of public services, by reaching 100% of key public services online and the use of eID by everyone.

Declaration on Digital Rights and Principles

In December 2022 was signed the European Declaration on Digital Rights and Principles for the Digital Decade, whose goal is to ensure that the EU achieves its objectives for a digital transformation in line with its values and with the 2030 Digital Compass. The Declaration contains key rights and principles for the digital transformation of the EU, such as placing people and their rights at the centre, fostering solidarity and inclusion, ensuring the freedom of choice online, encouraging participation in the digital public space, increasing safety, security and empowerment of individuals, and improving the sustainability of the digital future.

Interoperable Europe Act proposal

In November 2022, the European Commission adopted the Interoperable Europe Act proposal, in order to strengthen cross-border interoperability and cooperation in the public sector across the EU. Through the proposal, the European Commission strives for a reinforced interoperability strategy that will ensure coordination and common standards for secure and borderless public sector data flows and services between EU countries. More specifically, the proposal lays down the following three specific objectives:

- Ensuring a consistent, human-centric EU approach to interoperability from policymaking to policy implementation;
- Establishing an interoperability governance structure designed to enable public administrations from all levels and sectors, as well as private stakeholders, to work together;
- Co-creating an ecosystem of interoperability solutions for the EU's public sector, so that public administrations at all levels in the EU and other stakeholders can contribute to and re-use such solutions, innovate together and create public value.

1.2. A closer look at the progress made in three key topics of the 2022 edition

This section of the Report provides an in-depth and aggregated (i.e., at the EU level) analysis of the Member States' evolution over one year in the three selected topics. This analysis is based on the 2022 BDM results for the related Policy Areas as well as a thorough review of the literature. Examples of good practices collected from the Member States through the annual BDM survey supplement these findings . More of these anecdotal examples are available, for each Member State, in Chapter 2.

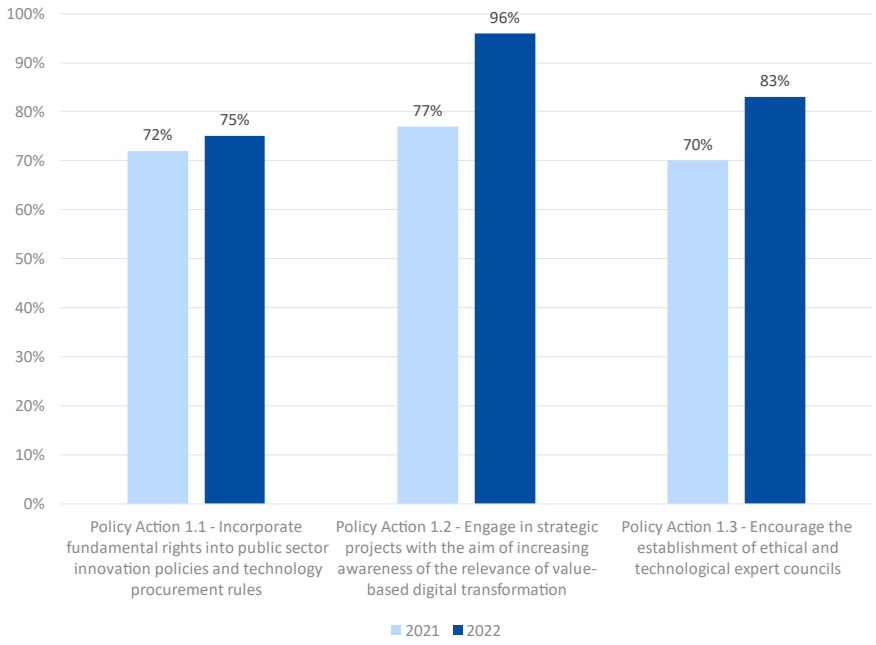
a. Respect for fundamental rights and democratic values

The promotion of fundamental rights and democratic values in the digital sphere in Europe corresponds to the first Principle and corresponding Policy Area 1 of the Berlin Declaration. It encompasses three Policy Actions:

- Translate abstract fundamental rights regulations into tangible policies and strive to set an example by incorporating fundamental rights into public sector innovation policies and technology procurement rules (1.1)
- Engage in strategic projects to increase awareness of the relevance of a value-based digital transformation, i.e., by building platforms to exchange and further develop national and European strategies about digital transformation ('digital round tables') and by organising cross-border and international exchange (i.e., workshops) (1.2)
- Encourage the establishment of ethical and technological expert councils to provide advice to and foster debate among citizens (1.3)

As demonstrated by Figure 4 below, the results for these three Policy Actions, at the EU level, are positively evolving.

Figure 4 - Policy Actions corresponding to Policy Area 1 - EU results



[7] Additional questions, specific to the selected topics, have been added to the BDM survey in order to collect more qualitative insights and stories from the Member States.

In particular, Policy Action 1.2 is the one where Member States have progressed the most compared to last year with a significant increase of 19 percentage points, reaching 96% of implementation. Only a few countries (four in total) have not yet obtained a score of 100% as they are still in the process of either creating platforms to foster knowledge sharing on the development of national strategies on digital transformation or of organising workshops or events at the national level to raise awareness on value-based digital transformation. Such evolution can be partially explained by a change in the related KPIs compared to last year. As detailed in Appendix 1.5, Policy Action 1.2 was previously measured using KPIs 3, 4 and 5. However, KPI 3 has been deleted from the framework (to avoid duplication) and the questions linked to KPIs 4 & 5 have been redrafted to increase their clarity. Hence, the responses provided by National Contact Points have probably differed compared to last year, and the computation of the results has changed due to the removal of KPI 3. Consequently, the comparability of results between 2021 and 2022 is limited. However, another explanatory factor might be the involvement of Member States in the development of the European Declaration on Digital Rights and Principles, placing the topic higher in their national agendas, as shown by the following Irish example. As discussed earlier, Russia's invasion of Ukraine also further emphasised the need to defend democratic values from violent attacks.

Box 9 – Ireland's role in developing the EU Declaration on Digital Rights and Principles

This past year, the country has pursued an ethical and right-based approach to digitalisation, ensuring that no part of society or the economy is left behind. This includes playing an active role in the development of the European Declaration on Digital Rights and Principles and strongly advocating for the enshrinement of inclusive principles such as access to reliable and affordable connectivity; an open, fair, secure and trusted online environment; the protection and empowerment of children and young people in the online space; accessible and human-centric digital public services and administration; and access to digital health services. These principles are part of Ireland's supporting National Digital Strategy for the Public service, published in March 2022 and fully aligned with the EU's Digital Compass.

Member States also positively progressed in terms of establishing ethical and technological expert councils (Policy Action 1.3) with an increase of 13 percentage points compared to 2021. One example of recently created technological council can be found in Slovenia, as illustrated in the below Box 10.

Box 10 – Slovenia's technological council

The Slovenian Council of Informatics Development has been established in February 2022 and is responsible for directing the activities related to developing the management of information and communication systems of the state administration.

Finally, regarding Policy Action 1.1, EU Member States have reported very little progress, with an increase of only 2 percentage points compared to 2021. This slow evolution can be explained by the fact that fundamental rights are not necessarily explicitly part of new national public sector innovation policies. Member States rather take them into account as key principles that should be respected as they are enshrined into their Constitution or other existing legal texts. However, some initiatives are taken with regard to more specific topics, such as the protection of children's rights online, as demonstrated by the below example from Croatia.

Box 11 – Croatia's National Plan for Children's Rights

The National Plan for Children's Rights in the Republic of Croatia for the period from 2022 to 2026 contributed to the creation of a policy dedicated to the protection of children's rights, aiming to ensure that their best interest is prioritised. In addition, the measures set out by this National Plan provide systematic support to children in the digital environment and help develop their media literacy, since the use of digital technology can have positive effects on their development.

Concerning the inclusion of fundamental rights into technology procurement rules, Member States are increasingly setting the respect for these rights as part of their national procurement strategies. Some countries, such as the Finnish example below, even create dedicated guidelines or codes of conduct to promote human rights in public procurement processes.

Box 12 – Inclusion of human rights into Finnish procurement rules

One of the objectives of the Finnish National Public Procurement Strategy is to promote respect for human rights and fundamental labour rights in procurement. To support the achievement of this objective, a Code of Conduct specifying the minimum requirements regarding responsibility was published by the Ministry of Finance's Procurement Finland in December 2021. It is intended for all public procurement institutions, including the central government and municipalities. These requirements are meant to be included in any procurement contract, hence of binding nature. They include, for example, compliance with international conventions, such as the United Nations Universal Declaration of Human Rights as well as with the local legislation that is in force in the country of production of the goods and services. Other obligations relate to employment terms and working conditions, environmental protection and corruption prevention.

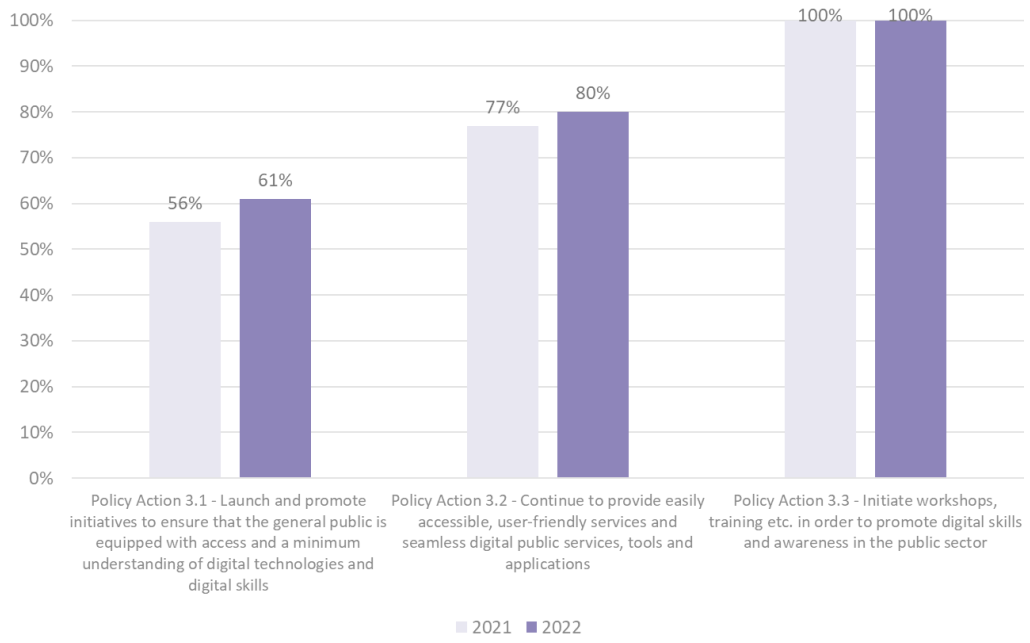
b. Empowerment and digital literacy

The third Principle of the Berlin Declaration stands for the promotion of empowerment and digital literacy in Europe. The corresponding Policy Area 3 comprises three Policy Actions:

- Launch and promote initiatives to ensure that the general public is equipped with access and a minimum understanding of digital technologies and digital skills (i.e., online service of "digital ambassadors") (3.1)
- Continue to provide easily accessible, user-friendly services and seamless digital public services, tools and applications (3.2)
- Initiate workshops, training etc. to promote digital skills and awareness in the public sector (3.3)

The below Figure 5 demonstrates that Policy Area 3 is still the one where Member States are performing the best, mainly due to the score of 100% obtained at EU average for Policy Action 3.3. However, compared to last year, the comparability of results regarding Policy Actions 3.1 and 3.2 is limited.

Figure 5 - Policy Actions corresponding to Policy Area 3 - EU results



Policy Action 3.1 is measured using a secondary indicator collected through DESI, in particular 'Dimension 2 – 'Digital Infrastructures' which was previously called 'Dimension 1 – Connectivity'. This Dimension, and the KPIs under it have been updated in 2022, in a such a way that two of the previously collected indicators are not included anymore. Hence, while there is an increase of 5 percentage points compared to last year, the comparability with last year's result is limited. Additionally, it is unfortunately not possible to illustrate good practices stemming from Member States for this Policy Action, as it relies on two KPIs measured using secondary data from DESI. Therefore, qualitative information is not collected through the BDM survey. However, progress in this area could be foreseen in the coming year(s), following the adoption by the European Commission, in April 2023, of two proposals for a Council Recommendation aiming to 'support Member States and the education and training sector in

providing high-quality, inclusive and accessible digital education and training to develop the digital skills of European citizens'[8].

Regarding the provision of easily accessible, user-friendly services and seamless digital public services, tools and applications (Policy Action 3.2), an increase of 3 percentage points is noticeable compared to 2021. However, it is also important to note that one of the indicators used, which measures the internet use to access public authorities' information and services, KPI 17, has not been collected in 2022. Indeed, the corresponding Eurostat indicator has and will not be collected anymore from 2022. However, it has been replaced by a proxy indicator. Hence, 2022 results for this Policy Action cannot be fully compared to those of last year. The only (out of four) KPI for which qualitative information can be advanced to illustrate this Policy Action is KPI 16, which measures the extent to which strategies or frameworks take into account the EIF. This KPI is collected through the EIF survey and can be illustrated by the below example stemming from the Czech Republic.

Box 13 – Consideration of the EIF within the ICT Strategy of the Czech Republic

The EIF recommendations and principles are reflected in the national government ICT Strategy. All entities falling under the scope of the Information Systems Act have to ensure the compliance of their information strategies and systems with this government ICT Strategy. The Strategy covers, in particular, the architectural principles of eGovernment and digital public administration; the key principles for ICT management in public administration; and the basic rules and responsibilities for the design, development and operation of government information systems and their interconnection, as well as for the design and provision of shared digital services of the Czech Republic.

Finally, Member States are still performing very well when it comes to initiating workshops, trainings, and other types of events to promote digital skills and awareness in the public sector. Indeed, all Member States are being active in this domain, resulting in an EU average score of 100% in 2021 and 2022. An interesting example can be found in Lithuania, here below.

Box 14 – Lithuania's actions to initiate training around digital skills among civil servants

According to the Implementation Plan for the Government Programme 2020-2024, by the end of 2023, a Digital Skills Competency Model for Civil Servants should be prepared or renewed. Beyond that, the Ministry of Interior is planning to train a total 16000 public servants to improve their financial-analytical competencies (4000 trained civil servants), digital competencies (4000 trained civil servants) and leadership competencies (8000 trained civil servants). Additionally, a GovTech Academy for public sector officials will be launched in 2023. Finally, the EdTech initiative is being implemented in the National Agency for Education, which focuses on the use of technology within the education system.

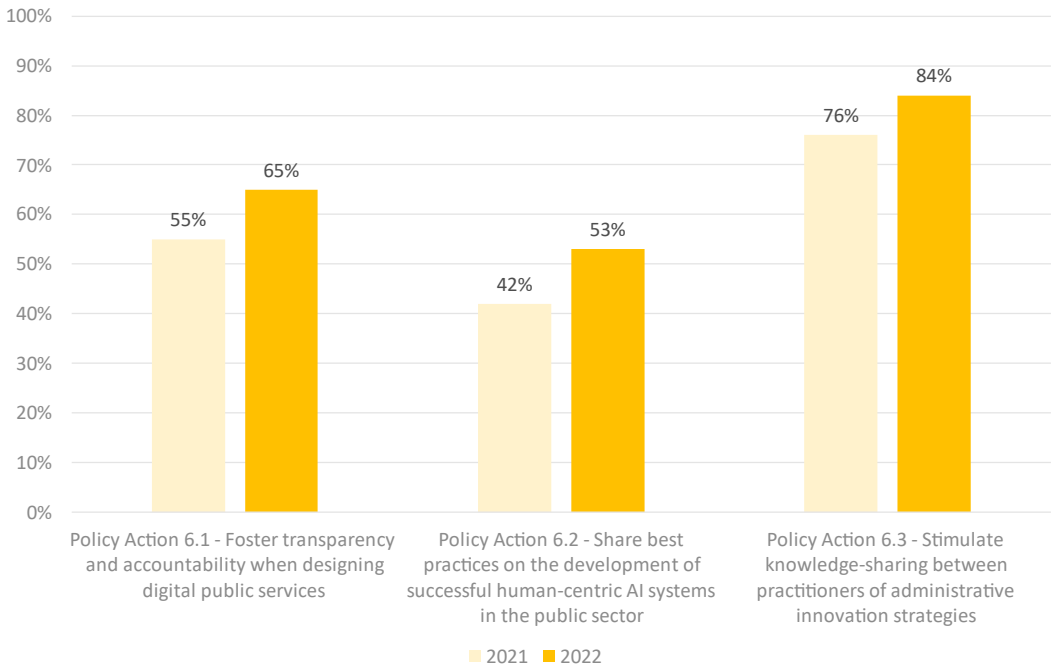
[8] Source: European Commission (2023) *Commission calls for massive boost in enabling digital education and providing digital skills*, Press release. Retrieved on 24 May 2023 from: https://ec.europa.eu/commission/presscorner/detail/en/ip_23_2246.

c. Human-centred systems and innovative technologies

Finally, when analysing Figure 6, Member States have reported progress in the three Policy Actions linked to the promotion of human-centred systems and innovative technologies in Europe, which are:

- Foster transparency and accountability i.e., by revealing when automated decision-making processes are used in digital public services, and ensure quality standards of data sets fed into AI systems when designing digital public services (e.g., by quality seals for data sets) (6.1)
- Share best practices on the development of successful human-centric AI systems in the public sector (6.2)
- Stimulate knowledge sharing between practitioners of administrative innovation strategies and examples of human-centric technologies in public administrations (6.3)

Figure 6 - Policy Actions corresponding to Policy Area 6 – EU results



The highest level of improvement concerns Policy Action 6.2 where Member States have passed the 50% mark in terms of implementation level and increased by 11 percentage points compared to 2021. Different initiatives at the European level have contributed to this improvement by supporting the monitoring and sharing of good practices related to AI within Member States, such as the European Commission AI Watch and the publication of a data set listing selected cases taken from the public sector institutions in Europe on adopting and implementing AI. However, it also appears from the data collection that the sharing of best practices around AI is still in early stages in many Member States and is often limited to some specific sectors where AI technology is already advanced, such as transport and health. While EU countries are increasingly using AI to enhance the provision of public services (e.g., through Chatbots), progress could be made regarding how they promote such initiatives, in particular at subnational level. Hereafter, the Portuguese example provides an overview of national strategies, actions, and guidance aiming toward more responsive, human-centred and ethical AI[9].

[9] Source: the Study on Artificial Intelligence for the public sector provides more information and success stories : https://publications.jrc.ec.europa.eu/repository/handle/JRC133826

Box 15 – The Portuguese Guide on Artificial Intelligence

The Portuguese Administrative Modernisation Agency (AMA) developed a Guide to Ethical, Transparent and Responsible AI, aimed at overseeing and direct the use of AI in the public administration while being a reference to the private sector as well. The Strategy for the Digital Transformation of Public Administration 2021-2026 also includes the "valorisation of data" as a strategic line of action, encompassing concrete actions such as the evaluation of AI projects financed by public funds, with a focus on the ethical and responsibility criteria. Lastly, the Digital Innovation Hub AI4PA, which integrates both the national and the European Network of Digital Innovation Hubs, will focus on the development of human-centric AI solutions for all levels of governance (central, regional and local), supporting the digital transformation of the State.

Regarding Policy Action 6.1, in many Member States, the implementation of automated decision-making processes is still in its preliminary phase or limited to specific cases, hence not widely applied. Therefore, there are only few instances where Member States have to communicate about such processes. However, the results show that European countries progressed by 10 percentage points compared to last year, demonstrating their recognition that citizens should be made aware in case a decision has been taken or information shared on the basis of an automated process. Such a trend follows the growing regulatory attention brought in the EU by automated decision-making systems, with, for instance, the adoption of the Digital Services Act (DSA) in October 2022 which lays down some obligations to bolster algorithmic accountability and transparency, and the ongoing discussion between the Council and the European Parliament on the proposed Artificial Intelligence Act (AI Act) which represents a risk-based approach to AI systems. Such regulatory initiatives also took place at national level, such as in France.

Box 16 – Transparency around automated process in France

France has a legal framework that ensures explicability and information whenever a decision is made based on algorithmic processing, allowing people to be informed of their rights. This framework is based on Article 4 of Law No. 2016-1321 of 7 October 2016 for a Digital Republic and on Article L311-3-1 if the Code of relations between the public and the administration. Furthermore, since July 2020, As of July 2020, all automated processing must explicitly mention this obligation, or else it will be considered null. Additionally, the same article specifies that the data controller is responsible for maintaining control over algorithmic processing and its evolution to explain, in detail and an understandable manner, to the data subject how the processing has been carried out concerning them.

Finally, Policy Action 6.3 also progressed by 12 percentage points compared to 2021 demonstrating that Member States are increasingly supporting knowledge sharing between practitioners of administrative innovation strategies and examples of human-centric technologies in public administrations. This is for instance the case in Belgium, as detailed below.

Box 17 – Citizens at the centre of knowledge sharing in Belgium

The Digital Open Network aims to collect and share inspiration, tools, services, and activities for and by government employees, as well as ease the collaboration with experts. One of its deriving principles is to put citizens and businesses at the centre of the government's services, ensuring that their needs are met. The Network is there to guide civil servants in putting citizens at the centre of their projects through collaboration and adapted tools.

1.3. Findings and Discussion

The most visible trend between 2021 and 2022 is that all Policies Areas, at EU average level, are experiencing a positive growing trend. Nevertheless, some Areas are progressing at a slower pace than others. As shown by the below Table 1, it is also interesting to note that the four Policy Areas where Member States are scoring the best are the same as last year, but in a different growth order. These are Policy Areas 1, 3, 4 and 5.

Table 1 – 2021 vs. 2022 Results for all Policy Areas, at EU average and in growth order

2021	2022
Policy Area 4 'Strengthen trust through security in the digital sphere' – 81%	**Policy Area 1** 'Promote fundamental rights and democratic values in the digital sphere' – 85%
Policy Area 5 'Strengthen Europe's digital sovereignty and interoperability' – 78%	**Policy Area 4** 'Strengthen trust through security in the digital sphere' – 82%
Policy Area 3 'Foster digital empowerment and digital literacy' – 76%	**Policy Area 3** 'Foster digital empowerment and digital literacy' – 81%
Policy Area 1 'Promote fundamental rights and democratic values in the digital sphere' – 73%	**Policy Area 5** 'Strengthen Europe's digital sovereignty and interoperability' – 81%
Policy Area 7 'Foster resilience and sustainability' – 68%	**Policy Area 7** 'Foster resilience and sustainability' – 69%
Policy Area 2 'Enhance social participation and inclusion' – 61%	**Policy Area 6** 'Create value-based, human-centred AI systems for use in the public sector' – 68%
Policy Area 6 'Create value-based, human-centred AI systems for use in the public sector' – 58%	**Policy Area 2** 'Enhance social participation and inclusion' – 60%

It is however important to highlight that the Policy Areas where Member States are scoring the best are not necessarily the ones where they have been progressing the most over the past year. Indeed, the three Policy Areas that improved the most compared to last year are Policy Areas 1 'Promote fundamental rights and democratic values in the digital sphere', 3 'Foster digital empowerment and digital literacy', and 6 'Create value-based, human-centred AI systems for use in the public sector'.

Interestingly, these Policy Areas are those that were selected as focus areas for this year's report, in relation to the various initiatives taken at EU level to progress in these domains, such as the Skills and Talent Package. While there is a noticeable growing interest in these topics, the Policy Areas that are progressing at a slower pace and for which Member States are experiencing some should not be left out. It would be interesting to keep a close eye on this in next years' monitoring exercises.

These trends are, to some extent, linked to the surrounding political context which certainly influences the issues on which the EU and Member States have been focusing the most over the past months and years, such as cybersecurity and human rights, for instance, in conjunction with the growing presence of cybersecurity threats and the war in Ukraine, to only mention some of the issues encountered at global level. It is however important to question why some of these Policy Areas, although of high importance as well, receive less visibility, attention, or investments than others, such as sustainability and social participation.

While this report aims to provide useful insights and good practices that can support and inspire Member States that are experiencing more challenges to implement some policy areas compared to others, it should be taken into account that it is only the second year of the monitoring of the Berlin Declaration's commitments. The policy making process, both at EU and national level, is incremental and is not as fast as necessary to demonstrate significant changes that would be visible in the frame of such a monitoring mechanism. All Member States have their particularities, should they be at cultural, organisational or historical levels, and they should be considered when analysing their results.

Finally, another aspect to keep in mind when analysing 2022 BDM results against those of 2021 is that the comparability of some of these results has been altered by some necessary changes to the framework to enhance its clarity, as well as to modifications brought to secondary data that is independent from the initial framework. These modifications are explained in detail in Chapter 2 'BDM progress at country level' and Appendix 1.5 'Revision'.

2. BDM Progress at country level – individual country reports

After looking closely at the EU-level results, this chapter now focuses on a deeper level of granularity by presenting the individual performance of the 27 EU Member States in implementing the 22 commitments set out in the Berlin Declaration.

Therefore, a detailed view of the results of each country is provided through dedicated three-pagers. The data displayed in these pages are again stemming from the 2022 data collection and were validated by each Member State through a dedicated process[10]. More specifically, National Contact Points were provided with their country results by email and had the opportunity to express any doubt or enquiries before their publication. Hence, these three pagers are structured as follows:

- The first page provides an overview of Member States' 2021 vs. 2022 results for the 7 Policy Areas;
- The second page focuses on their 2021 vs. 2022 results for the 22 Policy Actions (i.e., the 22 statements that the Member States have committed to achieving in by 2024); and
- The third page presents qualitative stories related to the three selected topics discussed in the previous Chapter, and consequently Policy Areas 1, 3, and 6[11]. **Please note that, to ensure the reasonable length of the report, some qualitative stories shared by Member States could not be included an/or had to be shortened. Hence, they will be published on the NIFO Joinup page at a later stage.**

More information on the BDM model and country results are available respectively in 'Appendix II – BDM Databases' and 'Appendix III – Policy Areas and Policy Actions of the Berlin Declaration'.

Please also note that some changes have been made to the framework and related KPIs, as specified in the Introduction. These modifications are detailed in Appendix 1.5 and might have led to more or less significant changes (such as drops) in countries scores compared to 2021. Particular attention should be brought to KPIs 14, 17, 21 and 25, which are based on secondary data sources, and which have encountered substantial changes. Hence, the results of the related Policy Actions and Areas (i.e., Policy Areas 1, 2, 3, 4 and 7) cannot be fully compared to those of last year[12]. These KPIs are the following:

- KPI 14 – The corresponding DESI Dimension used to monitor KPI 14 was 'Dimension 1 – Connectivity' which, from 2023, has changed to 'Dimension 2 – 'Digital Infrastructures'. This Dimension, and the KPIs under it, have been updated inn a such a way that two of the previously collected indicators are not included anymore: while nine KPIs were collected in the past, there are now only 7, hence limiting comparability of results for Policy Action 3.1 and Area 3.

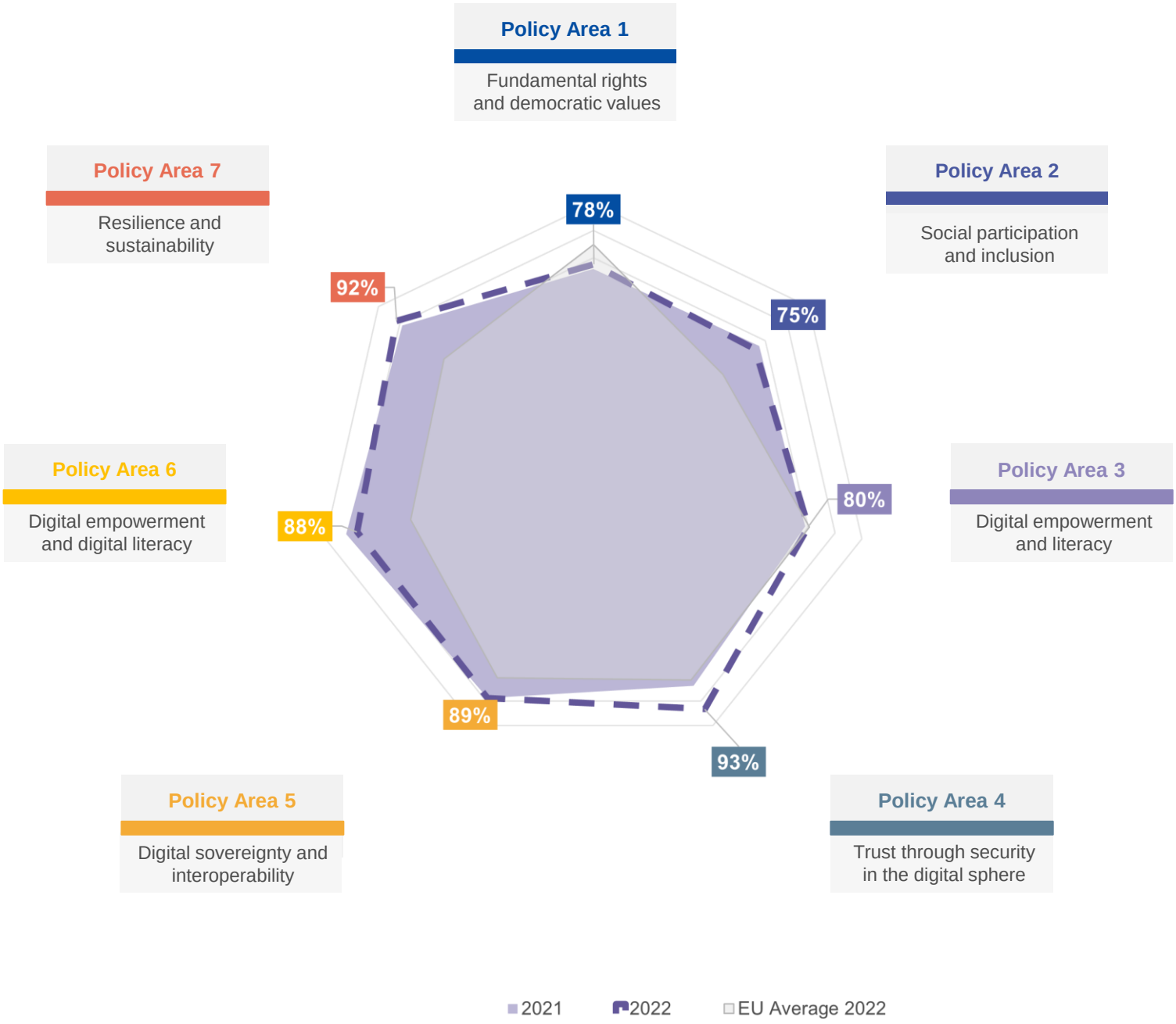
[10] Please note that, for the Netherlands, the data used are those of last year, 2021. The Netherlands did not participate in this year's data collection as the ministry in charge was encountering internal reorganisation. Hence, additionally, no qualitative stories were collected for this country.
[11] For countries for which such examples were not available for one (or more) of these three Policy Areas, the good practice(s) shared in their three-pager have been selected based on the fact that the Member State is performing better than last year for a KPI under the related Policy Area. Please also note that qualitative stories were not collected for the Netherlands, Romania and Slovakia.
[12] More detailed information about all the changes brought to the BDM framework and its KPIs are available in Appendix 1.5 Revision.

- KPI 17, now KPI 45 – The corresponding Eurostat indicator has and will not be collected anymore from 2022. However, it has been replaced by a proxy indicator. Hence, 2022 results for Policy Action 3.2 and Area 3 cannot be compared to those of last year.
- KPI 21 – This CEF indicator has not been collected in 2022 and no proxy indicator is available. It is not clear whether this indicator will be collected next year. Therefore, we had to remove it from this year's data collection. Hence, 2022 results for Policy Action 4.1 and Area 4 cannot be compared to those of last year.
- KPI 25 – This indicator has been deleted from the BDM framework because it has been removed from the European Open Data Portal and no substitute KPI could be identified. Hence, 2022 results for Policy Action 4.2 and Area 4 cannot be fully compared to those of last year.

AUSTRIA

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Austria | Policy Areas level of implementation

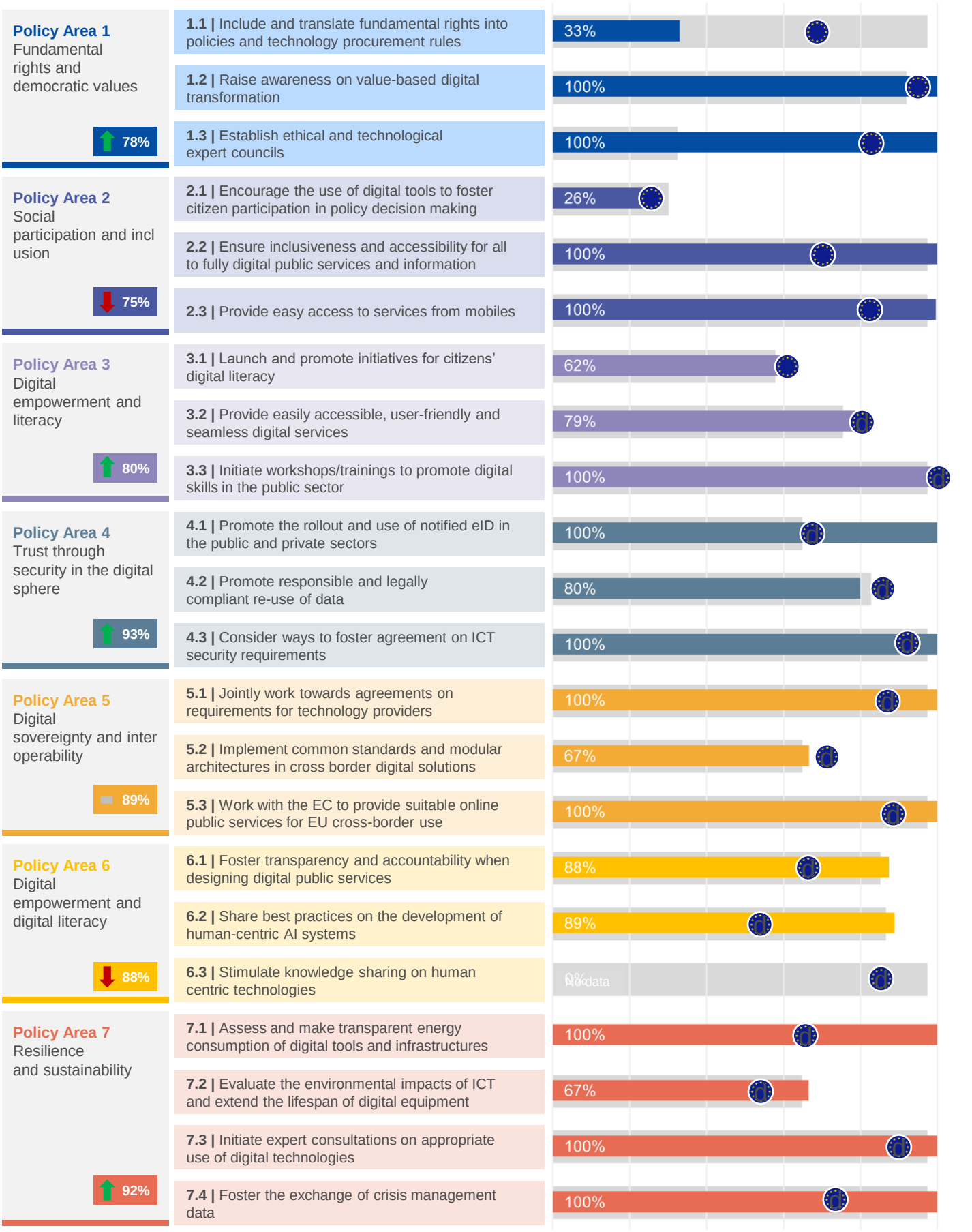


Overall Austria's scores in the Berlin Declaration monitoring mechanism 2022 have increased compared to those of 2021, except for Policy Area 2, Policy Area 5 and Policy Area 6. While Policy Area 2 encounters a low decrease of 2 percentage points compared to last year, Policy Area 6 has decreased of 4 percentage points. Policy Area 5 is stagnating at 89%. The most significant increases for Austria compared to 2021 have been recorded for Policy Area 1, with a progress of 8 percentage points, and in particular Policy Area 4, which received an increase 9 of percentage points.

In addition, Austria scores above the EU average in five out of seven Policy Areas, namely Policy Area 2, Policy Area 4, Policy Area 5, Policy Area 6 and Policy Area 7. However, there is still some room for improvement regarding Policy Area 1, where Austria scores 78% compared to an EU average of 85%.

2022 BDM Results for Austria | Policy Actions level of implementation

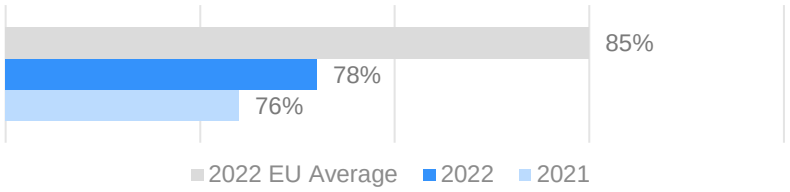
2021 country score | EU average (2022)



Qualitative stories from Austria

Policy Area 1

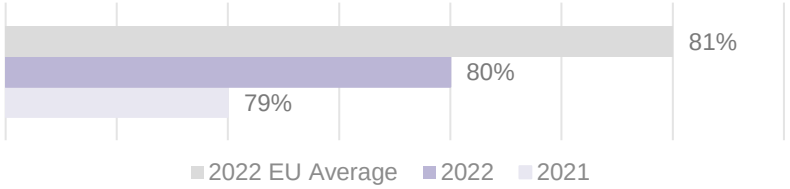
Promote fundamental rights and democratic values in the digital sphere



An Austrian Council for Robotic and Artificial Intelligence was created and gathered experts on robotics and artificial intelligence from research, teaching, and industry. Its mission was to identify and discuss current and future opportunities, risks, and challenges arising from the use of robotics and autonomous systems (RAS) as well as artificial intelligence (AI). While its mandate has ended in October 2021, a potential realignment is being considered.

Policy Area 3

Foster digital empowerment and digital literacy



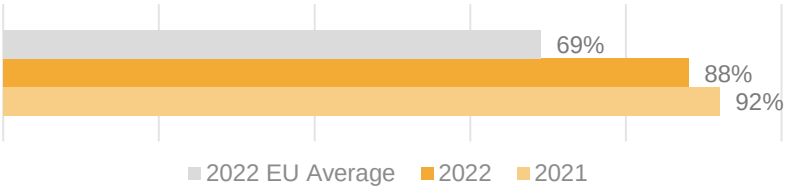
In order for Austria's economic and innovative strength to remain strong and continue to grow in the face of digitisation, the goal is to foster both professionals and citizens in building up the necessary level of skills to keep up in a digital world. The future challenge is to reach as many people as possible and to provide them with attractive, high-quality educational opportunities.

Building on existing projects, the Federal Ministry of Finance aims to implement an integrated programme to close the Digital Skills Gap in Austria: the so-called "Digital Skills Initiative". In the initiative, existing projects are to be coordinated, targeted, further developed and supplemented by four specialist ministries: the Federal Ministry of Finance, the Federal Ministry of Labour and Economy, the Federal Ministry for Arts, Culture, the Civil Service and Sport and the Federal Ministry for Education, Science and Research.

Based on development efforts and measures in the various policy areas, an overarching strategy, a clear structure and a joint platform that is (co-)supported by all involved actors are to be established to bundle forces and create a broad commitment for the joint implementation. Concrete objectives of the "Digital Skills Initiative" are to ensure that, by 2030, as many citizens as possible have a sufficient level of digital basic skills.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector



Austria has set up the digital driving license as an e-Government solution to increase the uptake of innovative digital solutions in the public sector. The digital driving licence is the first electronic ID of the "eAusweise (eID) app" and is a quick and easy way to show citizens' driving licences using their smartphones. The system allows users to share their driving licence data using contactless technology. Citizens do not need a separate user account for the eAusweise (eID) app, and just sign in using their ID Austria account. When used together with the *Digitales Amt* (Digital Office) App, it provides secure two-factor authentication for digital services. Both apps support fingerprint security and face recognition.

BELGIUM

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Belgium | Policy Areas level of implementation

Policy Area 1
Fundamental rights and democratic values

Policy Area 2
Social participation and inclusion

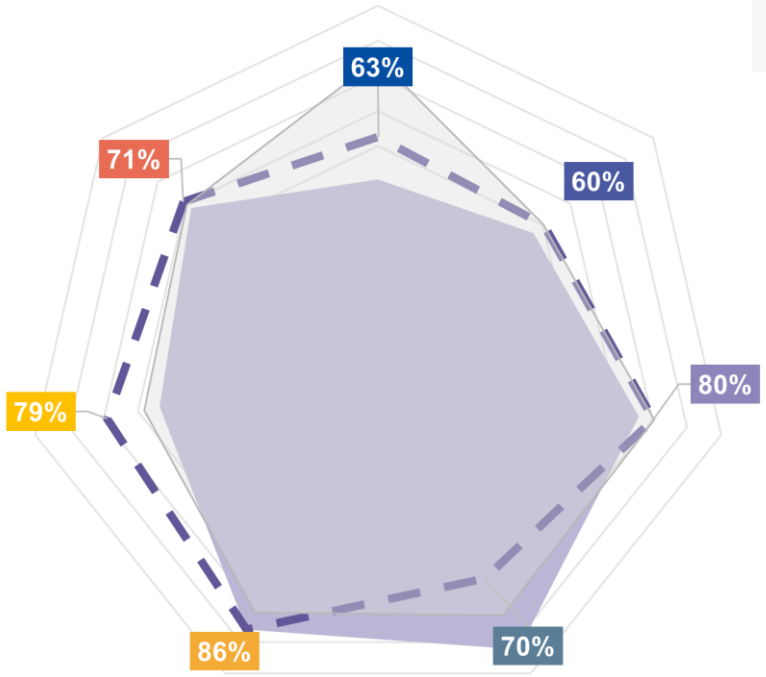
Policy Area 3
Digital empowerment and literacy

Policy Area 4
Trust through security in the digital sphere

Policy Area 5
Digital sovereignty and interoperability

Policy Area 6
Digital empowerment and digital literacy

Policy Area 7
Resilience and sustainability



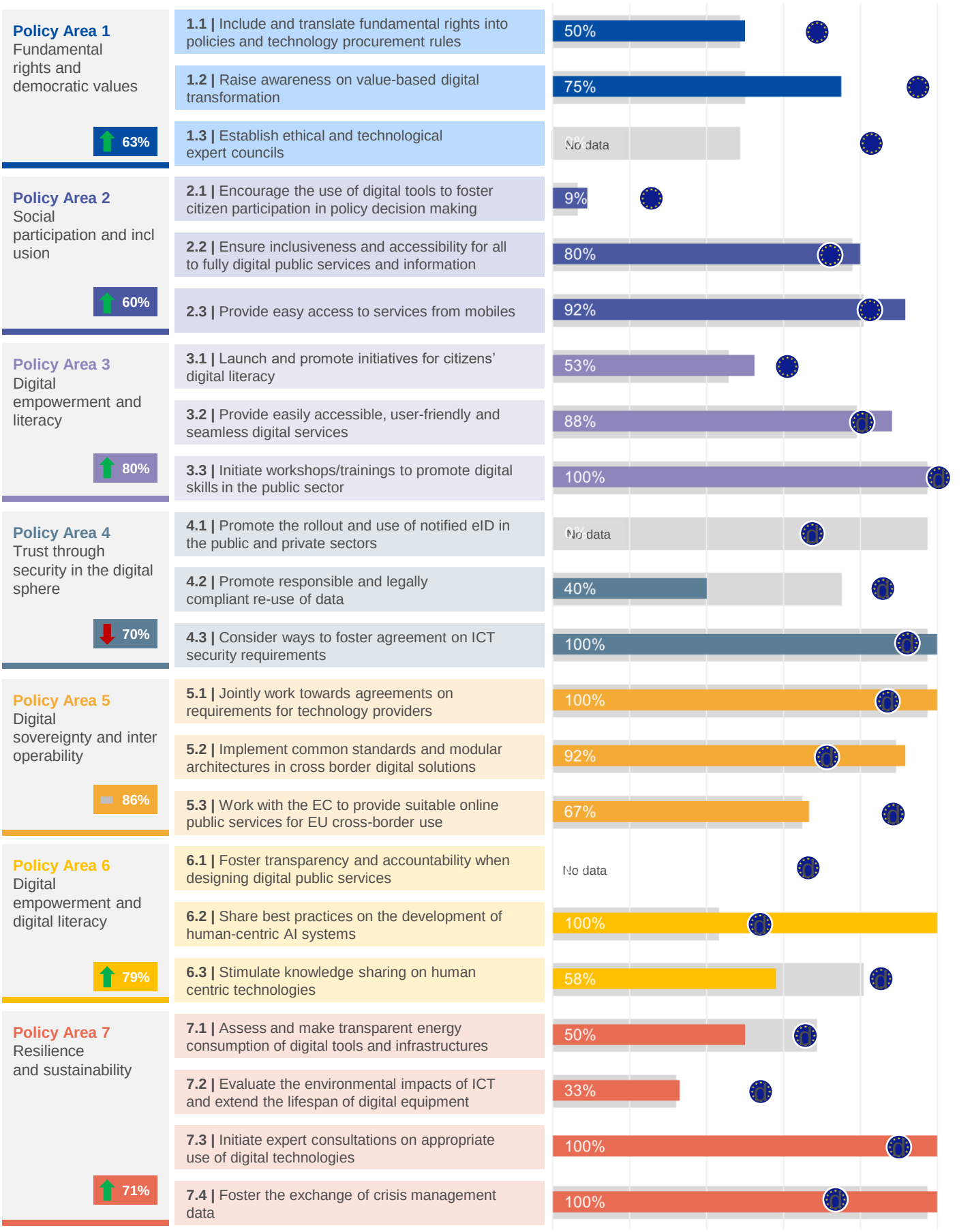
2021 2022 EU Average 2022

Almost all of Belgium's scores in the Berlin Declaration monitoring mechanism 2022 have increased compared to those of 2021, except for Policy Area 4, where a decrease of 32 percentage points is noticeable compared to last year, and for Policy Area 5 which stagnates at 86%. The most significant increase for Belgium compared to 2021 has been recorded for Policy Area 6, with a progress of 15 percentage points.

In addition, Belgium is scoring above the EU average in three out of seven Policy Areas, namely Policy Areas 5, Policy Area 6 and Policy Area 7. However, there is still some room for improvement regarding Policy Area 1, where Belgium scores 63% compared to an EU average of 85%, and Policy Area 4 with 70% against 82% for the EU average.

2022 BDM Results for Belgium | Policy Actions level of implementation

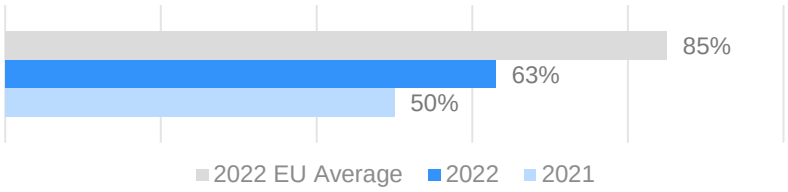
2021 country score | EU average (2022)



Qualitative stories from Belgium

Policy Area 1

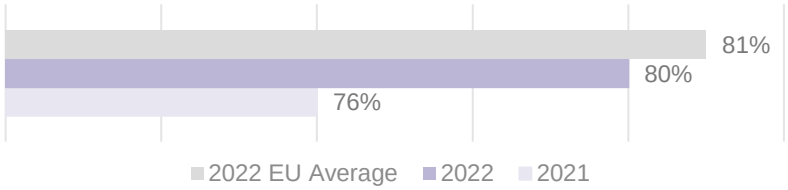
Promote fundamental rights and democratic values in the digital sphere



The Federal Public Service Policy and Support (FPS BOSA) has developed 'MyOpinion', a free online platform designed to consult citizens and spark debate with regards to projects in the public space or of public importance. This platform is an open-source tool. Through this tool, the FPS BOSA offers a platform open to any government instance in Belgium that wishes to use participatory process. The SPF BOSA provides the necessary support to get familiar with the tool, such as dedicated workshops and communication tips, as well as support with regard to more technical aspects and the maintenance of the platform.

Policy Area 3

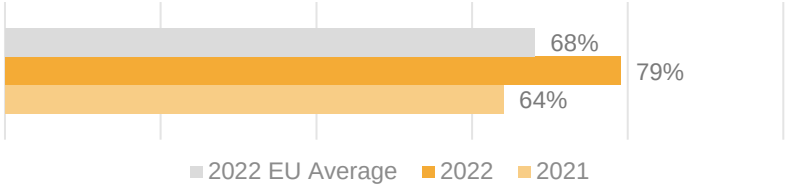
Foster digital empowerment and digital literacy



The federal Digital Open Network, aimed to allow the exchange of good practices and sharing of knowledge on practical tools, organises workshops and training to promote digital skills and awareness with regard to digital inclusion. Besides, the Federal Public Service Policy and Support (BOSA) has also developed 'Connectoo', a free online training addressed to civil servants to help them understand the challenges of digital inclusion and teach them how to facilitate the adoption of online services so as to close the digital gap.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

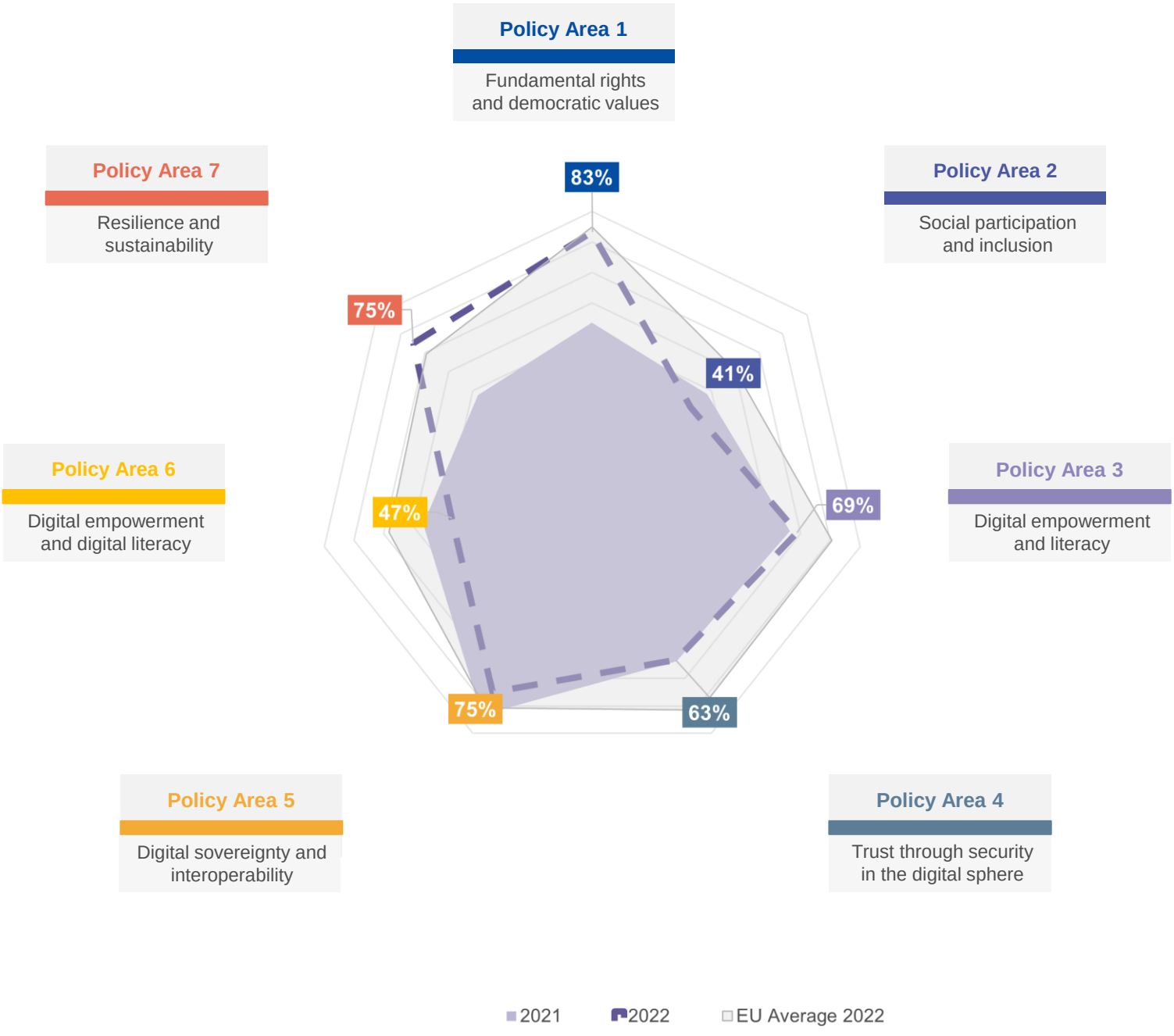


The federal administration participates in AI4Belgium, a community that enables Belgian citizens and organisations to capture the opportunities of AI while facilitating the ongoing transition responsibly. This coalition brings together AI key players from the public sector, private sector, academia, and civil society. It works on topics such as the ethical use of AI within public services. Additionally, in November 2022, a National Convergence Plan has been adopted and provides funding for research, training opportunities, as well as initiatives around the integration of AI in the activities of companies and organisations, from business planning to business plan, prototyping and commercialisation.

BULGARIA

2022 | Berlin Declaration Monitoring (BDM)

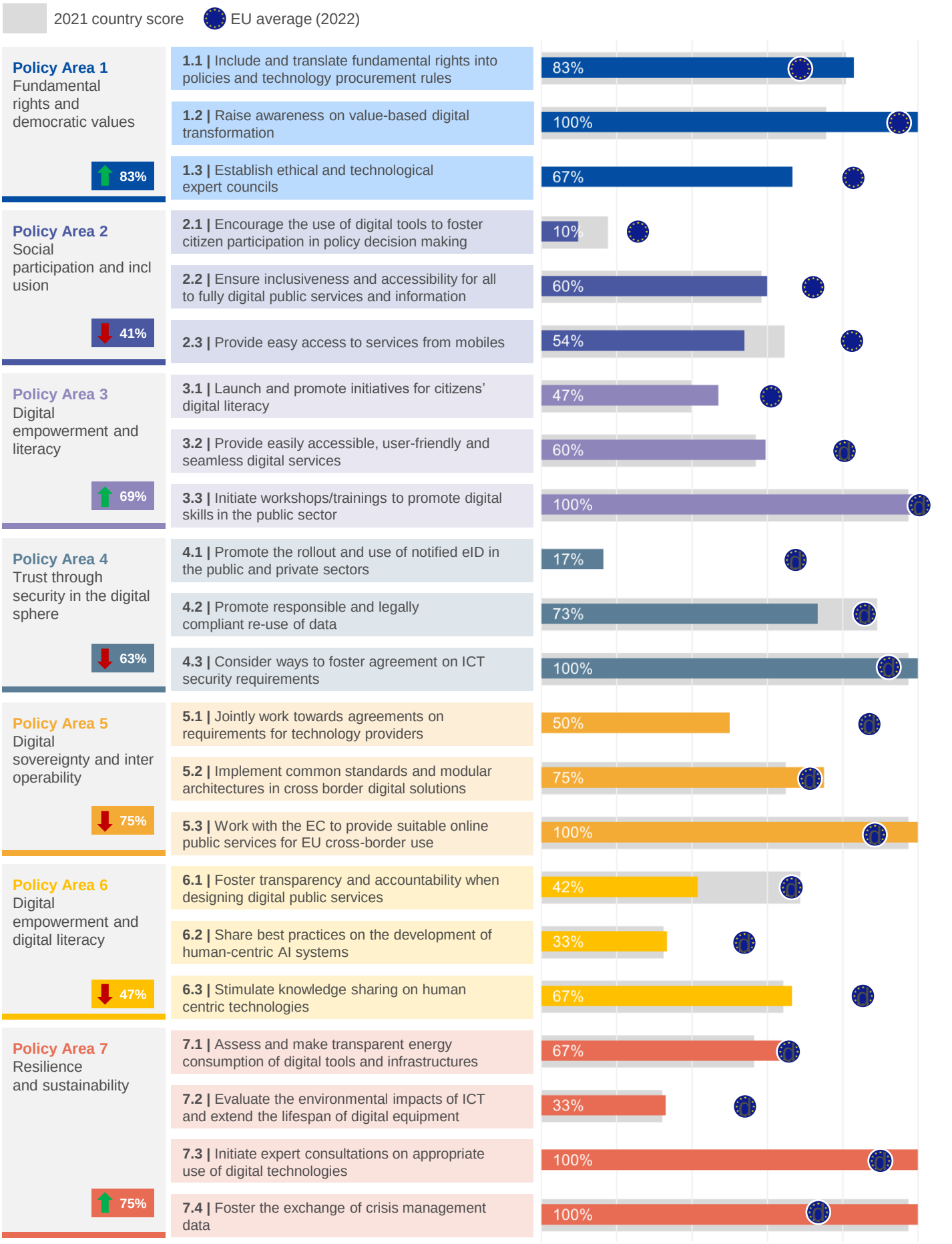
2022 BDM Results for Bulgaria | Policy Areas level of implementation



Bulgaria's scores in the Berlin Declaration monitoring mechanism 2022 have mostly decreased compared to those of 2021, except for Policy Area 1, Policy Area 3 and Policy Area 7. The most significant increases for Bulgaria compared to 2021 have been recorded for Policy Area 1, with a progress of 29 percentage points, and Policy Area 7, which increased by 27 percentage points. The other Policy Areas have decreased to different extents, in particular Policy Areas 2 and 6 that decreased by 10 percentage points.

In addition, Bulgaria scores above the EU average in one out of seven Policy Areas, namely Policy Area 7. Hence, there is still some room for improvement regarding the other Policy Areas, in particular Policy Area 2, with a gap of 19 percentage points compared to the EU average.

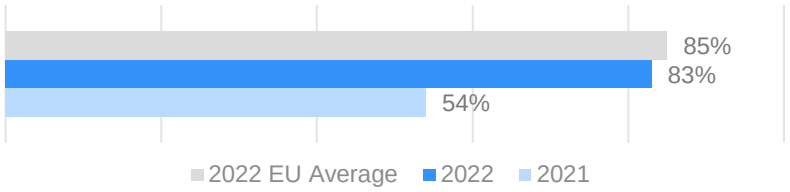
2022 BDM Results for Bulgaria | Policy Actions level of implementation



Qualitative stories from Bulgaria

Policy Area 1

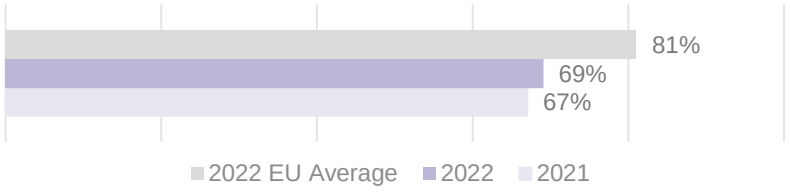
Promote fundamental rights and democratic values in the digital sphere



Through its project 'Conducting a national evaluation of the development of the Internet in Bulgaria using the indicators of Internet Universality of UNESCO, Bulgaria aims to collect consolidated and up-to-date information about the network and the quality of online services in the country. By analysing the UNESCO's DOAM-X indicators, Bulgaria will gain a deeper understanding of its digital environment; map the Internet to measure its compliance with human rights, openness, and accessibility; and assess multistakeholder participation in its governance. Ultimately, it will help the country seek synergies and create partnerships within the EU digital decade toward the UN Global Digital Compact for successful digital transformation.

Policy Area 3

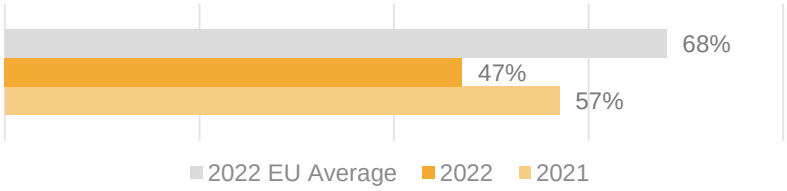
Foster digital empowerment and digital literacy



The Ministry of Education and Science in Bulgaria will establish Personal Development Centers for Students and Youth in support of sustainable rehabilitation of municipalities, which will be implemented under the draft National Recovery and Resilience Plan of the Republic of Bulgaria. The main objective is the establishment of 21 centers providing a variety of activities and comprehensive services in support of personal development and employability of students and young people up to 29 years of age. The centers for personal development of students and youth will be based on a model proposed by the European Youth Steering Committee (CEDJ) of the Council of Europe (CoE).

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector



The 'Concept for the development of Artificial Intelligence (AI) in Bulgaria until 2030' is a national strategy aiming to define focal areas for building scientific and expert capacity for the development and implementation of AI systems. Its objective is also to build on the measures and activities set as a priority in other relevant national strategic documents, including in particular 'Vision, Objectives and Priorities for the National Development Program: Bulgaria 2030'. Furthermore, Bulgaria's 2022 Annual AI Report demonstrates, among other developments, an increase in the number of companies interested in using AI to create innovative solutions as well as employed specialists in the AI field.

CROATIA

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Croatia | Policy Areas level of implementation

Policy Area 1
Fundamental rights and democratic values

Policy Area 2
Social participation and inclusion

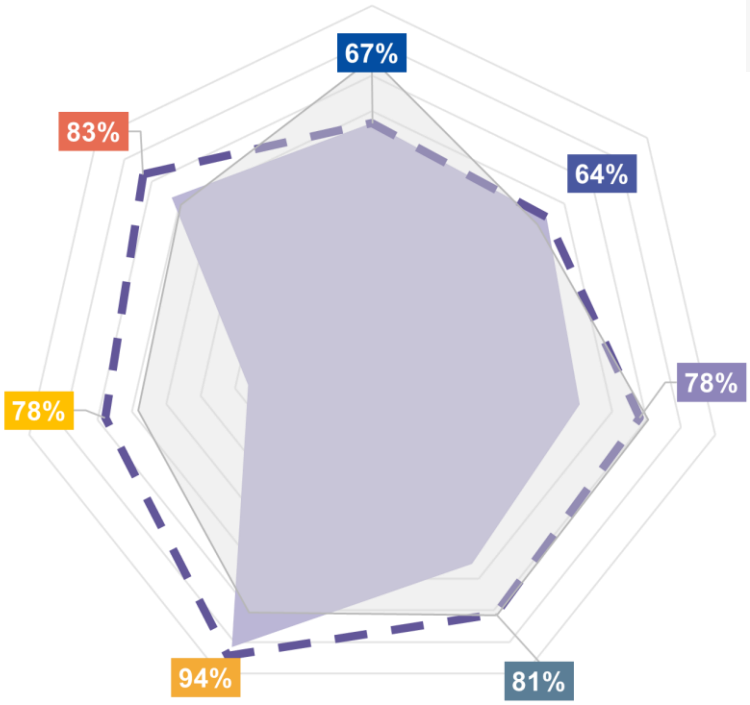
Policy Area 3
Digital empowerment and literacy

Policy Area 4
Trust through security in the digital sphere

Policy Area 5
Digital sovereignty and interoperability

Policy Area 6
Digital empowerment and digital literacy

Policy Area 7
Resilience and sustainability

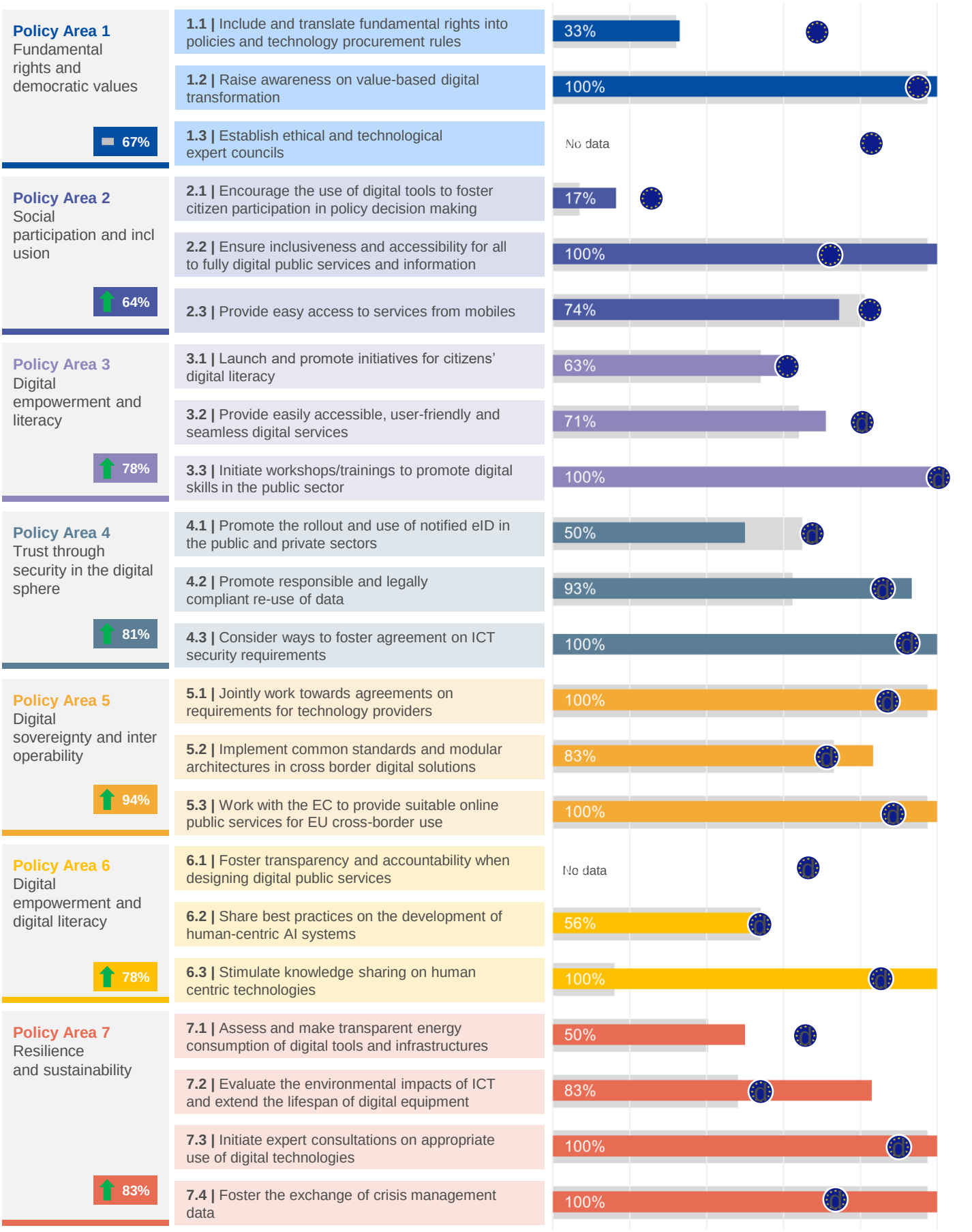


Overall Croatia's scores in the Berlin Declaration monitoring mechanism 2022 have increased compared to those of 2021, except for Policy Area 1, which is stagnating at 67%. The most significant increases for Croatia compared to 2021 have been recorded for Policy Areas 3, 4 and 6, with a progress of respectively 17, 16 and 42 percentage points.

In addition, Croatia scores above the EU average in four out of seven Policy Areas, namely Policy Area 2, Policy Area 5, Policy Area 6 and Policy Area 7. However, there is still some room for improvement regarding Policy Area 1, where Croatia scores 67% compared to an EU average of 85%.

2022 BDM Results for Croatia | Policy Actions level of implementation

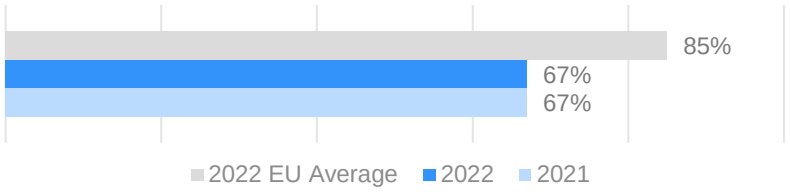
2021 country score | EU average (2022)



Qualitative stories from Croatia

Policy Area 1

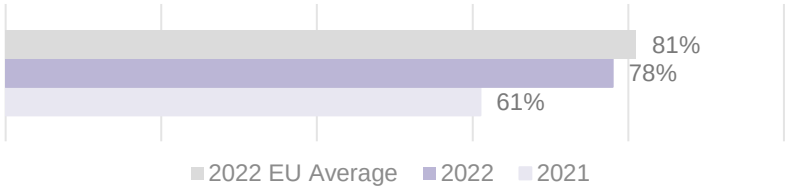
Promote fundamental rights and democratic values in the digital sphere



The 'eDubrovnik - open city' platform enables citizens to participate directly in the management of the city. It is designed as a central portal to ease communication with citizens and provide them with access to information, data, forms, and digital services. It consists of three categories: 'Finance', 'Digital forms', and *'Vox populi*'. The platform allows the democratic participation of citizens by giving them the opportunity to voice their suggestions on what they consider important, upload documentation, technical solution, sketch, conceptual project, or visualisation of their idea into the system. They can also ask for the support of other citizens. Finally, the participatory budgeting enables citizens to directly decide on the distribution of public funds, in an easily accessible and transparent manner.

Policy Area 3

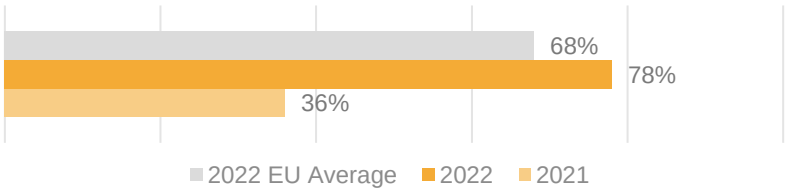
Foster digital empowerment and digital literacy



The CARNET's eSchool program brings several advantages, among which systematic and regular use of modern technology in learning and teaching, adequate infrastructure and computer equipment in all schools in Croatia, numerous digital educational contents and eServices for teaching and business processes, and a series of training for the development of digital competencies of school employees. Following a pilot in 2015, involving 151 Croatian schools, the project was launched in August 2018. The main result of the pilot project was an increase in the level of digital maturity of 10 percent of Croatian primary and secondary schools.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector



The 'Elements of AI' is a series of free online courses (MOOC) created by MinnaLearn and the University of Helsinki and aims to teach what Artificial Intelligence (AI) is, what can (and can't) be done with AI, and how to start creating AI methods. In 2020, the program was presented in Croatia, making it the first country in the region to translate the course and make it available to all its citizens. This idea was carried out by the Croatian AI Association and its partner, the University of Zagreb. The course has been officially verified by the University and each student shall be awarded two additional ECTS credits upon its completion.

CYPRUS

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Cyprus | Policy Areas level of implementation

Policy Area 1
Fundamental rights and democratic values

Policy Area 2
Social participation and inclusion

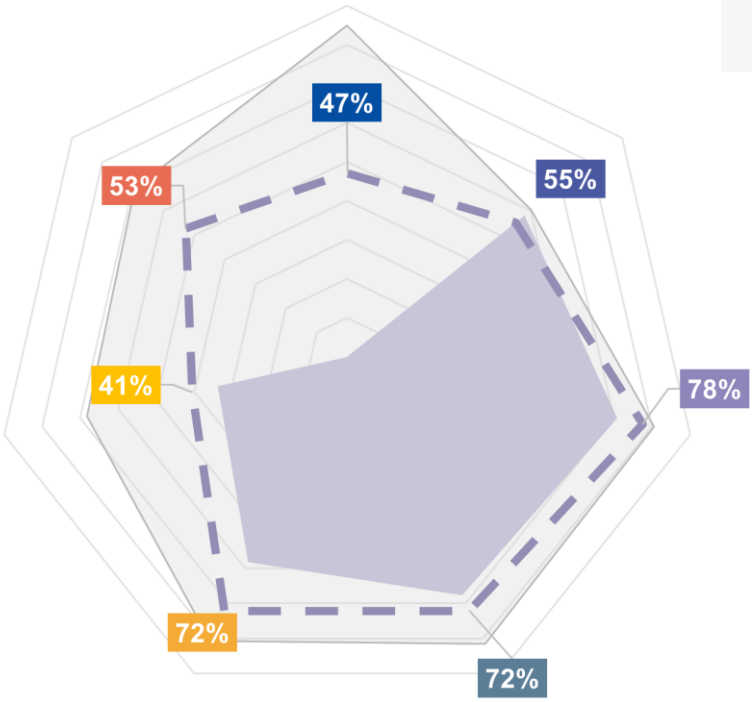
Policy Area 3
Digital empowerment and literacy

Policy Area 4
Trust through security in the digital sphere

Policy Area 5
Digital sovereignty and interoperability

Policy Area 6
Digital empowerment and digital literacy

Policy Area 7
Resilience and sustainability

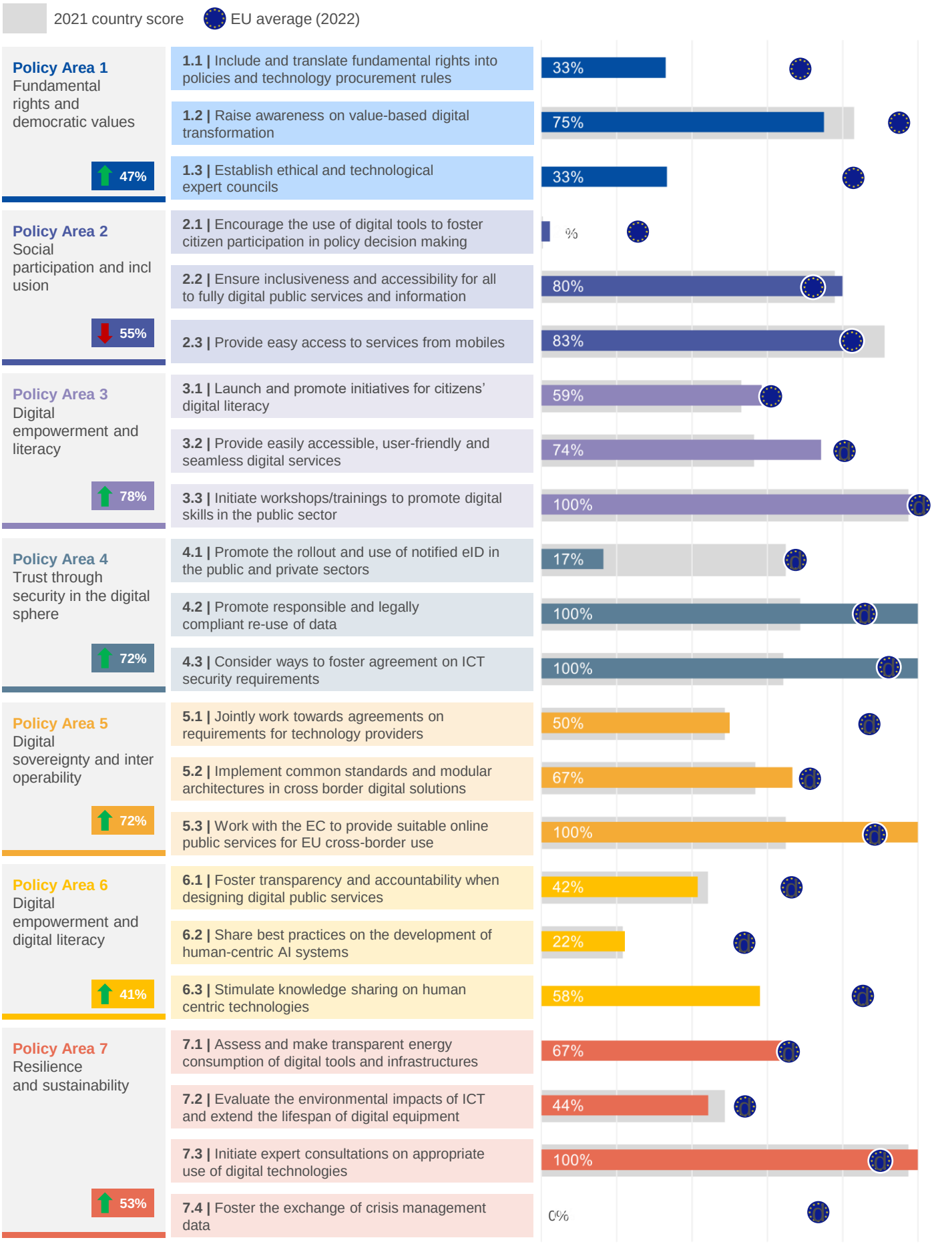


2021 2022 EU Average 2022

Overall Cyprus' scores in the Berlin Declaration monitoring mechanism 2022 have all increased compared to those of 2021, except Policy Area 2 which slightly decreased by 3 percentage points. Compared to last year, data could be collected for all Policy Actions, which was not the case last year. The most significant increases for Cyprus compared to 2021 have been recorded for Policy Areas 3 and 6, with a progress of 7 percentage points, and in particular Policy Area 5, which received an increase of 14 percentage points.

In addition, Cyprus scores below the EU average for all seven Policy Areas, and progress could be made in particular regarding Policy Area 1, where Cyprus scores 47% compared to an EU average of 85%.

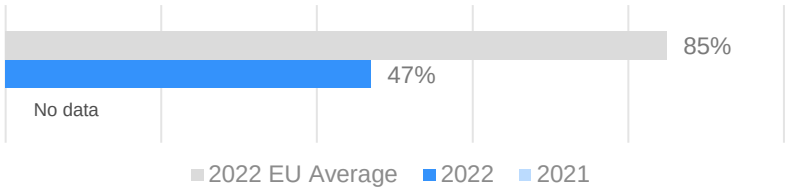
2022 BDM Results for Cyprus | Policy Actions level of implementation



Qualitative stories from Cyprus

Policy Area 1

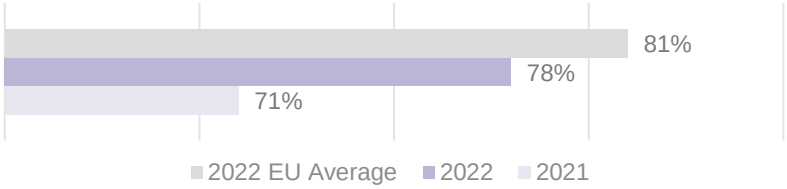
Promote fundamental rights and democratic values in the digital sphere



Cyprus encourages the establishment of ethical and technological expert councils to provide advice to citizens and foster debate among them. An example of such a council is the 'Cyprus National Bioethics Committee'. Its mission is '*the constant monitoring, survey, systematic analysis and evaluation of the issues and problems that relate to the scientific research, progress and implementation of the sciences of biotechnology, biology, medicine, genetics and pharmaceutics as well as to the human intervention on the biological procedure and the human genotype and the investigation of their moral, deontological, social, humanistic and legal dimensions*'.

Policy Area 3

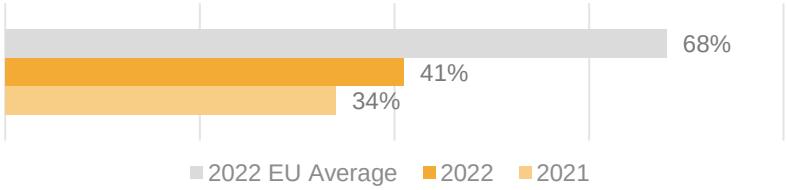
Foster digital empowerment and digital literacy



In 2020, Cyprus adopted its National Action Plan for Digital Skills 2021-2025, which aims to accelerate the country's digital transformation by developing and improving the digital skills of the entire population. The Action Plan focuses on (i) delivering an inclusive, open, digital society; (ii) boosting the basic digital and basic software skills of Cypriots; and (iii) creating a critical mass of ICT specialists in the country.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

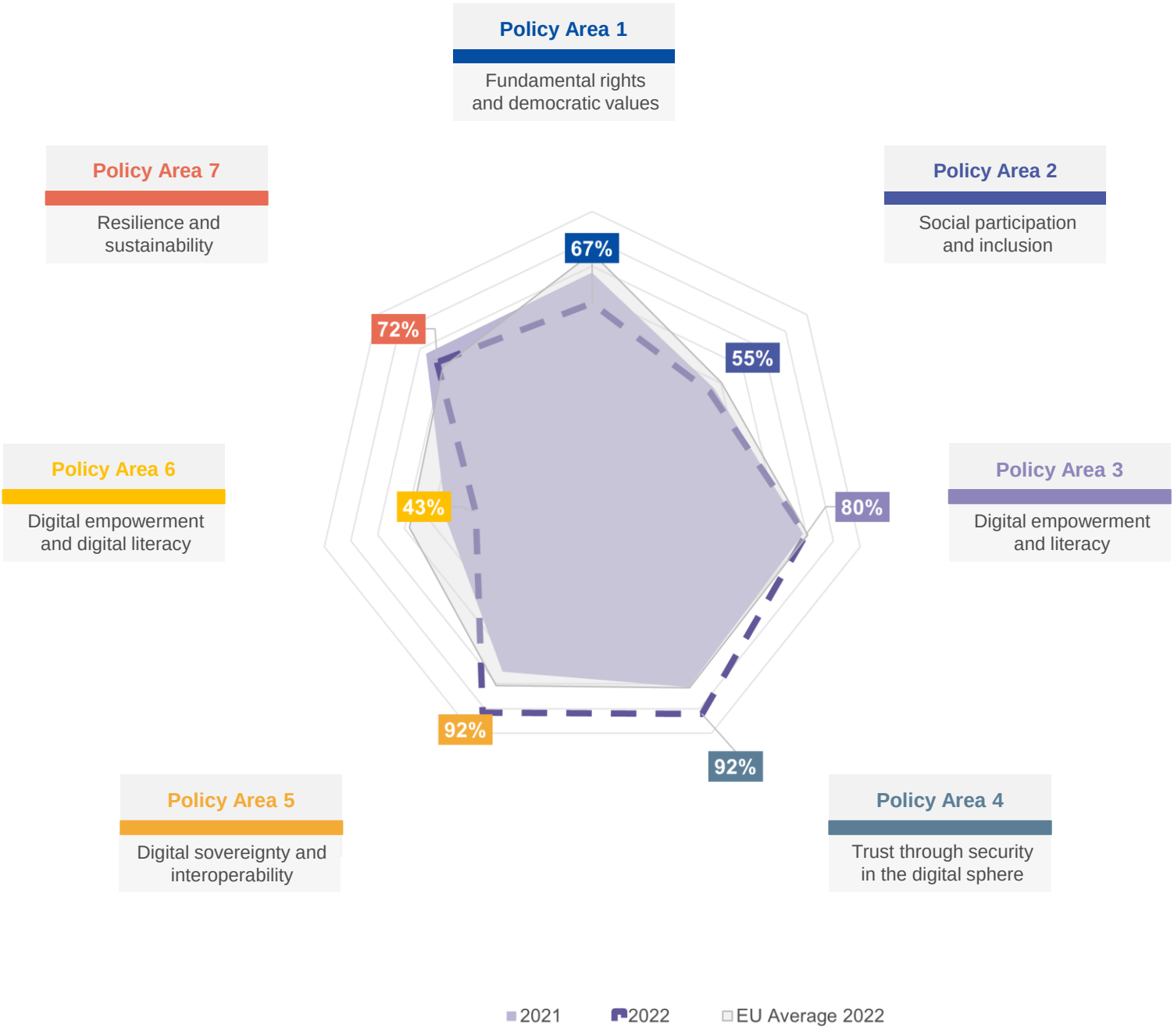


Cyprus is running several projects dedicated to human-centred systems and innovative technologies in the public sector by using technologies like Artificial Intelligence (AI) and blockchain. For instance, one of these projects aims to '*Extend the existing use case of authentication of digital diplomas/credentials (eDiploma) to the European Blockchain Service Infrastructure (EBSI) national hub*'.

CZECH REPUBLIC

2022 | Berlin Declaration Monitoring (BDM)

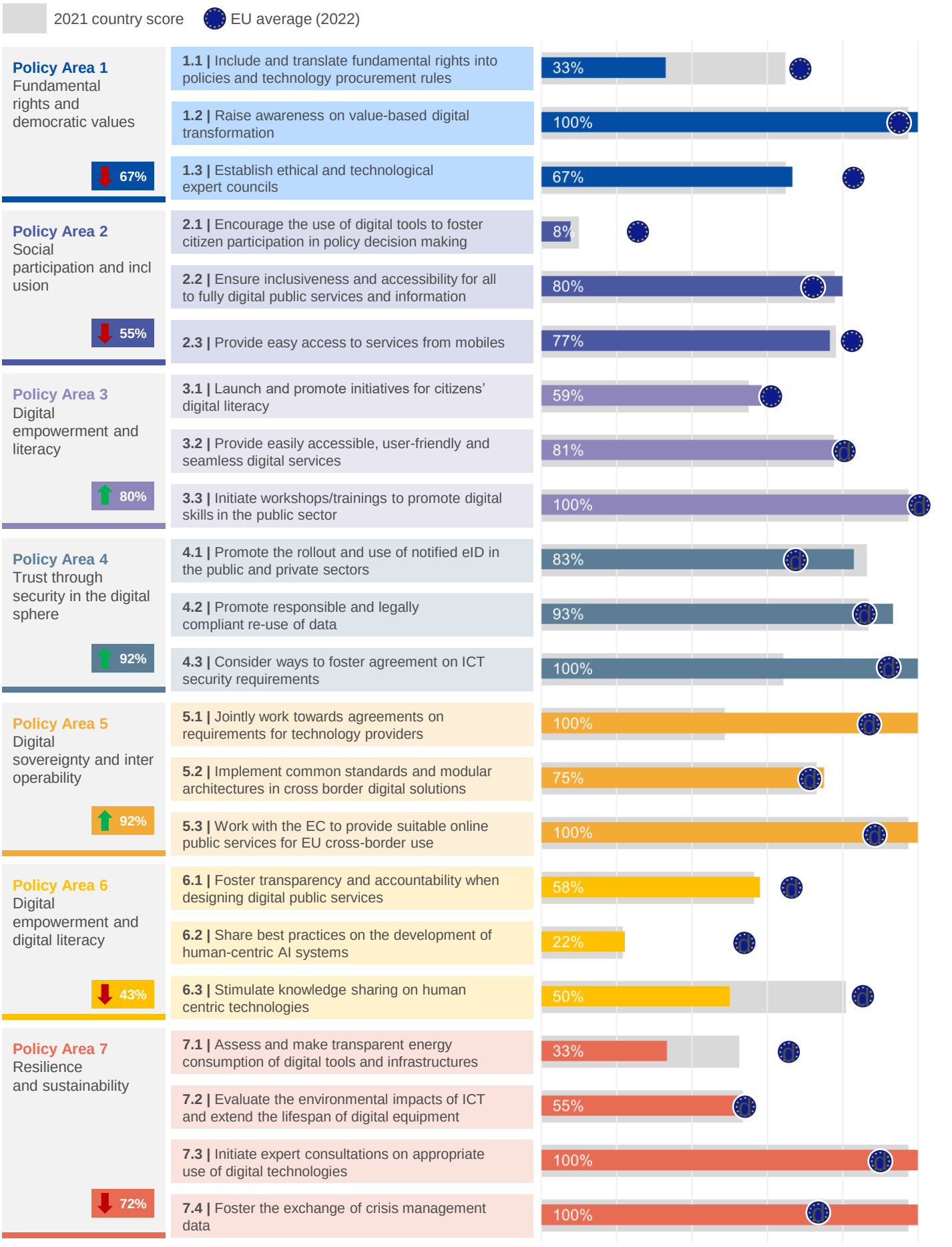
2022 BDM Results for Czech Republic | Policy Areas level of implementation



The scores of the Czech Republic in the Berlin Declaration monitoring mechanism 2022 have decreased in four out of the seven Policy Areas compared to those of 2021, except for Policy Area 3, Policy Area 4 and Policy Area 5. Policy Areas 1 and 6 encountered a decrease of 11 percentage points compared to last year. The most significant increases for the Czech Republic compared to 2021 have been recorded for Policy Areas 4 and 5, with a progress respectively of 11 and 17 percentage points

In addition, the Czech Republic scores above the EU average for Policy Area 4 (92 vs 82%), Policy Area 5 (92 vs 81%), and Policy Area 7 (72 vs 69%). However, further improvement could be made regarding the other Policy Areas, and in particular Policy Area 6, where the Czech Republic scores 43% compared to an EU average of 68%.

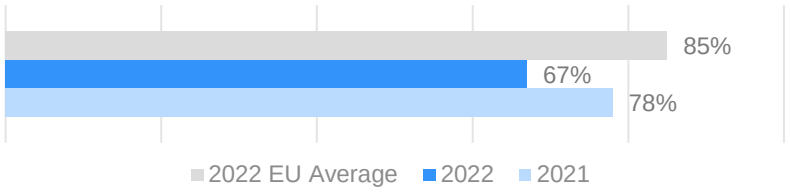
2022 BDM Results for Czech Republic | Policy Actions level of implementation



Qualitative stories from Czech Republic

Policy Area 1

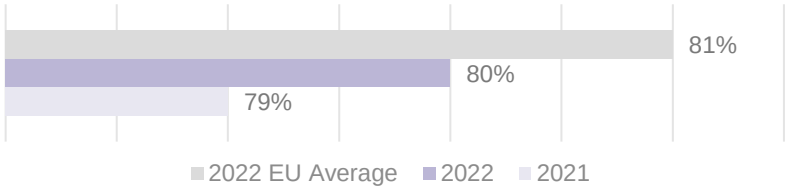
Promote fundamental rights and democratic values in the digital sphere



At national level, sector-specific initiatives are taken so as to increase awareness of ethical aspects of digitisation and the use of emerging technologies in certain domains of public administration, such as eHealth, autonomous mobility, eJustice, as well as the use of AI in public administration in general. Additionally, fundamental rights, including human dignity, the right to security, the respect for private life, and the protection of personal data are incorporated in the eGovernment principles that are part of the Government ICT strategy. All government proposals related to ICT projects are evaluated against these principles during the approval process. .

Policy Area 3

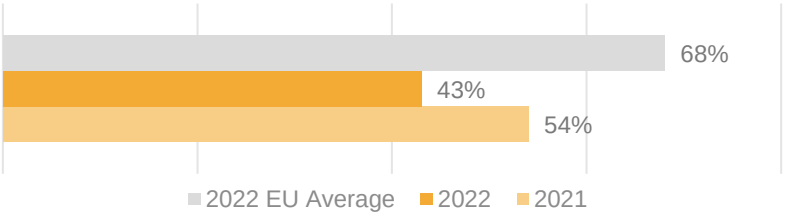
Foster digital empowerment and digital literacy



Among other initiatives aiming to foster digital skills within the country, the National Open Data Coordinator developed a comprehensive learning program for different groups of public administration representatives as well as general public. Furthermore, the VaPeG program of the Ministry of Interior introduces eGovernment tools and related digital legislation in order to equip public sector employees (at the central, regional and local public administration) with up-to-date knowledge of important legislation and digital public services.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

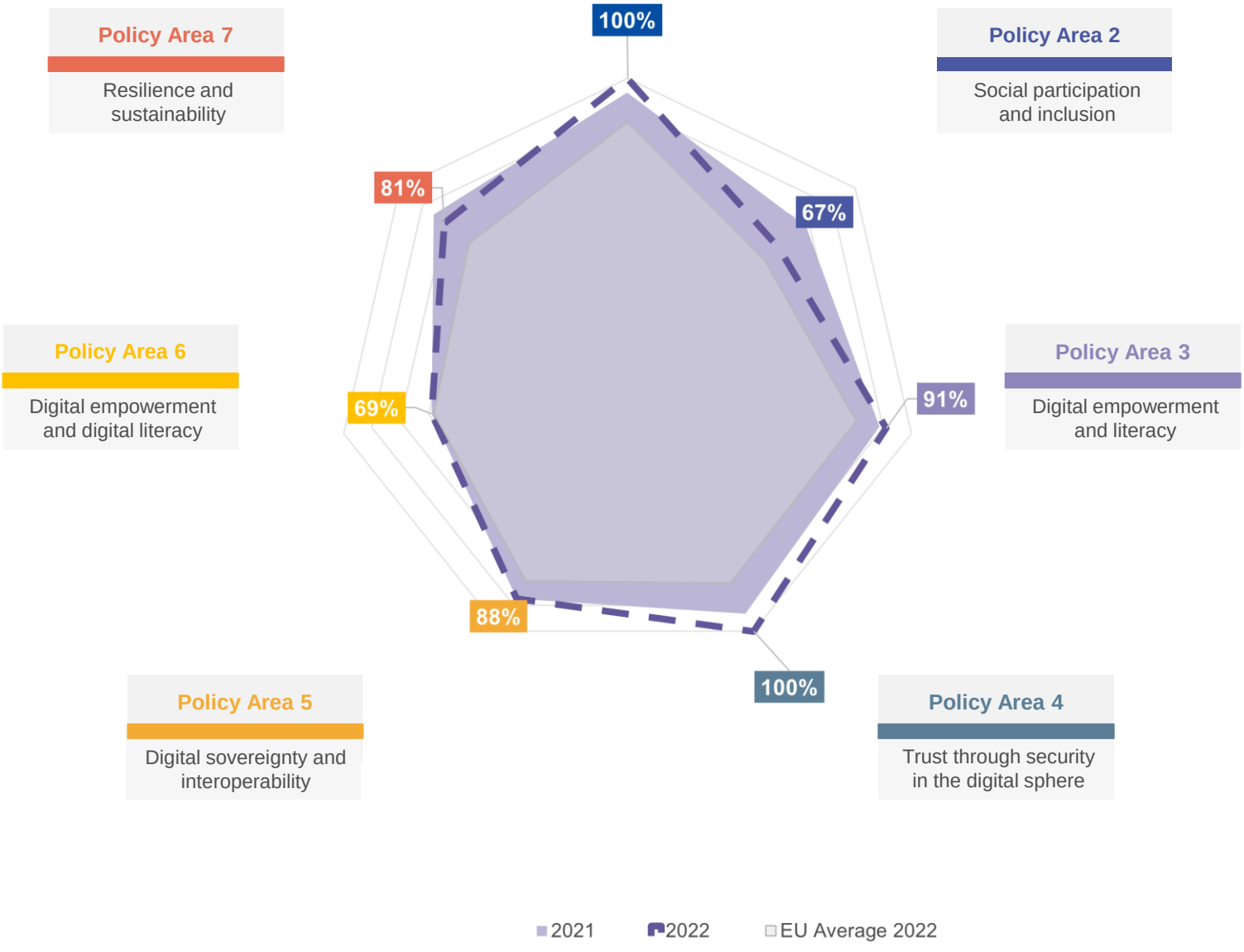


Karel, a project for automation and robotisation of processes at the Moravian-Silesian regional administration was created in 2018 with the goal of automating relevant processes and procedures performed by the regional administration and to benefit from the efficiency and effectiveness brought by this innovation. The robot software has been implemented in the public administration environment resulting in faster, cheaper and better quality of service delivery to citizens and legal persons, while freeing administrative clerks from repetitive tasks. Thirteen procedures have been automated so far and the employees are encouraged to suggest other processes for automation. The potential of natural language processing and machine learning technologies is being analysed from the perspective of the regional administration needs

DENMARK

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Denmark | Policy Areas level of implementation

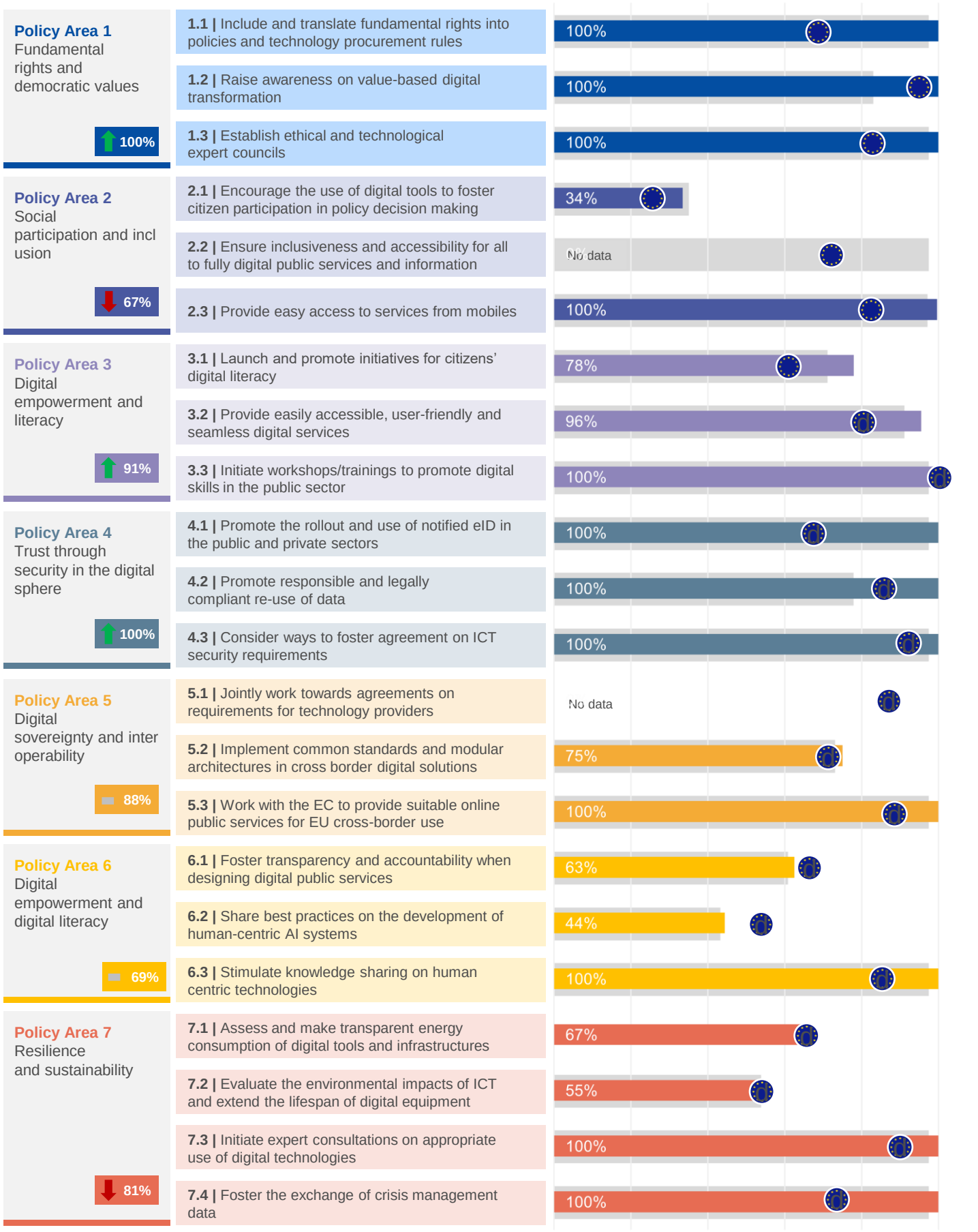


Denmark's scores in the Berlin Declaration monitoring mechanism 2022 have almost all increased compared to those of 2021, except for Policy Areas 5 and 6 which have stagnated, and Policy Area 7 which has slightly decreased by 4 percentage points. In particular, for Policy Areas 1 and 4, the country reached the score of 100%, with an increase of respectively 5 and 7 percentage points compared to last year.

In addition, Denmark scores above the EU average for all Policy Areas.

2022 BDM Results for Denmark | Policy Actions level of implementation

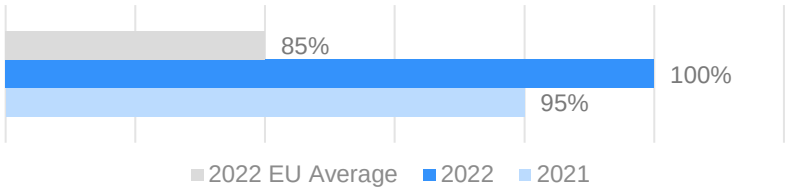
2021 country score | EU average (2022)



Qualitative stories from Denmark

Policy Area 1

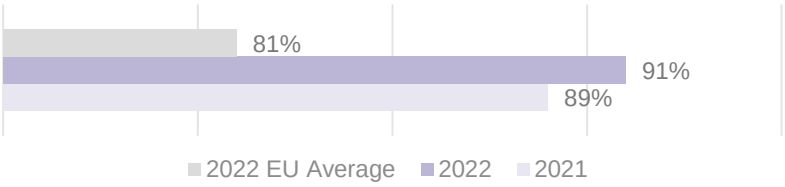
Promote fundamental rights and democratic values in the digital sphere



The Danish Data Ethics Council was created in 2019 and contributes to an open debate on topics such as the use of new digital solutions, data, artificial intelligence, and the dilemmas that new technologies may raise. Furthermore, the Tech for Democracy initiative brings together states, multilateral organisations, tech sector representatives, and civil society to power up a multi-stakeholder push for protecting and promoting democracy and human rights in an era of rapid technological development. In 2021, a virtual conference kicked off a multi-stakeholder dialogue and laid the ground for a year of action. In June 2022, a high-level physical conference in Copenhagen took stock of the progress made and provided a platform for raising commitments to strengthen digital democracy as a stepping-stone to the US Summit for Democracy.

Policy Area 3

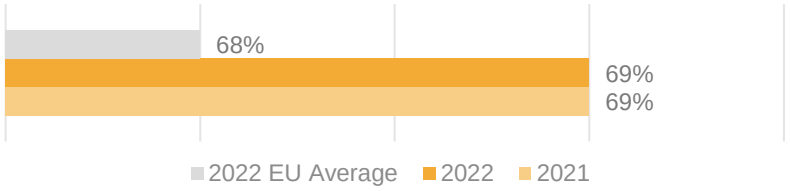
Foster digital empowerment and digital literacy



In 2017, one of the central objectives of the governments ICT strategy was to make sure that the government staff had the right skills and competencies, to develop and operate both its ICT projects and systems safely and efficiently. In this context, the Danish Government Digital Academy was established, which focuses on digital training for top managers and employees in ministries and government agencies. The academy offers a catalogue of 17 courses that are tailored to the special needs and context of the central government.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

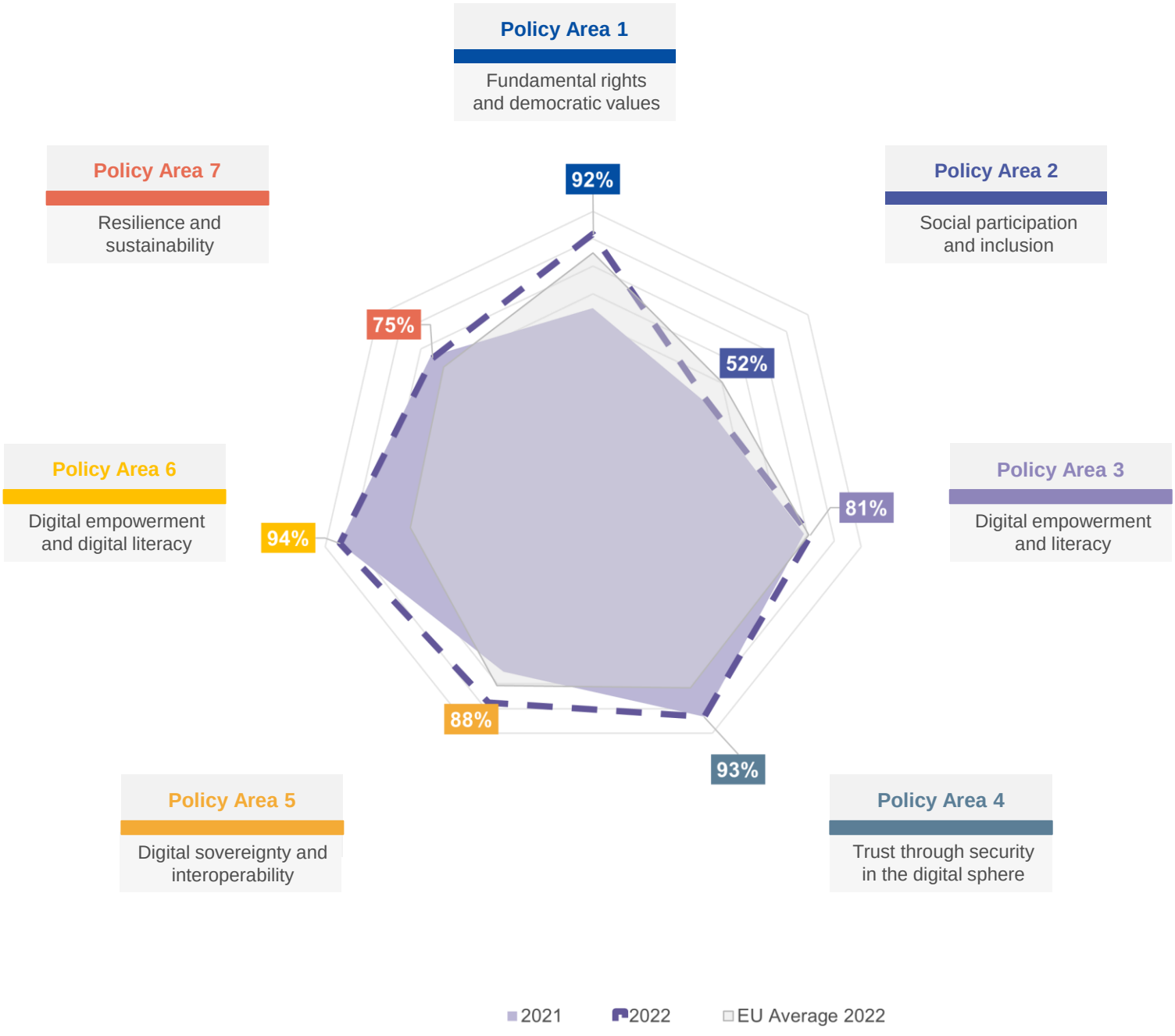


In 2019, the Danish government adopted a national strategy for artificial intelligence, which seeks to create a framework for businesses, researchers, and public authorities to enable them to better exploit the potential of Artificial Intelligence (AI) with a high level of responsibility. The strategy's initiatives aim to ensure that the work to increase the uptake of AI is done ethically, with access to good data, strong skills, and new knowledge, and that the possibilities for investments in technology are improving. Specific objectives have also been formulated in four priority areas: health, energy and utilities, agriculture, and transport. The strategy contains 24 initiatives that cover the public and private sectors and allocates a budget of DKK 60 million for new initiatives. For instance, a number of public-sector signature projects are carried out in cooperation with municipalities, regions, and private companies. AI is a technology undergoing rapid development, and therefore the strategy is revisited at regular intervals, to adapt efforts along the way.

ESTONIA

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Estonia | Policy Areas level of implementation

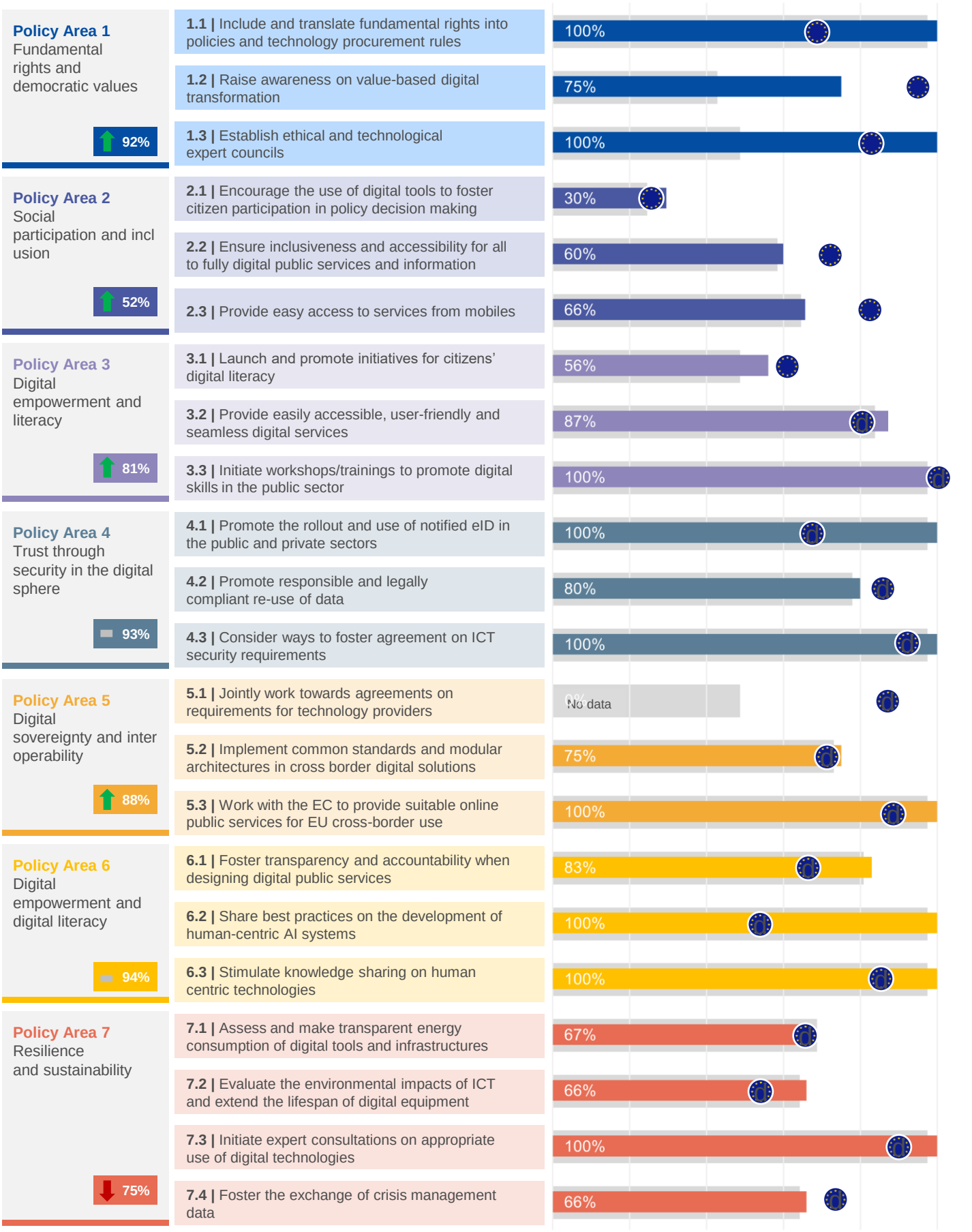


The scores of Estonia in the Berlin Declaration monitoring mechanism 2022 have increased for four Policy Areas compared to those of 2021, except for Policy Areas 4 and 6, which have been stagnating, and Policy Area 7, which encountered a slight decrease of 1 percentage point. The most significant increases for Estonia compared to 2021 have been recorded for Policy Area 1, with a progress of 27 percentage points, from 65 to 92%.

In addition, Estonia scores at or above the EU average in all seven Policy Areas, except for Policy Area 2, where Estonia scores 52% compared to an EU average of 60%. In Policy Area 6, Estonia even overscore the EU average by 25 percentage points, with a score of 94% compared to the EU average at 68%.

2022 BDM Results for Estonia | Policy Actions level of implementation

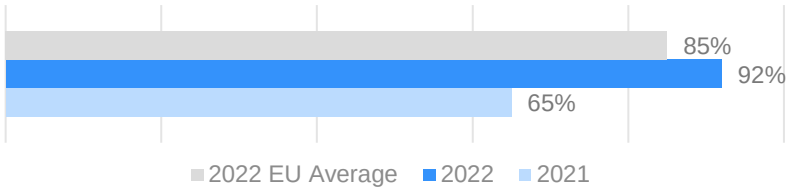
2021 country score | EU average (2022)



Qualitative stories from Estonia

Policy Area 1

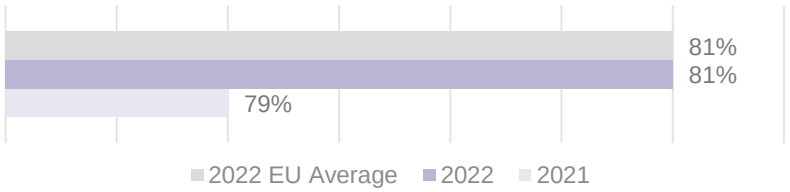
Promote fundamental rights and democratic values in the digital sphere



Estonia launched a Consent service, an eService that allows a person to give permission to the state to share their personal data with a certain service provider. The development of this service started in July 2020 and the first pilot project started in December 2021.

Policy Area 3

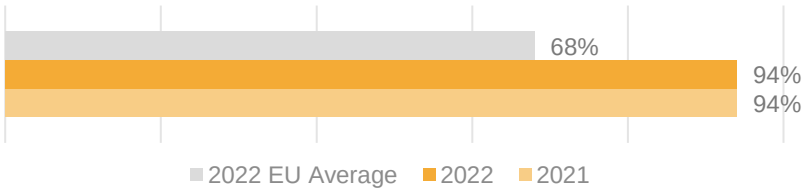
Foster digital empowerment and digital literacy



Estonia's Digital Academy (*Digiriigi Akadeemia*) gives access to free courses for public sector workers in order to increase their digital skills. The Academy also covers more advanced topics and concepts related to digital transformation, including a course on accessibility and digital solutions.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

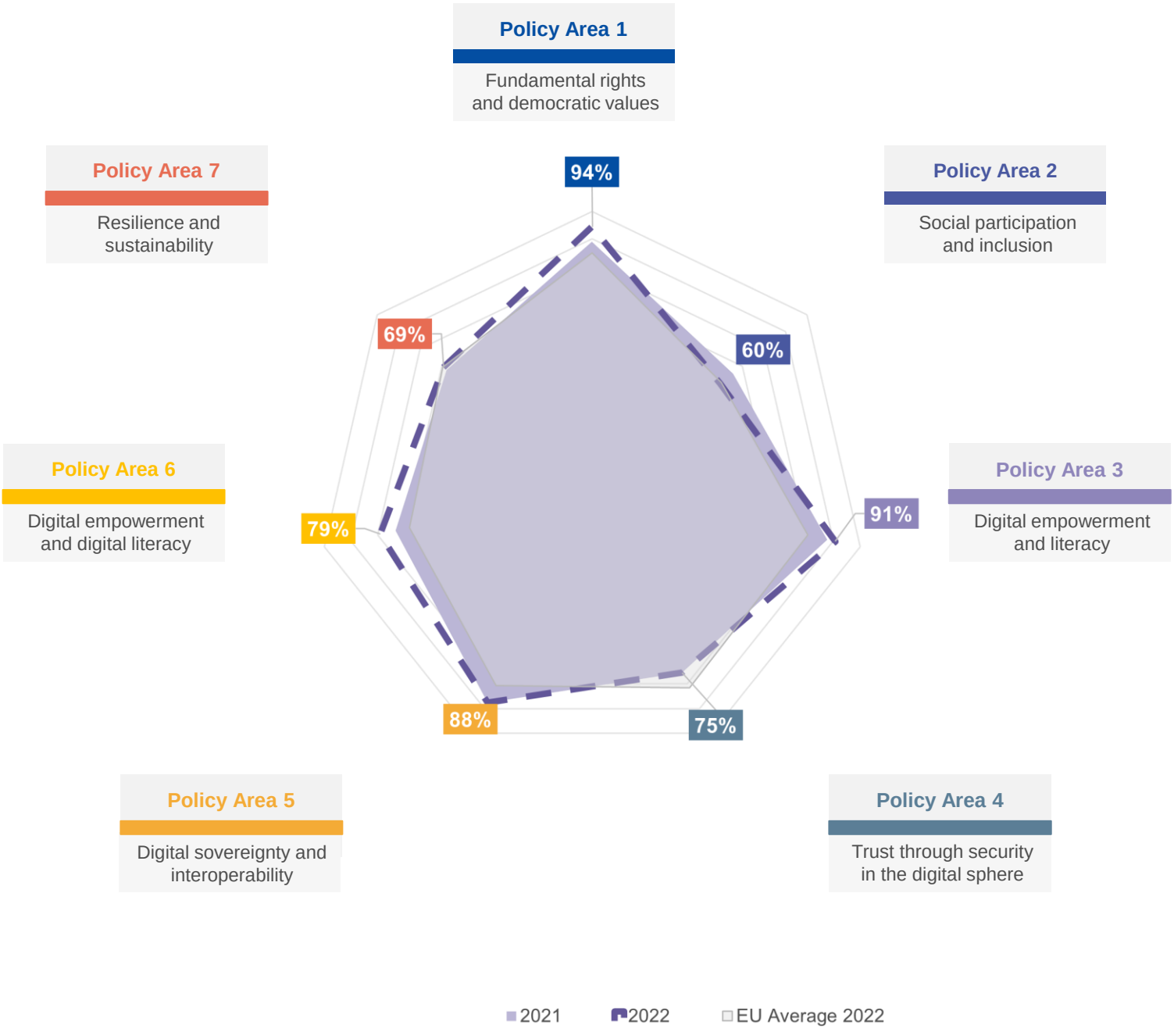


The current National AI Strategy 2022-2023 aims to increase the use of AI in Estonia and thereby increase the user-friendliness and accessibility of eServices and the efficiency of the state, by dedicating a budget of at least EUR 20 million throughout 2022-2023. It also includes further developing the '*kratijupid*', a concept which refers to open-source AI components that can be reused by the public and private sectors. These components serve as the foundation for the creation of Estonia's government virtual assistant: '*Bürokratt*'. Launched in 2022, this tool aims to offer a single channel for accessing public direct and informational services, hence granting citizens easier access to simplified digital public services. The goal is to benefit from the widespread use of mobile devices and the internet to access public services more easily and efficiently.

FINLAND

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Finland | Policy Areas level of implementation

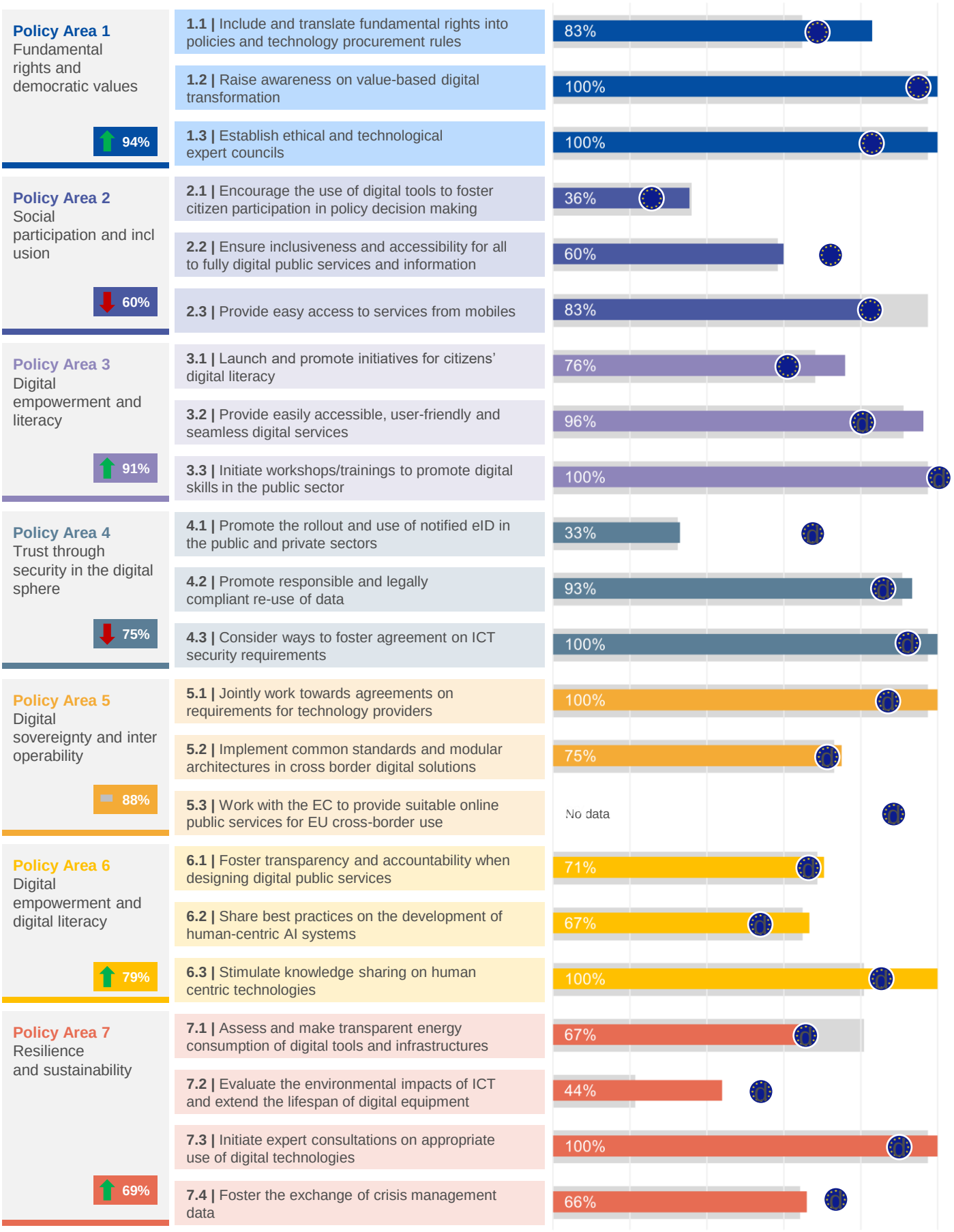


In the Berlin Declaration monitoring mechanism 2022, there has been an increase of Finland's score for four Policy Areas, one that has been stagnating (Policy Area 5) and two experiencing a decrease of 6 (Policy Area 2) and 1 percentage points (Policy Area 4). The Policy Areas that have been improving have been doing so slowly, with increases between 1 and 6 percentage points.

In addition, Finland scores above the EU average in four out of seven Policy Areas, namely Policy Area 1, Policy Area 3, Policy Area 5, and Policy Area 6, and it scores at the EU average for Policy Area 7. For the other two Policy Areas, improvement could be made to catch up on the slight lag compared to the EU average.

2022 BDM Results for Finland | Policy Actions level of implementation

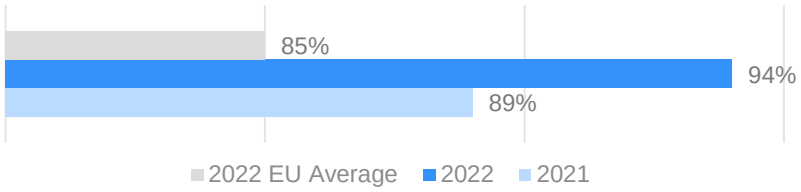
2021 country score | EU average (2022)



Qualitative stories from Finland

Policy Area 1

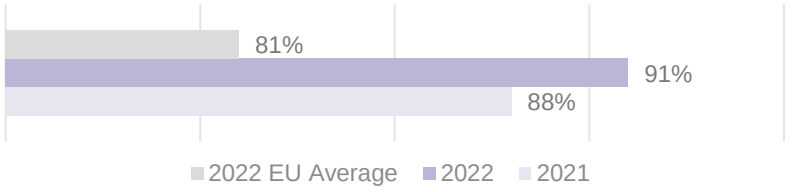
Promote fundamental rights and democratic values in the digital sphere



In 2020–2021, the OECD carried out an assessment of the governance system in Finland, specifically focused on assets, preconditions and gaps within the wider public sector policy making and steering system in Finland that may stand in the way or help implement an anticipatory innovation approach in the Finnish context. Four policy domains were identified as case studies to gain greater understanding and pilot initiatives to build Finland's anticipatory capacity: continuous learning, carbon neutrality, child well-being and collaboration between politicians and public officials. The cases provided tailored and practical proposals for the enhancement of Finland's anticipatory innovation governance capacity to address concrete policy challenges.

Policy Area 3

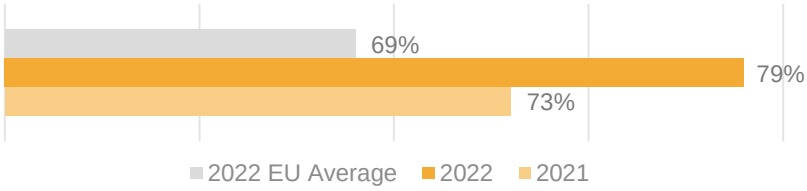
Foster digital empowerment and digital literacy



In 2021, the university of Helsinki, in cooperation with the cities of Helsinki, Amsterdam and the Finnish Ministry of Finance created an online course on the Ethics of AI. It helps public administrations, companies and citizens understand what the ethical use of artificial intelligence means and what it requires from both society and individuals.. It encourages people to learn what AI ethics means, what can and can't be done to develop AI in an ethically sustainable way, and how to start thinking about AI from an ethical point of view. The course consists of seven chapters: definition of the ethics of artificial intelligence, principles of good will and non-harm, accountability, transparency, human rights, fairness and AI ethics in practice.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

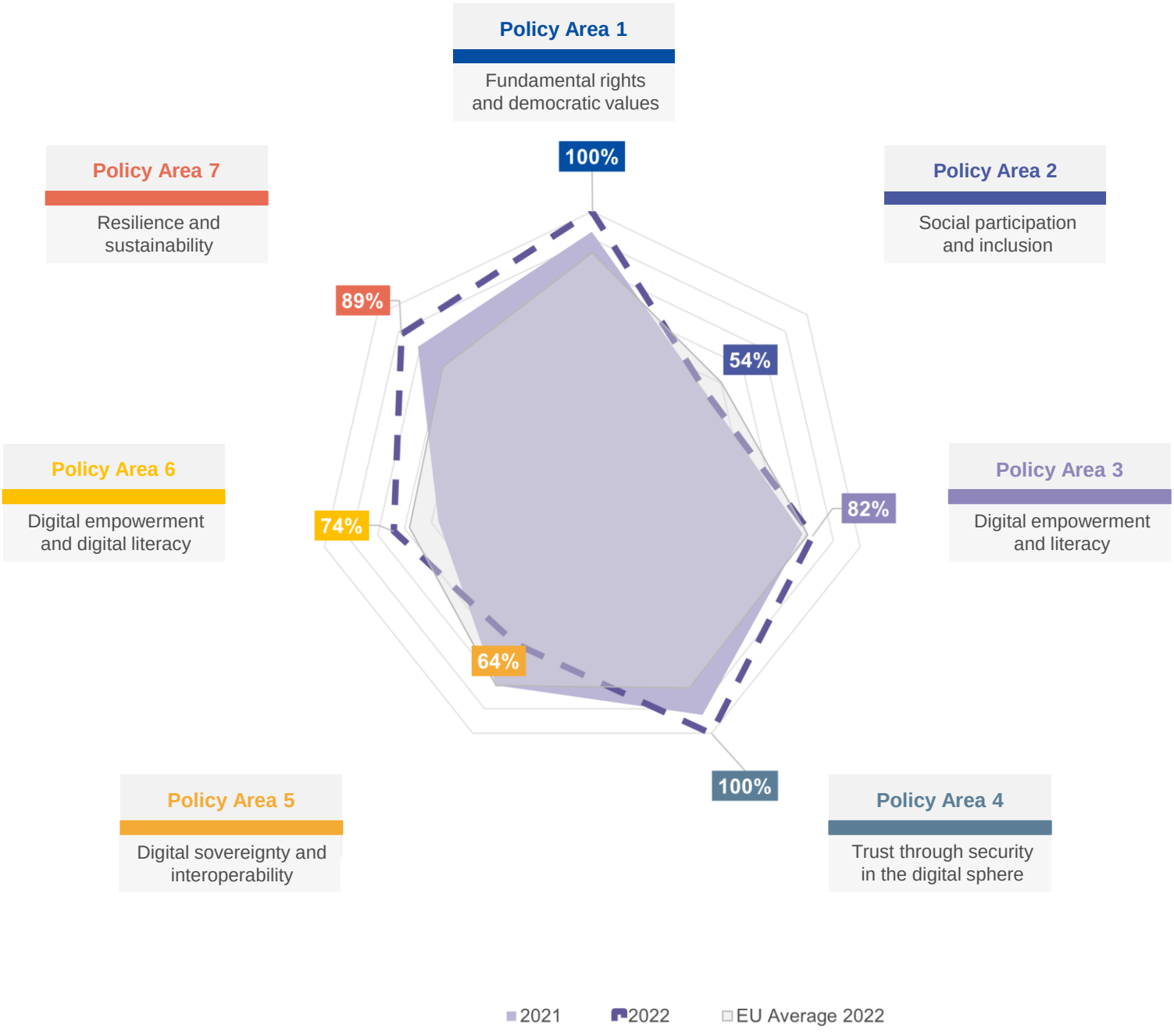


As part of the VN TEAS program, the 'Avoiding AI Biases' research project developed an assessment framework for developing non-discriminatory Artificial intelligence (AI), which was published in August 2022. The framework combines the evaluation of discriminatory risks of AI systems with the promotion of equality. Thereby, it seeks to allow governments and public officials to steer technological innovation and development while protecting the fundamental rights of citizens. The framework serves as an algorithmic impact assessment process for addressing risks of discrimination and promoting equality throughout the lifecycle of an AI system. The framework and its questions are structured according to three phases, following a lifecycle model: Design, Development (including Data, Model training, Model testing) and Deployment.

FRANCE

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for France | Policy Areas level of implementation

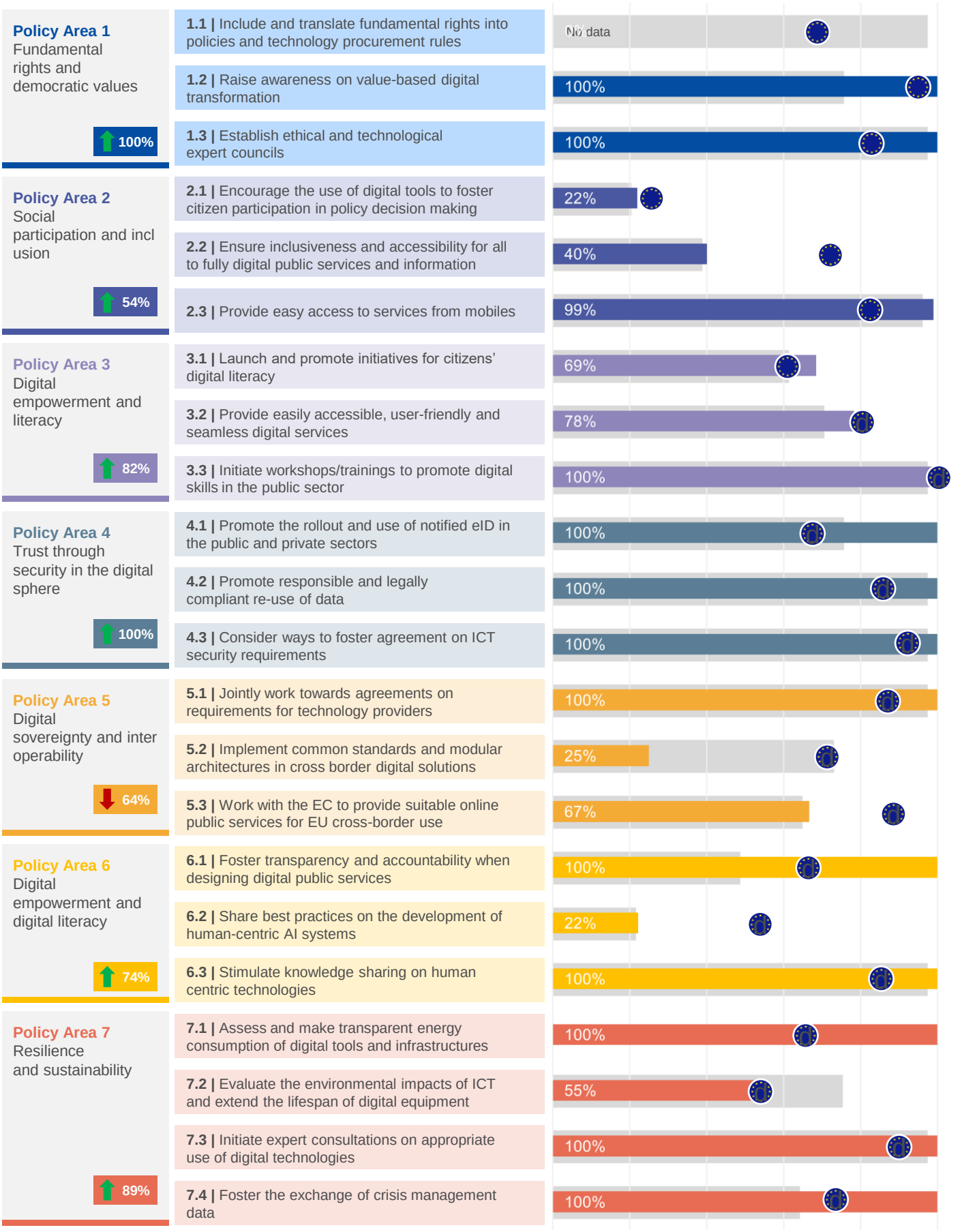


Almost all of France's scores in the Berlin Declaration monitoring mechanism 2022 have increased compared to those of 2021, except for Policy Area 5, where a decrease of 17 percentage points is noticeable compared to last year. For Policy Areas 1 and 4, the country has reached a score of 100%, increasing of 7 percentage points compared to 2021. The most significant increase for France compared to 2021 has been recorded for Policy Area 6, with a progress of 17 percentage points.

In addition, France is scoring above the EU average in five out of seven Policy Areas, namely Policy Areas 1, 3, 4, 6 and 7. However, there is still some room for improvement regarding Policy Area 5, where France's score decreased compared to last year and is behind the EU average by 18 percentage points.

2022 BDM Results for France | Policy Actions level of implementation

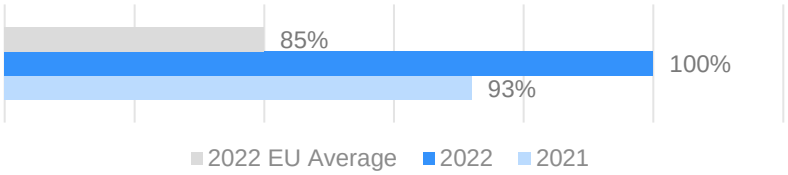
2021 country score | EU average (2022)



Qualitative stories from France

Policy Area 1

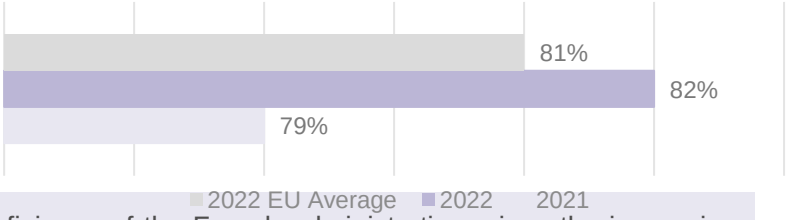
Promote fundamental rights and democratic values in the digital sphere



On 22 November 2022, a dedicated session on the impact of digital transformation on people's daily lives was launched, following President Emmanuel Macron's announcement about the creation of a National Refoundation Council. The challenge that French society is facing demands the collective effort of everyone so as to ensure that digital technology used in daily life enhances citizens' lives instead of causing disruption. Furthermore, DINUM's Beta.gouv department developed an online platform for citizens to provide their input for the National Refoundation Council as a whole.

Policy Area 3

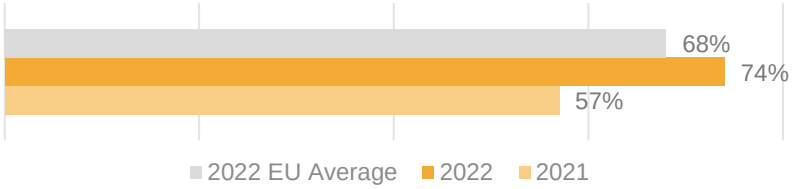
Foster digital empowerment and digital literacy



It is essential to enhance the digital proficiency of the French administration, given the increasing expectations of citizens and the need to offer services that match those provided by the private sector. The services must be user-friendly to ensure that the maximum number of people can access and utilize them. The DesignGouv team has developed various training programs, including webinars and in-person sessions, to enhance design skills.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

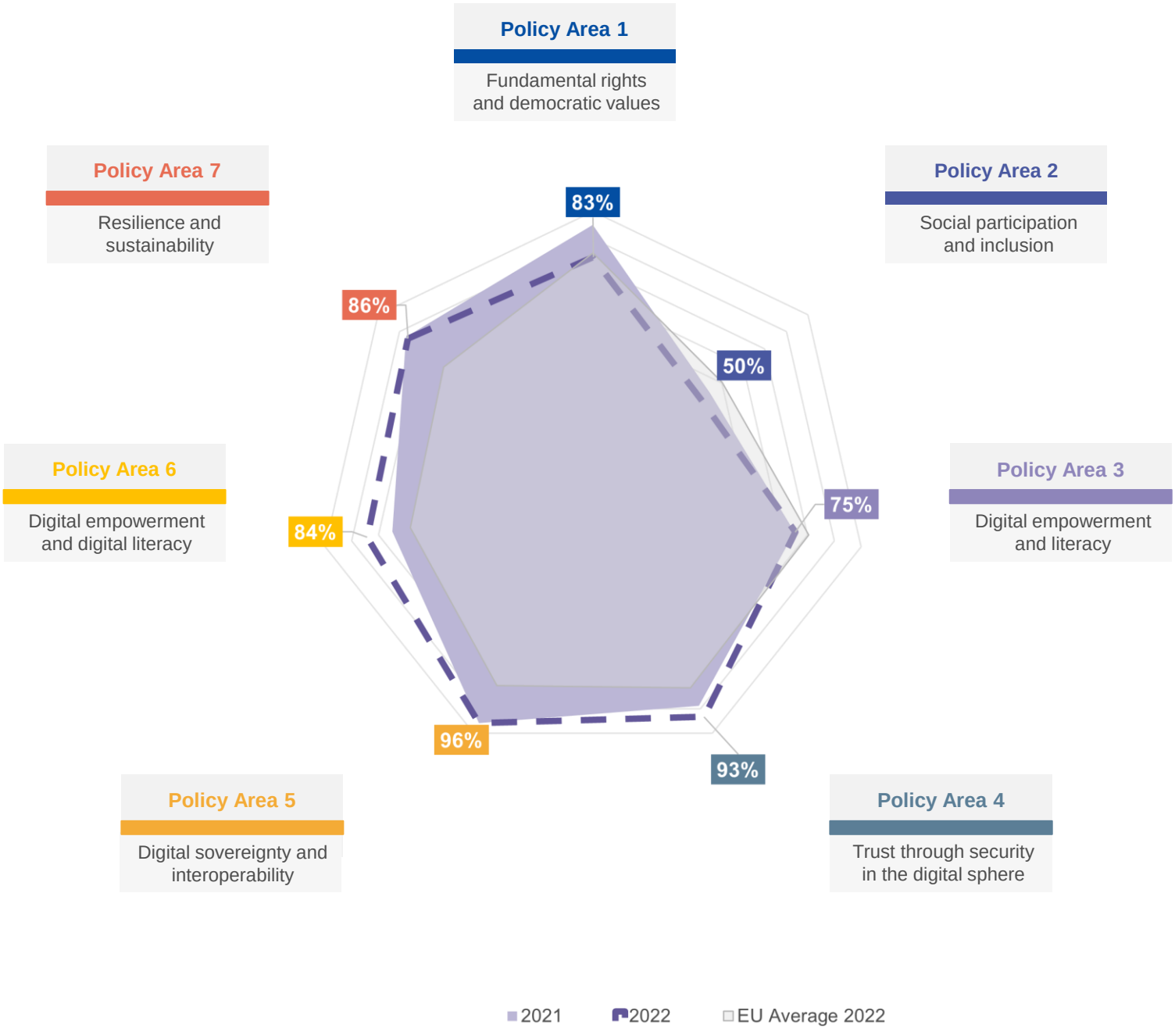


In France, there exists a legal structure that guarantees transparency and notification whenever a decision is made based on algorithmic processing. This ensures that individuals are aware of their rights, whether or not these decisions are made automatically. This can be found in Article 4 of Law No. 2016-1321 of 7 October 2016 for a Digital Republic and Article L311-3-1 in the Code of relations between the public and the administration. As of July 2020, all automated processing must explicitly mention this obligation, or else it will be considered null. Additionally, the same article specifies that the data controller is responsible for maintaining control over algorithmic processing and its evolution in order to explain, in detail and in an understandable manner, to the data subject how the processing has been carried out with respect to them.

GERMANY

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Germany | Policy Areas level of implementation

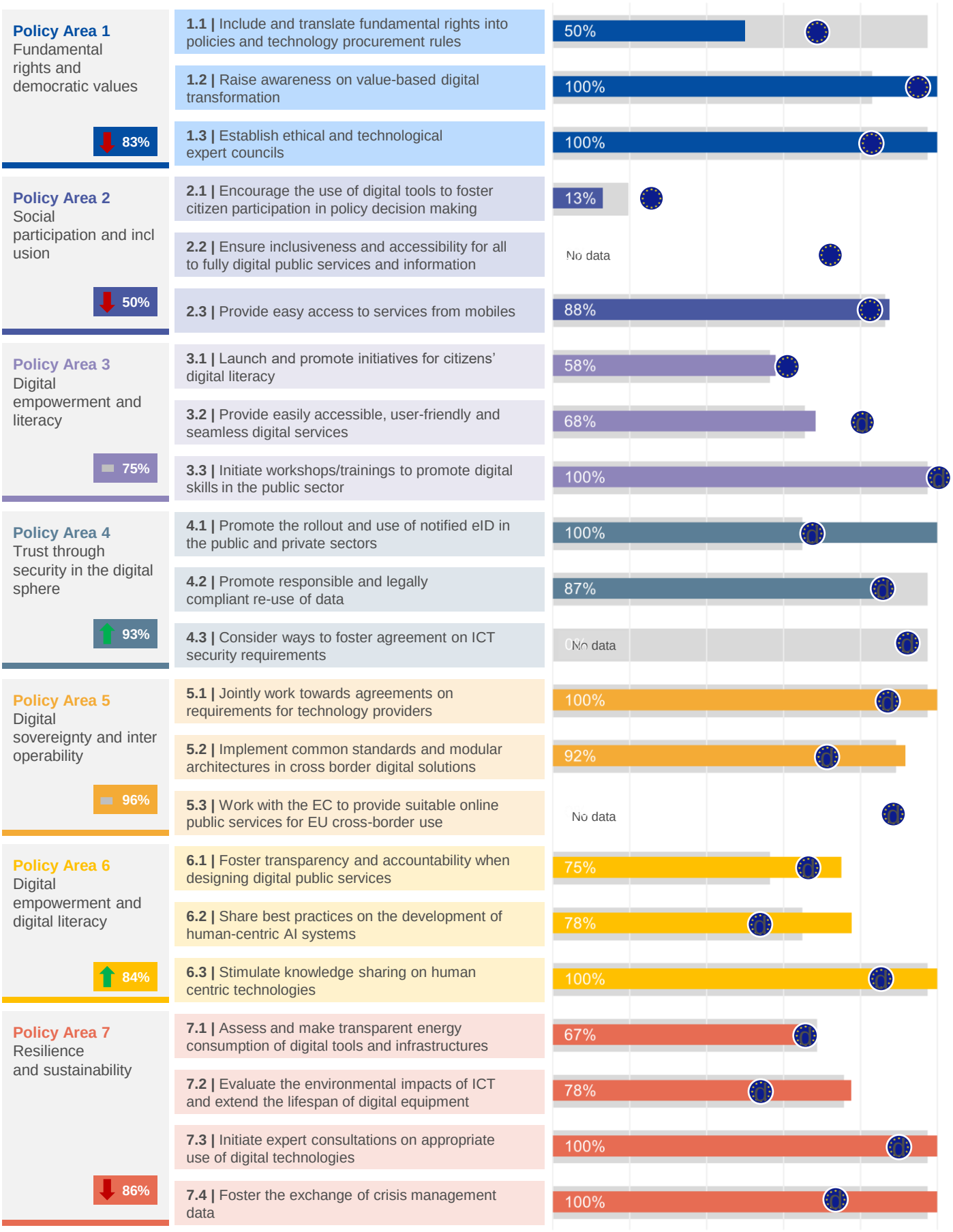


Germany's scores in the Berlin Declaration monitoring mechanism 2022 have slowly evolved compared to those of 2021, with two increasing Policy Areas (Policy Areas 4 and 6), two stagnating (Policy Areas 3 and 5) and three experiencing a decrease (Policy Areas 1, 2 and 7). The most significant increases for Germany compared to 2021 have been recorded for Policy Area 6, with a progress of 6 percentage points. The Policy Area that decreased the most is Policy Area 1, with a drop of 12 percentage points compared to 2021.

In addition, Germany scores above the EU average in four out of seven Policy Areas, namely Policy Areas 4 to 7. However, there is still some room for improvement in particular regarding Policy Area 2, where the country has just reached 50% of implementation.

2022 BDM Results for Germany | Policy Actions level of implementation

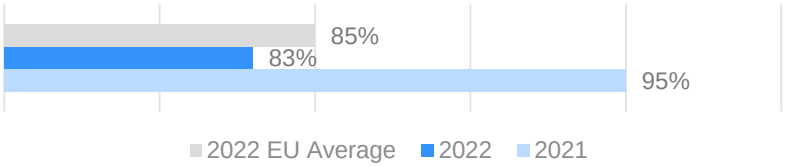
2021 country score | EU average (2022)



Qualitative stories from Germany

Policy Area 1

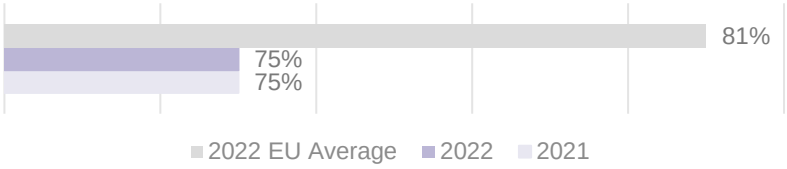
Promote fundamental rights and democratic values in the digital sphere



The Federal Ministry of Interior and Community swiftly established the 'Germany4Ukraine' help portal as a secure and centralized digital point of contact for Ukrainian refugees in response to a situation that resulted from the war of Russian aggression. The portal, which is available in Ukrainian, Russian, English, and German, provides information on eleven crucial topics, such as 'Entry, stay and return', 'Accommodation', 'Emergency rapid assistance', and 'Health care', among others. Moreover, the portal offers access to four administrative services that are particularly relevant to the target group: the online service 'Electronic residence permit', the online application for integration courses, the procedure for the online identity card 'AusweisApp2', and the digital application line for applying for unemployment benefits. In addition, in 2022, GovTech Campus Deutschland was launched, making digital innovations and technologies accessible, scalable, and useful for public administration in Germany. Physical innovation spaces are provided where new methods of cross-sectoral co-ideation, co-creation, and co-learning can be tested, practiced and refined; and where GovTech stakeholders and public sector organisations can start collaborating and innovating on an equal footing.

Policy Area 3

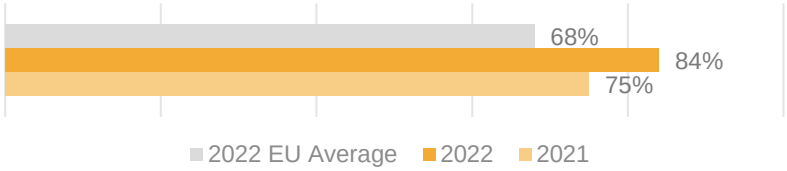
Foster digital empowerment and digital literacy



The German Federal Academy of Public Administration (BAköV) launched the Digital Academy in 2021, which provides free online and offline courses for federal employees to improve their digital skills and prepare them for an increasingly digital environment. The Academy's offerings teach both technical skills and new ways of working enabled by emerging technologies, with a focus on promoting sustainability and user acceptance. Additionally, BAköV meets the growing demand for accessible and user-friendly digital services. The Research Data Action Plan is funding over 60 projects to expand data expertise in science, with a focus on establishing data centers of expertise, expanding data skills for young scientists, and supporting universities of applied sciences.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

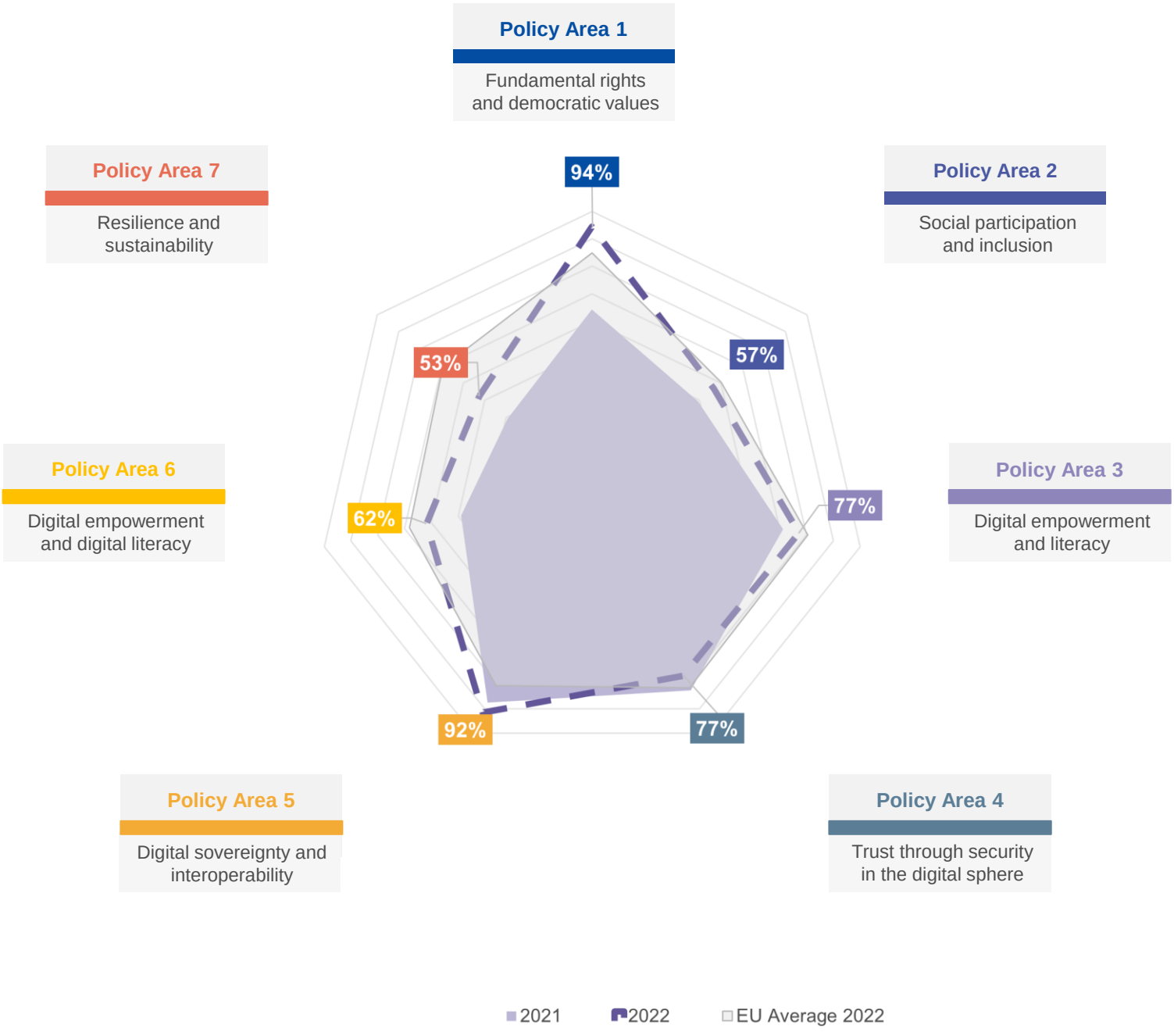


Germany is in the process of establishing a 'Data Institute' to standardise and provide better access to data and explore fiduciary and data licensing models. A commission has been invited to recommend tasks and working methods for the institute. The Federal Ministry of Economics and Climate Action and the Federal Ministry of the Interior and Community will develop a governance model for the Data Institute and seek approval from the Federal Government and Parliament in 2023. The Federal Ministry of Labor and Social Affairs has established the 'AI in Labor and Social Administration' network to responsibly implement AI applications in social and labor administration, with self-committed guidelines published in November 2022. The network's member agencies will apply and test the guidelines in actual AI projects, share experiences, and modify the guidelines accordingly. The goal is to ensure quality, safety, and human-centeredness in AI implementation.

GREECE

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Greece | Policy Areas level of implementation

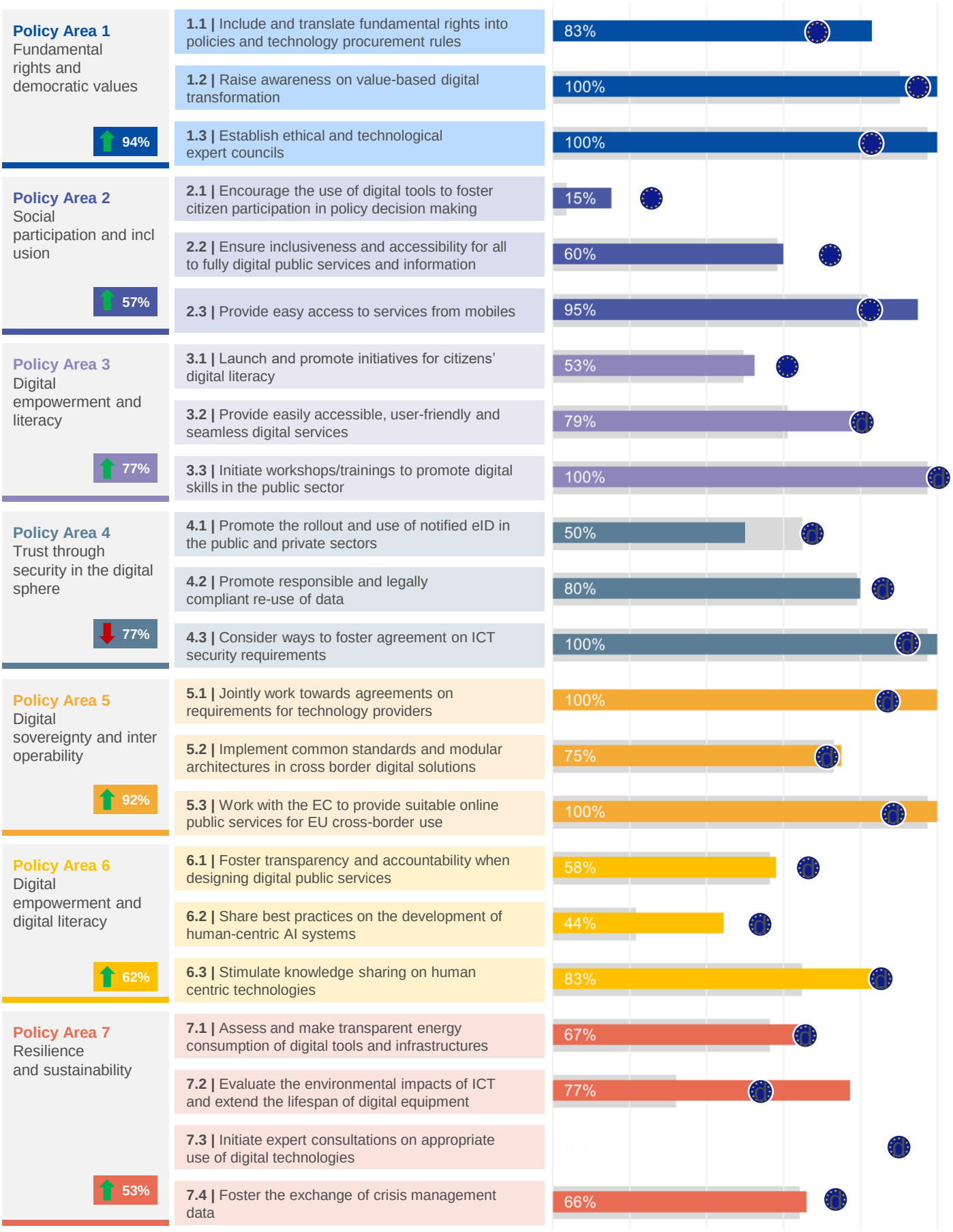


Overall, Greece has been improving in all but one Policy Areas compared to 2021, as shown in the Berlin Declaration monitoring mechanism 2022. Policy Area 4 has encountered a low decrease of 6 percentage points compared to last year. The most significant increases for Greece compared to 2021 have been recorded for Policy Area 1, with a progress of 30 percentage points, as well as Policy Areas 2, 6 and 7, which increased by 14, 13 and 14 percentage points, respectively.

In addition, Greece scores above the EU average in two out of seven Policy Areas, namely Policy Area 1 and Policy Area 5. However, there is still some room for improvement, most notably with regard to Policy Area 7, which received a score of 53%, compared to the EU average at 69%.

2022 BDM Results for Greece | Policy Actions level of implementation

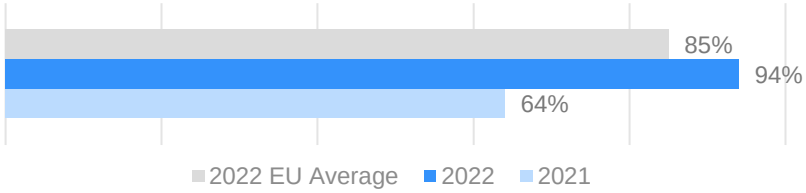
2021 country score | EU average (2022)



Qualitative stories from Greece

Policy Area 1

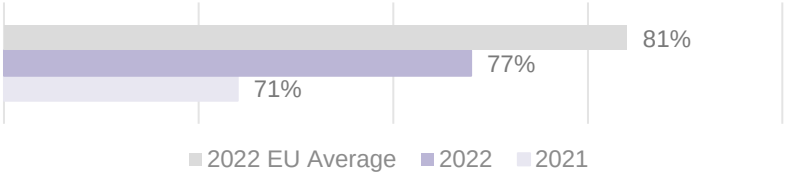
Promote fundamental rights and democratic values in the digital sphere



The National Center for Public Administration and self-government has launched an educational program to promote equality and rights of the LGBTQI+ community in public administration. This initiative is a key part of the national strategy to promote LGBTQI+ rights and focuses on enhancing the skills of public sector employees and teachers in managing diversity in the workplace. The program aims to promote awareness and best practices for protecting LGBTQI+ rights. Additionally, the Digital Transformation Strategy for a Justice Development Transition has been created, which provides a comprehensive plan for implementing interventions to achieve strategic objectives. This strategy is not limited to funding from the National Transition Fund and was prepared in parallel with other strategic documents, including the National Programme for the Fair Development Transition 2021-2027.

Policy Area 3

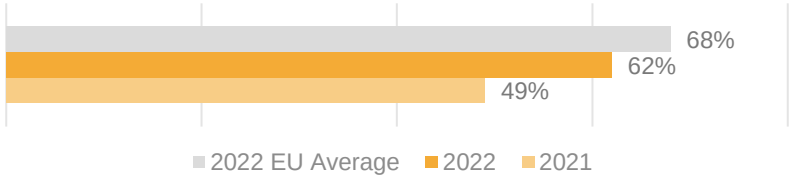
Foster digital empowerment and digital literacy



The Greek National Coalition for Digital Skills and Jobs has launched an initiative to train 20 000 civil servants in cloud computing technologies as part of the GR for Growth investment to build a data center in Greece. This initiative aims to address the shortage of ICT professionals in Europe and create a pool of talented digital professionals. Other initiatives include personalised training programs for elderly people, raising awareness among women to become active in the field of technology, and an educational program for kids to develop their digital skills in a responsible and safe way. The National-Academy-of-Digital Skills platform hosts over 315 courses, offered by 39 different providers, and MOOCs are also available. These initiatives are recognised as best practices and have been published on the EU Platform for Digital Skills and Jobs.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

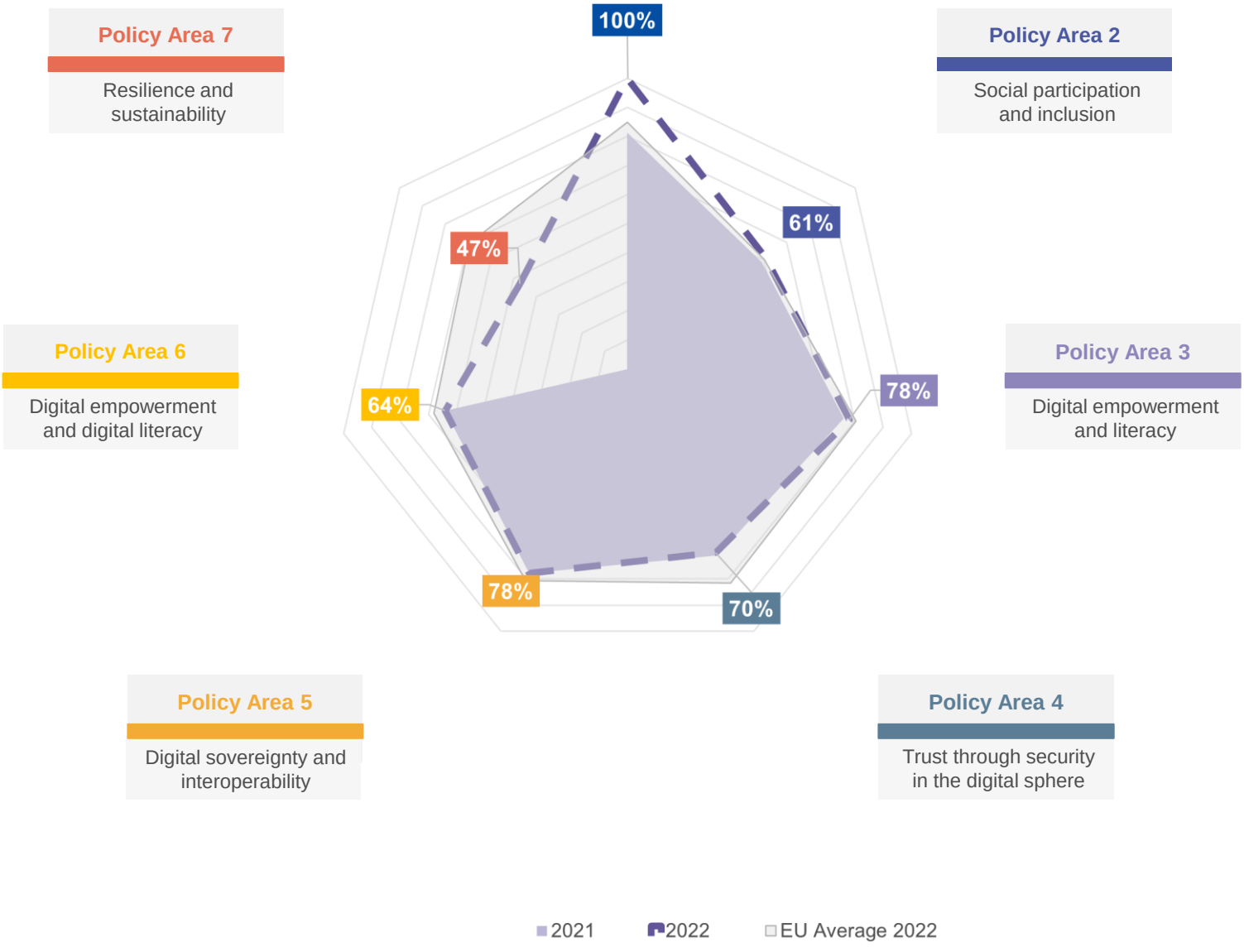


Apart from its Articial Intellgience (AI) initiatives, Greece has directed its attention toward other innovative technologies such as High-Performance Computing/QCI Cooperation Statement. The Minister of Digital Governance signed the Quantum Communications Infrastructure Cooperation Framework for the Hellenic Republic on 3 December 2019, in Brussels. Greece's focus on the development and implementation of the latest satellite technologies and applications in the next three years, particularly in the fields of 5G telecommunications and Earth Monitoring Services, was announced during the ESA Ministerial Council of 27 November 2019, in Seville. Greece has committed to contributing EUR 16 million to the ARTES program, which includes sub-programs on quantum security and technologies.

HUNGARY

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Hungary | Policy Areas level of implementation

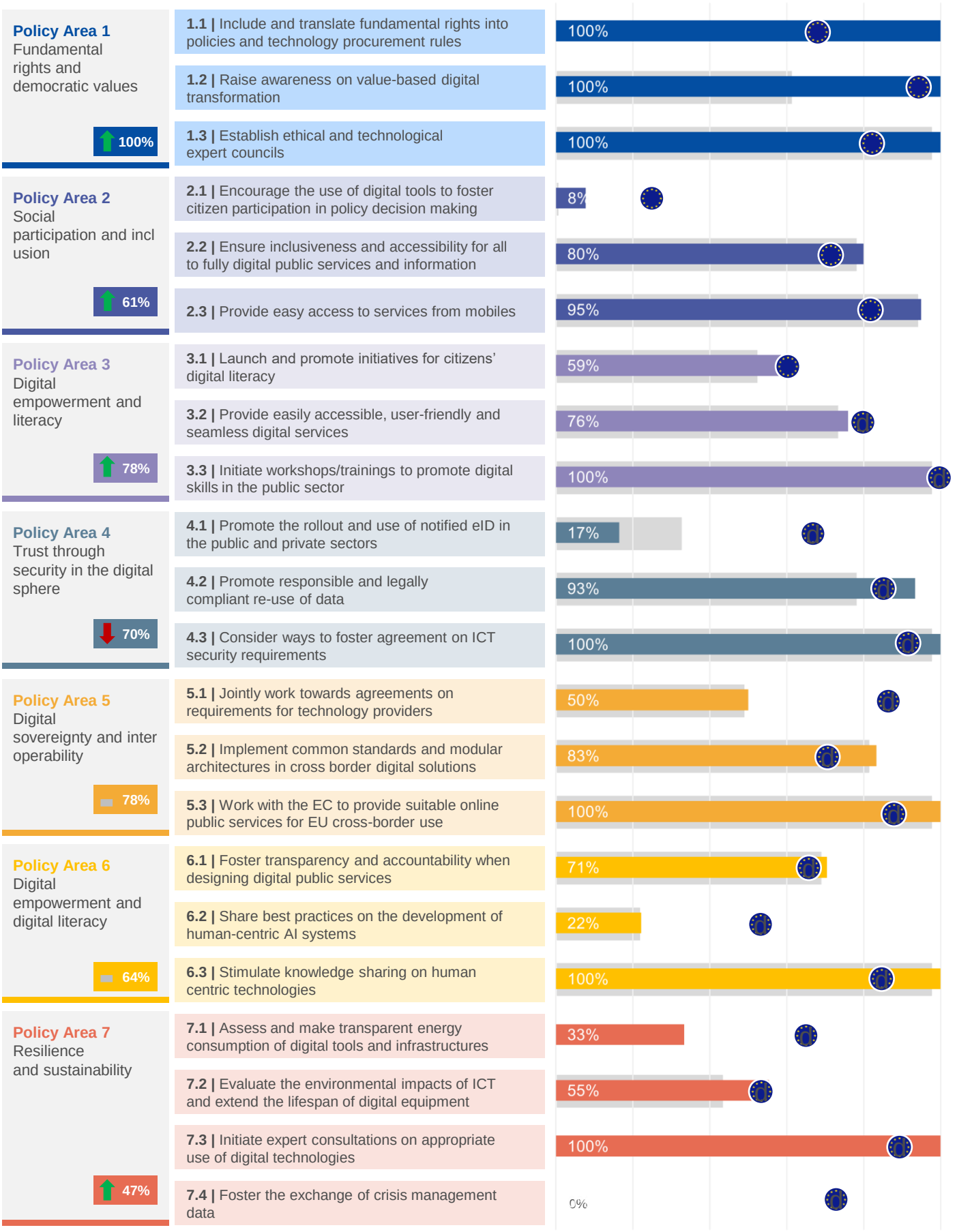


Hungary has demonstrated progress in the Berlin Declaration monitoring mechanism 2022 with four increasing Policy Areas compared to those of 2021, except for Policy Area 4, which has decreased by one percentage point, and Policy Area 5 and Policy Area 6, which have stagnated. The most significant increases for Hungary compared to 2021 have been recorded for Policy Area 1, with a progress of 19 percentage points, leading to the maximum score of 100%. Finally, data could be collected for all Policy Actions under Policy Area 7, which was not the case last year.

Hungary is performing better than the EU average for Policy Area 1 and Policy Area 2. However, improvements could be made in all other Policy Areas, in particular Policy Area 7, so as to pass the 50% mark.

2022 BDM Results for Hungary | Policy Actions level of implementation

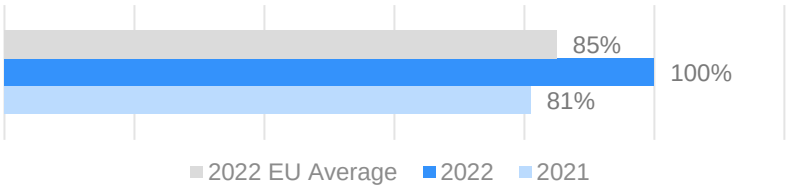
2021 country score | EU average (2022)



Qualitative stories from Hungary

Policy Area 1

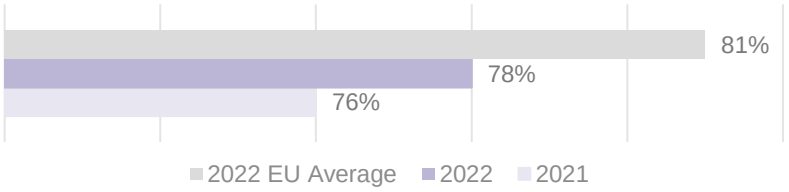
Promote fundamental rights and democratic values in the digital sphere



The National Digital Citizenship Programme 2022-2026 was launched by the recently formed Digital Hungary Agency. Its primary objective is to promote user-friendly design and implementation of digital public services in Hungary. As the access to public services is a fundamental right, the program endeavors to create digital services that are accessible to all, irrespective of physical, intellectual, or technological limitations. By the end of 2023, the program aims to achieve its initial goals related to improving user experience and prioritizing the needs of the user.

Policy Area 3

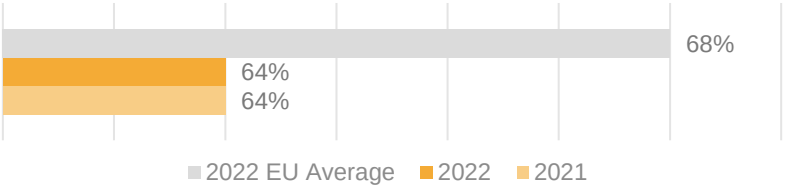
Foster digital empowerment and digital literacy



The Hungarian Government's National Social Inclusion Strategy 2030 prioritises improving digital literacy and infrastructure for disadvantaged groups. Measures such as providing support for digital equipment, free access to digital textbooks, and training programs have helped thousands of disadvantaged children, working-age individuals, and parents. The government has also established a development framework to address digital citizenship and reduce the digital divide, including a priority project for basic digital competence training for citizens without digital skills, including people with disabilities. Overall, these initiatives aim to improve the digital competencies of the Hungarian population, increase access to digital resources, and reduce online risks for disadvantaged groups.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

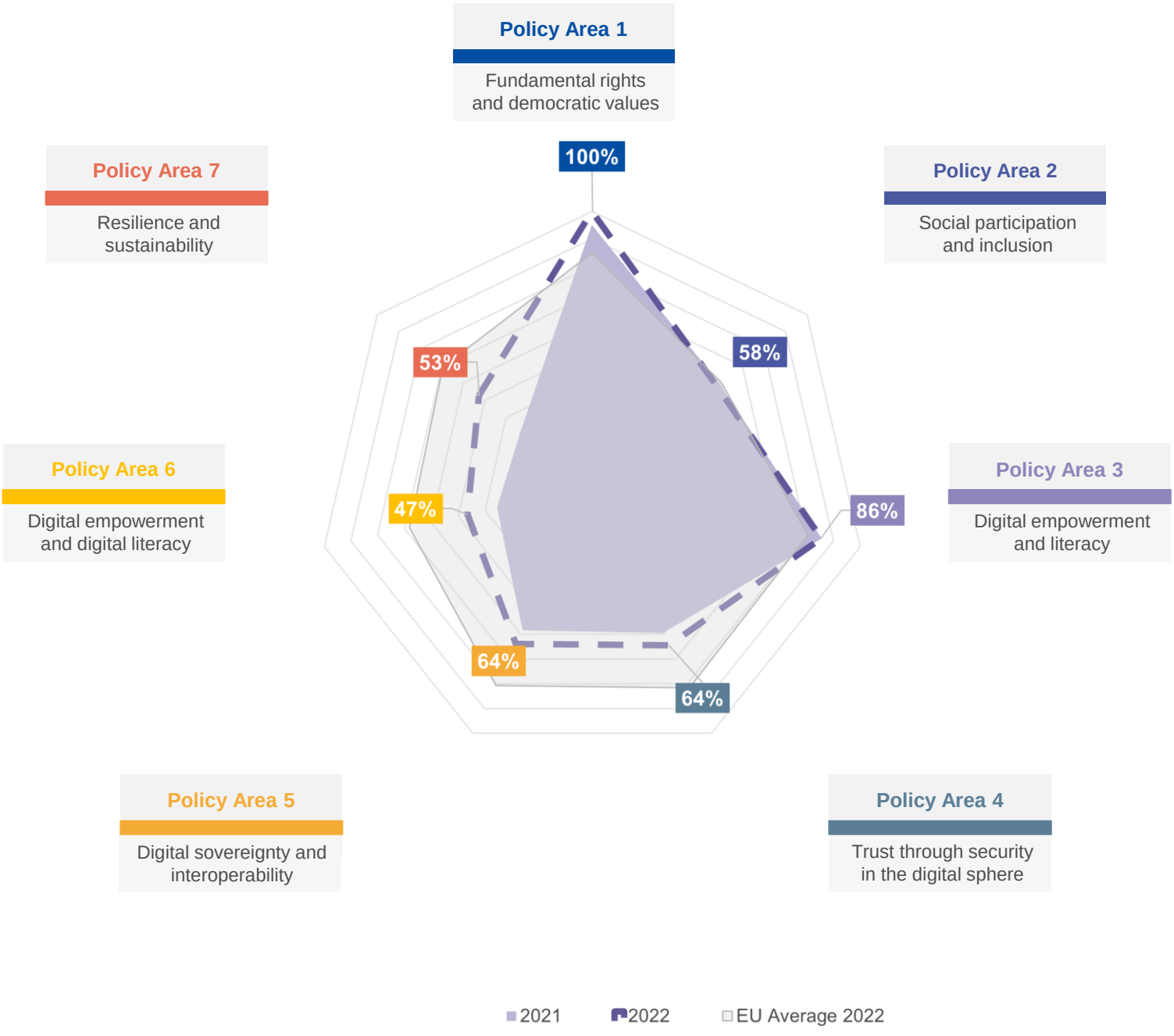


In December 2021, the Parliament passed an amendment to the eAdministration Act to allow for the use of AI-based technologies in regulated electronic administration services. This was followed by an amendment to the Government Decree on electronic administration, which included three AI-based eGovernment building block services: an AI-assisted voice generator service, an AI-assisted voice description service, and an AI-assisted communication assistant. The National Digitalisation Strategy 2022-2030 aims to promote the application of AI and robotisation in the further development of eGovernment, with the goal of providing real user-centric and proactive services. An automated decision-making building block service is also being developed, which will allow for the automatic implementation of processes based on pre-configured decision logics and machine-to-machine data exchange. Overall, these regulatory measures aim to facilitate the use of AI in eGovernment services to improve efficiency and user experience.

IRELAND

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Ireland | Policy Areas level of implementation

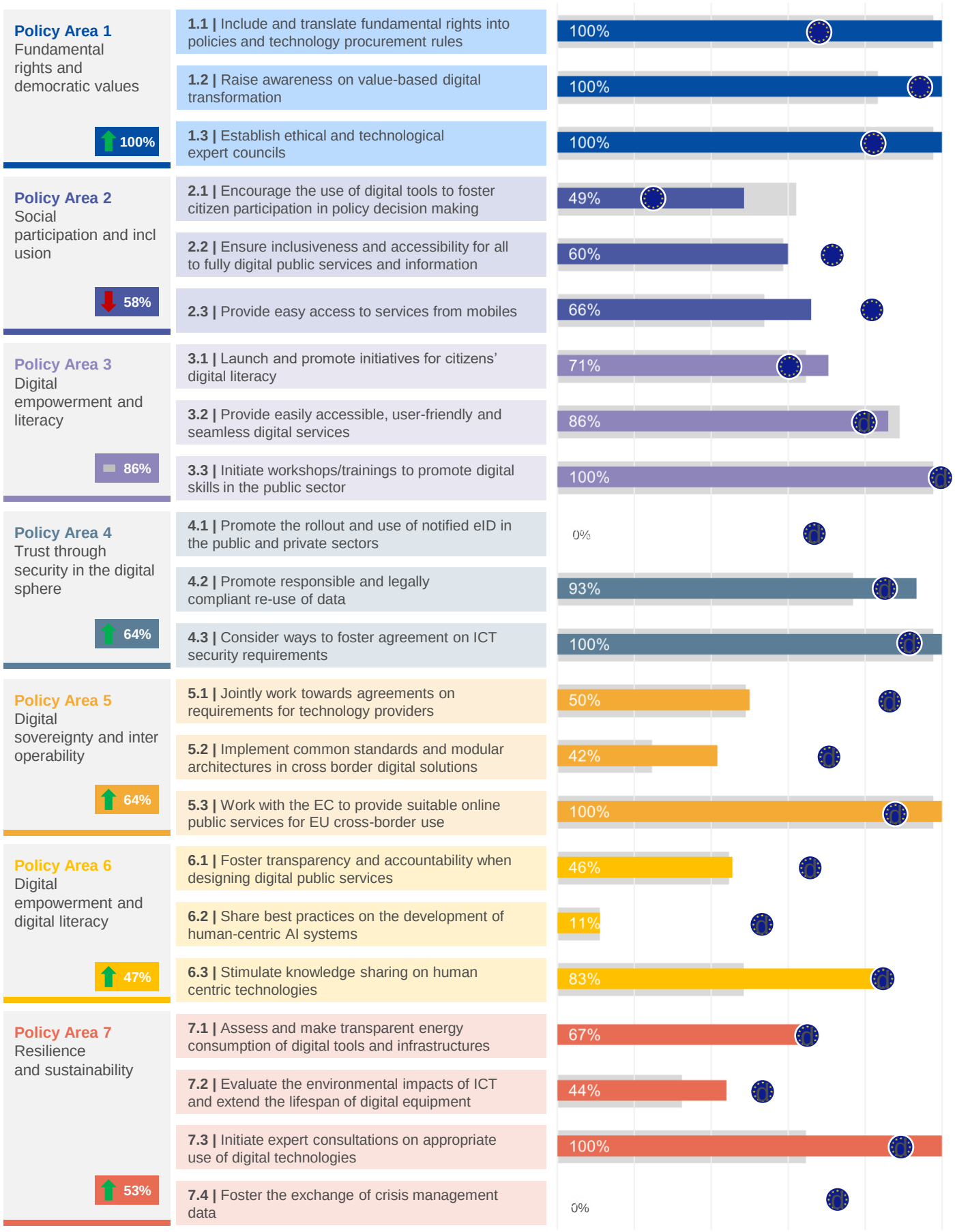


Ireland's score in the Berlin Declaration monitoring mechanism 2022 have mostly increased compared to those of 2021, with five progressing Policy Areas (i.e., Policy Areas 1, 4, 5, 6, and 7), and two demonstrating a stagnation (Policy Areas 2 and 3). Similarly to other countries, Ireland has reached the maximum score of 100% for Policy Area 1, with an increase of 5 percentage points compared to 2021. The most significant increases for Ireland compared to 2021 have been recorded for Policy Area 6, with a progress of 12 percentage points, and in particular Policy Area 7, which received an increase of 20 percentage points.

However, Ireland is performing better than the EU average in two Policy Areas, namely Policy Areas 1 and 3. Hence, further efforts should be targeted at the other Policy Areas, in particular Policy Areas 6 and 7, experiencing a gap of 21 and 16 percentage points respectively.

2022 BDM Results for Ireland | Policy Actions level of implementation

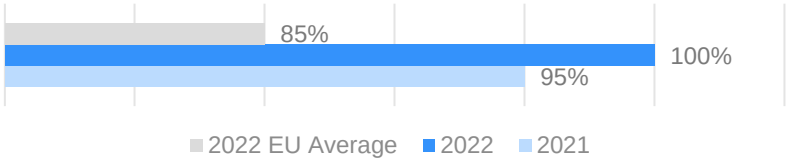
2021 country score | EU average (2022)



Qualitative stories from Ireland

Policy Area 1

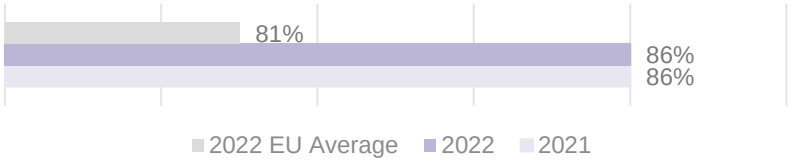
Promote fundamental rights and democratic values in the digital sphere



In support of Ireland's National Digital Strategy 'Harnessing Digital - The Digital Ireland Framework', a National Digital Strategy for the Public service 'Connecting Government 2030: A Digital and ICT Strategy for Ireland's Public Service' was published in March 2022 and is fully aligned with the EU Digital Compass. The latter Strategy highlights Ireland's ambition to provide better access to trusted, high-quality digital government services that are delivered in an equitable, inclusive and sustainable manner with better service to those who need assistance. It also aims to ensure secure and transparent reuse of personal data, as well as opportunities to co-create government services. Additionally, as planned by Ireland's National Artificial Intelligence Strategy a GovTech Delivery Board has been established in 2022, which will lead the digital transformation of the Public Service and ensure an ethical and trustworthy approach to Artificial Intelligence development, adoption and use.

Policy Area 3

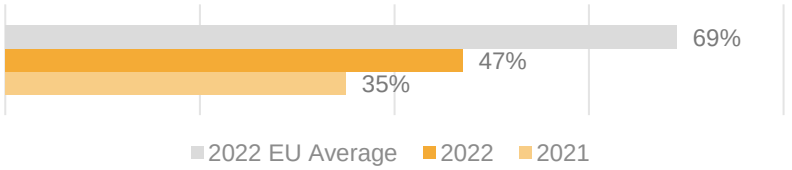
Foster digital empowerment and digital literacy



One of Ireland's strategies specifically targeted at empowerment and digital literacy is the 'Adult Literacy for Life' - a 10-year adult literacy strategy' and is an example of a cross-Government, cross-economy and cross-society approach to ensure that everyone has the necessary literacy, numeracy and digital literacy to fully participate in society and realise their potential. As an inclusive approach for an Inclusive strategy, over 2000 stakeholders, including individuals and organisations, provided input into its creation and the Adult Literacy for Life strategy also enables Ireland to align internationally with sustainable development, social and economic goals of the EU, UNESCO and the OECD. As part of the strategy, free digital literary courses are provided at local level for the general public.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

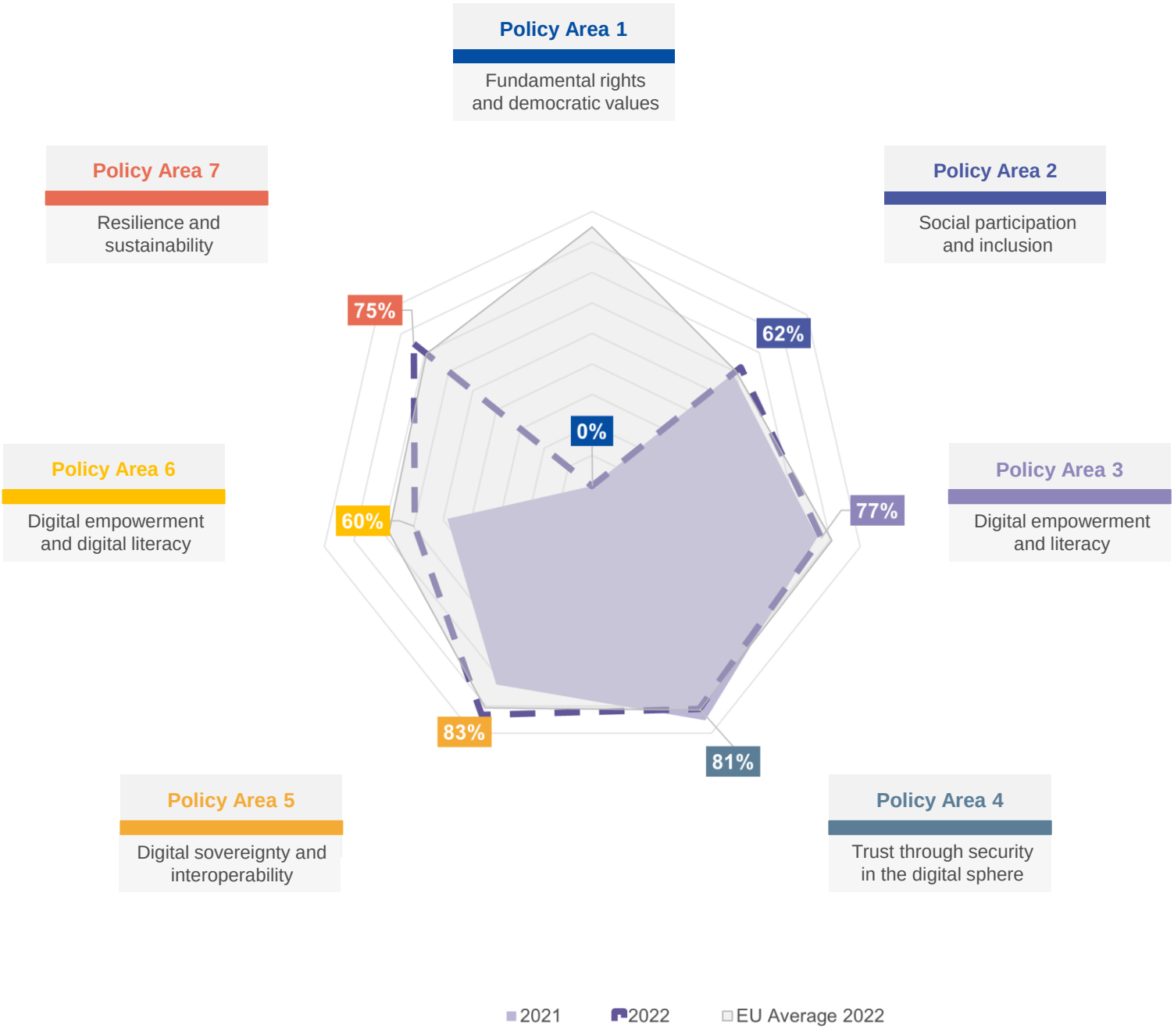


The Department of Public Expenditure & Reform (DPER) partnered with TU-Dublin University and a private course provider to design a Foundation Certificate in Artificial Intelligence course for public servants. The course aims to help fulfill Ireland's commitment to 'Digital First and Embedding Innovation' and to ensure that public servants understand the potential and ethical implications of AI in the delivery of public services. The course is free for public servants, but an assessment test is required to participate. The course includes academic experts on topics such as ethics, and participants work on practical projects such as creating an AI application. The course aims to empower non-AI experts to work with AI experts in exploring and delivering AI in public services. DPER has compiled a database of AI-educated public servants to connect with industry experts and funding resources for promising AI initiatives.

ITALY

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Italy | Policy Areas level of implementation

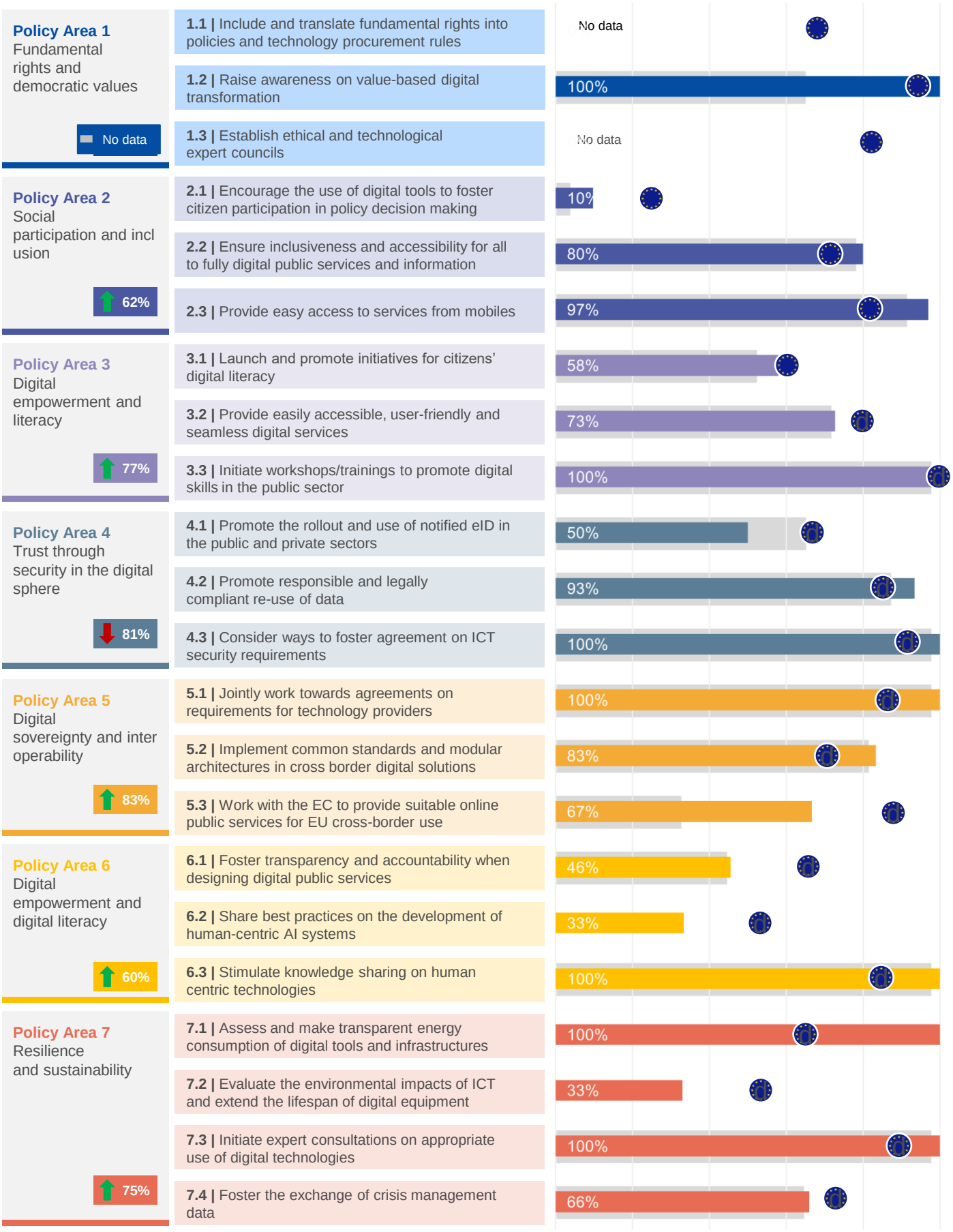


Overall, Italy's scores are higher than in the previous edition of the BDM Report. The most significant increases can be discerned in Policy Area 5, with an increase of 11 percentage points, Policy Area 6, with an increase of 11 percentage points and Policy Area 7, where Italy scored 75%, a good result compared to 2021 where it had not submitted any data.

Italy scores above the EU average for three Policy Areas out of seven: for Policy Area 2, Policy Area 5 and Policy Area 7. It scores particularly below the EU average for Policy Area 6, where it received a score of 60% in 2022 while the EU average is 68%. Nonetheless, as mentioned before, has worked on this Policy Area over the past year, significantly increasing its score compared to 2021. It is strongly encouraged to continue investing in this Policy Area in order to score at or above the EU average in the 2023 edition of the BDM Report.

2022 BDM Results for Italy | Policy Actions level of implementation

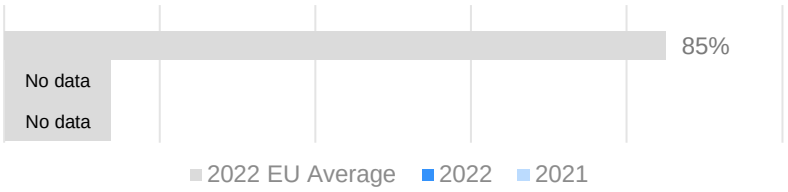
2021 country score | EU average (2022)



Qualitative stories from Italy

Policy Area 1

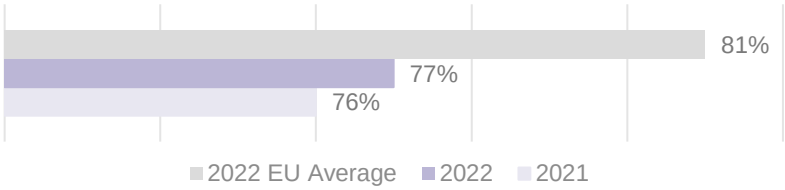
Promote fundamental rights and democratic values in the digital sphere



The Digital Civil Service is a funded initiative that aims to train young volunteers to become digital facilitators and help citizens increase their digital awareness. It is part of the Universal Civil Service and closely linked to the 'Network of digital facilitation services'. The NRRP plans to engage around 9 700 volunteers and at least 100 host organisations over a three-year period to train approximately 1 million citizens. NGOs and organisations form the National Coalition for digital skills to promote digital skill development. The Civil Service organisations are undergoing a Capacity Building process and have access to a monitoring and knowledge management platform to guide the service towards achieving its objectives.

Policy Area 3

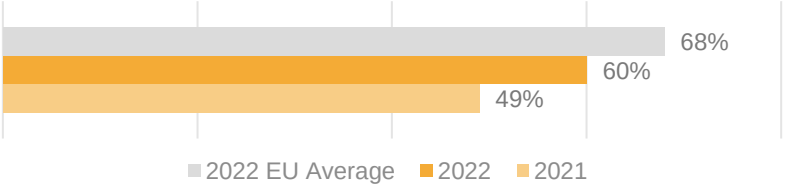
Foster digital empowerment and digital literacy



Repubblica Digitale, a national multi-stakeholder initiative for digital skills, was launched in 2019 by the Department for Digital Transformation under the Presidency of the Council of Ministers in Italy. The initiative aims to bridge the digital divide, promote digital education, and support Italy's social and economic growth through the National Coalition for digital skills. To address pressing issues related to digital skills, working groups were established and officially kicked off in the summer of 2022. Three working groups were formed, focusing on digital inclusion, gender digital divide, and gaming. The digital inclusion working group focuses on digital facilitation services and includes members from the public and private sector. The gender digital divide working group is jointly coordinated by two departments and has over 50 organisations and experts aiming to tackle gender gaps in advanced digital skills and ICT jobs. They are currently analysing the situation and developing effective solutions. The gaming working group aims to promote responsible gaming and challenge stereotypes and risks. Overall, the initiative seeks to improve digital skills and education in Italy to support its growth and development.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

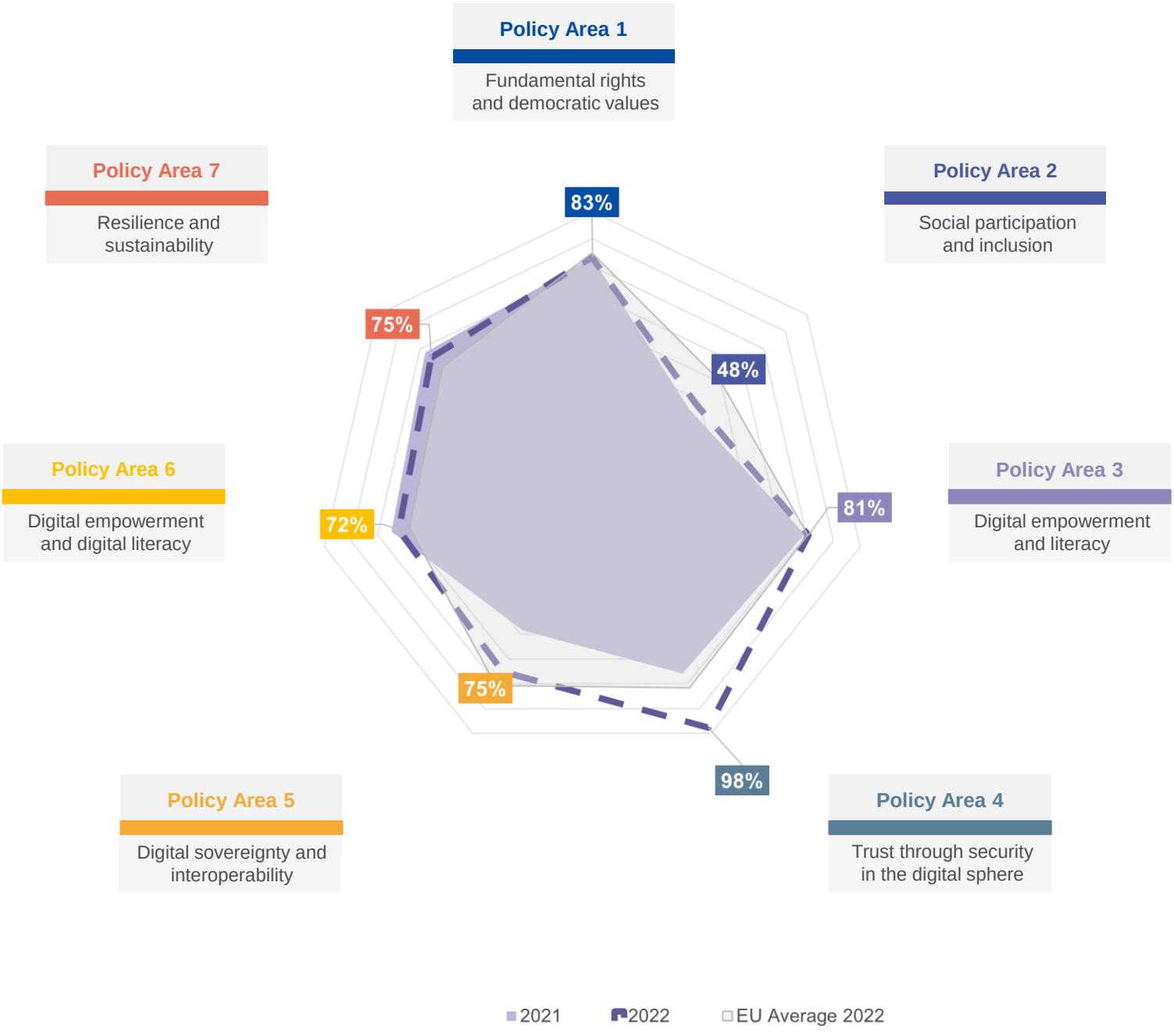


The Italian communities of DesignersIT and DevelopersIT have incorporated human-centric approaches as essential principles and guidelines in creating services, such as usability testing and co-development of services. DesignersIT is the standard for digital design of Public Services, providing templates, kits, and guides to support citizen-centered design processes.

LATVIA

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Latvia | Policy Areas level of implementation

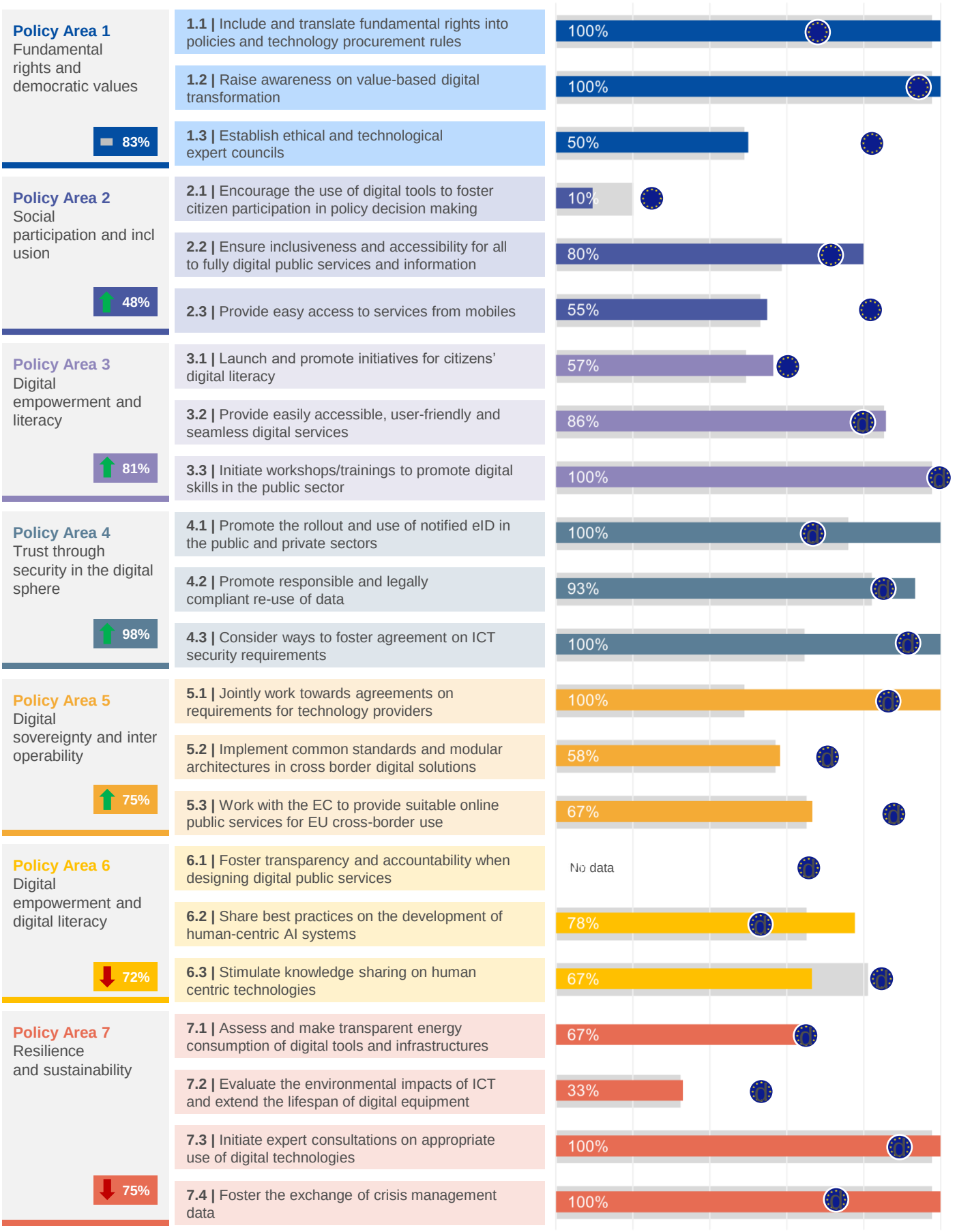


Overall Latvia's scores in the Berlin Declaration monitoring mechanism 2022 have increased compared to those of 2021, except for Policy Area 6 and Policy Area 7, where the scores have decreased slightly compared to last year. The most significant increases for Latvia compared to 2021 have been recorded for Policy Area 4, which received an increase 22 percentage points and Policy Area 5, which accounts for an increase of 17 percentage points.

In addition, Latvia scores above the EU average in four out of seven Policy Areas, namely Policy Area 3, Policy Area 4, Policy Area 6 and Policy Area 7. However, there is still some room for improvement particularly regarding Policy Area 2, where Latvia scores well below the EU average, with a score of 48% compared to an EU average of 60%. Similarly, with regard to Policy Area 5, Latvia remains below the EU average in 2022, although it must be noted that the country significantly improved its score compared to 2021.

2022 BDM Results for Latvia | Policy Actions level of implementation

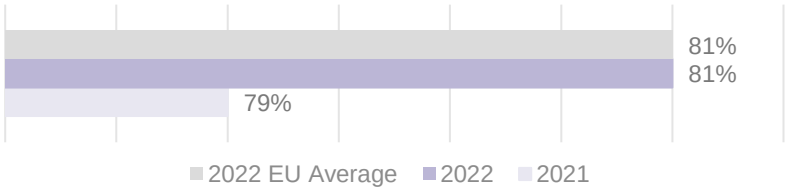
2021 country score | EU average (2022)



Qualitative stories from Latvia

Policy Area 3

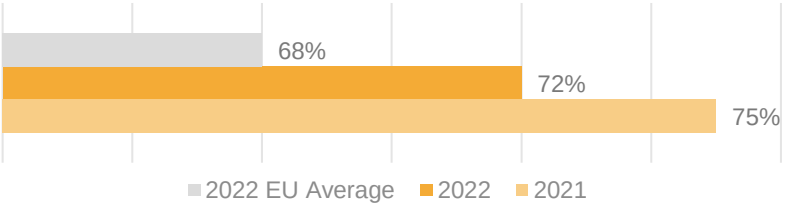
Foster digital empowerment and digital literacy



Riga TechGirls is the first community in Latvia dedicated to educating and inspiring girls & women about technology. Empowering women and girls to become architects of the future using technology and establish a role model of successful 21st century women. Some of the projects include: 'Discover Tech', an educational programme whose main goal is to invite people to learn about the basics of IT. Since 2020, around 17 000 participants have joined the programme or 'She Goes Tech', a scholarship programme for women to learn the basics of programming and find a job in the IT world. More than 500 participants joined the programme. The Ministry of Defence of the Republic of Latvia, within the framework of the IT Security Law also launched the National Cybersecurity Institution CERT. LV. In 2022, several educational activities were organized for the purpose of increasing the level of cyber competence and knowledge among all members of the society. The activities targeted different social groups, private sector and state agencies and organisations.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector



The growing digitalisation of services and the use of centralised platforms for their delivery enable efficient human-centred services for all citizens, including the ones who need assistance in the digital environment. For instance, in the frame of the transformation of social insurance customer services where there is a reduced number of dedicated branch offices, delegating customer service function to e-assistance service provided by unified municipality and state customer service offices increases both efficiency and accessibility of services for all citizens irrespectively of their geographical location and even digital skills.

Furthermore, such unified digital delivery of services enables assistance for different public services provided throughout the municipality/state services offices network, in addition to self-service functionality for citizens, who are capable and equipped to use that.

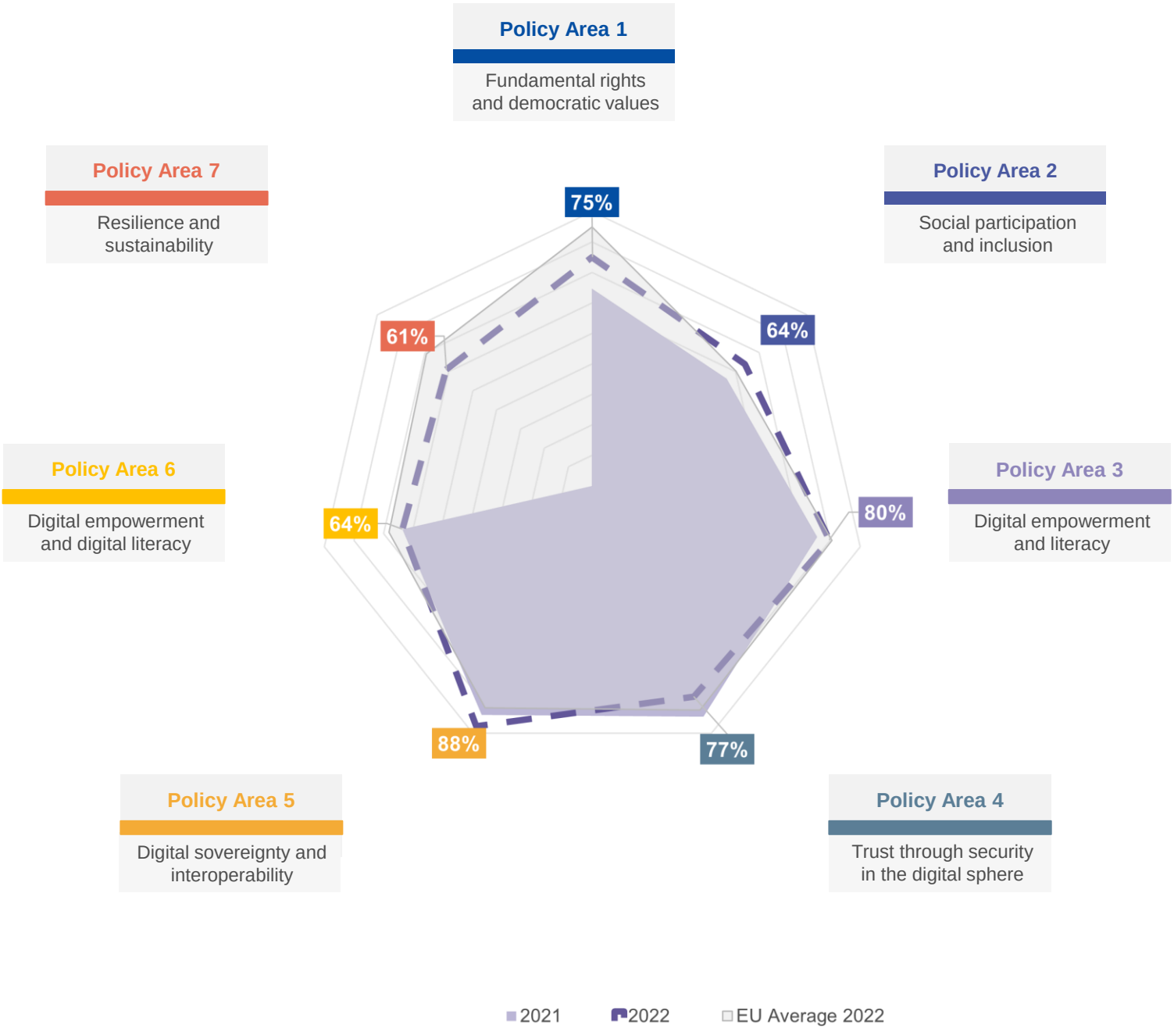
The number of branch offices of State Social Insurance Agency (SSIA) using assistance of customer service staff in e-assistant role could grow from 32 to 128. They are complemented by fully functional human-centric self-service digital interface, available on the state services portal 'Latvija.lv' services.

From 2019 until 2021, the number of applications received in paper form has decreased by 33 %. In 2021, 47 % of the service requests submitted to the Service Centres were received using the e-assistant approach, which grew to more than 50% in 2022. As a result, at least 1500 man-days of SSIA staff have been saved.

LITHUANIA

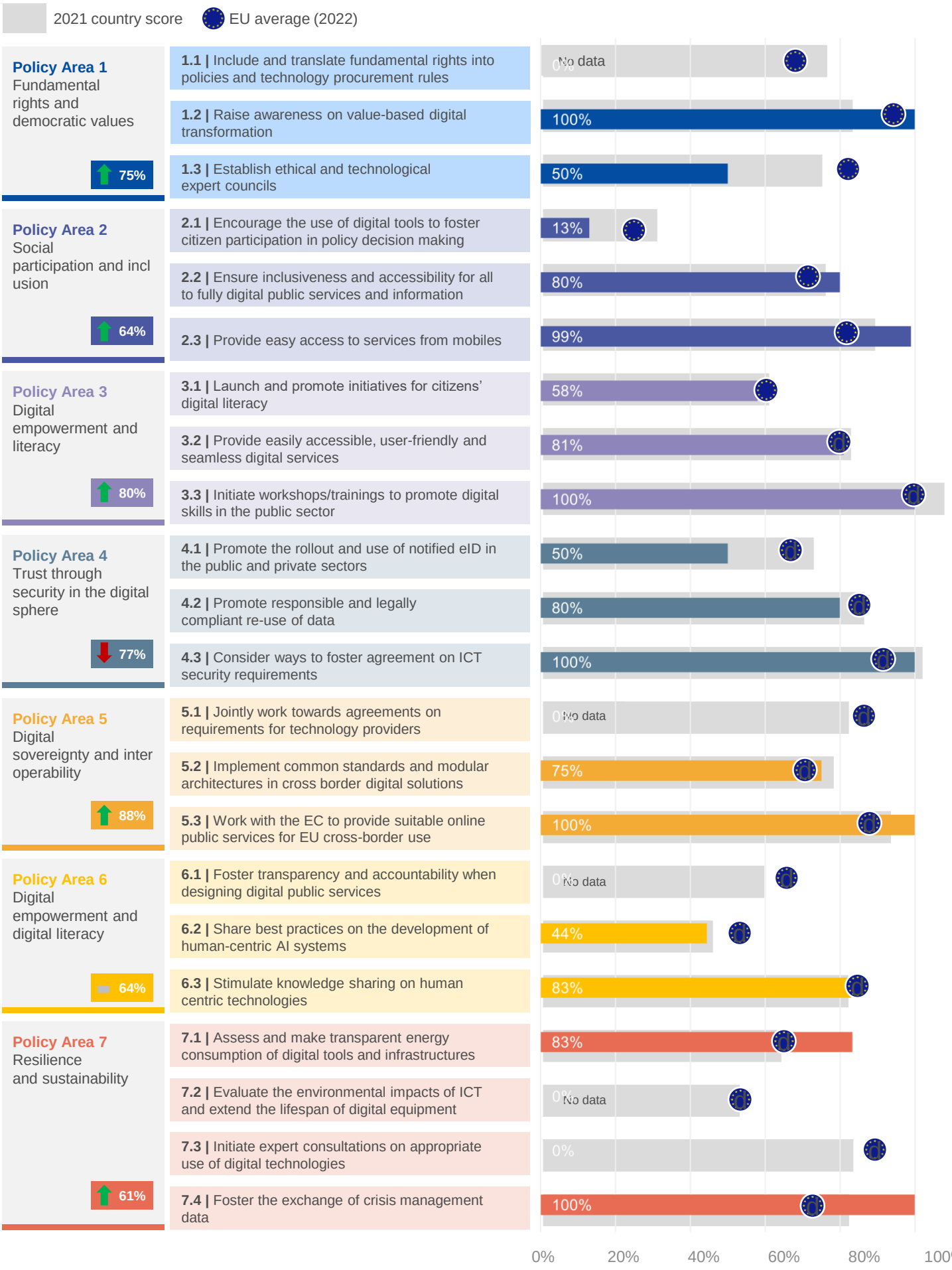
2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Lithuania | Policy Areas level of implementation



Overall, Lithuania's scores have positively increased compared to last year. Indeed, for five out of seven Policy Areas, namely Policy Area 1, Policy Area 2, Policy Area 3, Policy Area 5 and Policy Area 7, Lithuania has increased its scores. The most significant increases are recorded in Policy Area 1, with an increase of 10 percentage points, and Policy Area 2, with an increase of 8 percentage points. In addition, Lithuania also received a high score of 61% related to Policy Area 7, while it has not submitted any data in 2022.
Nonetheless, there are still some areas of improvement for Lithuania, as five out of seven Policy Areas score below the EU average. Most particularly, despite its significant improvement on Policy Area 1 compared to 2021, Lithuania should continue to focus on this Policy Area, as it remains well below the EU average. Similarly for Policy Area 7, despite its increase compared to 2021, Lithuania should continue to focus on this Policy Area as it remains 8 percentage points below the EU average.

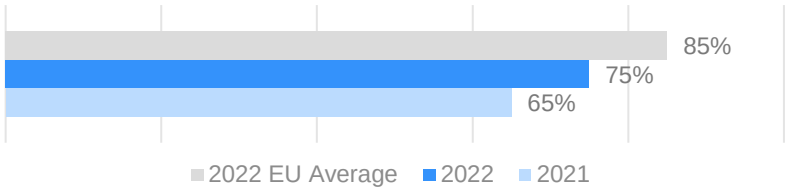
2022 BDM Results for Lithuania | Policy Actions level of implementation



Qualitative stories from Lithuania

Policy Area 1

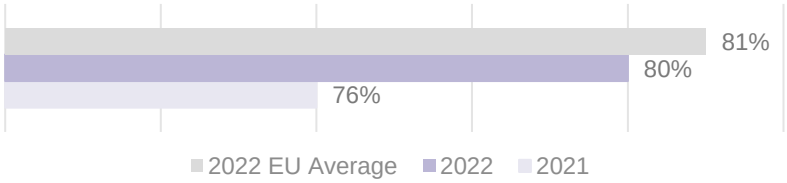
Promote fundamental rights and democratic values in the digital sphere



Lithuania has approved the National Digitisation Development Program 2021-2030, which aims to prioritise the consolidation of state information resources, IT infrastructure, and services, ensuring reliable public-sector data sharing across sectors, and developing advanced tools and technological solutions. The goal is to increase the convenience, accessibility, and security of electronic services, especially for people with disabilities, at both national and cross-border levels, with a focus on AI, natural language processing, machine learning, data analytics, electronic identification, and trust. Another priority is to increase digital competencies among citizens, including knowledge about AI and the Internet of Things. The program will be funded from various sources, including the Recovery and Resilience Facility, EU Structural Funds, the state budget, and other potential funding sources. The next step is to develop progress measures and initiate specific projects that meet the requirements set out in the program.

Policy Area 3

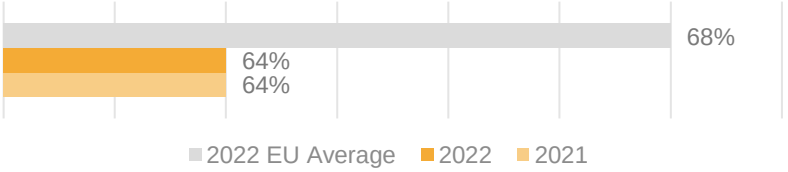
Foster digital empowerment and digital literacy



The government of Lithuania plans to improve the digital competencies of its civil servants by implementing a Digital Skills Competency Model by the end of 2023. The Ministry of Interior is currently upgrading the Civil Servants' Competency Model by adding digital competencies and aims to train 4 000 public servants in digital skills by the end of 2024. By the same deadline, a total of 16 000 public servants are expected to receive training in financial-analytical, digital, and leadership competencies. In a success story, the Teachers Lead Tech startup won the World Summit Awards in 2022 for their continuing education program that introduces technological skills to primary school teachers.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

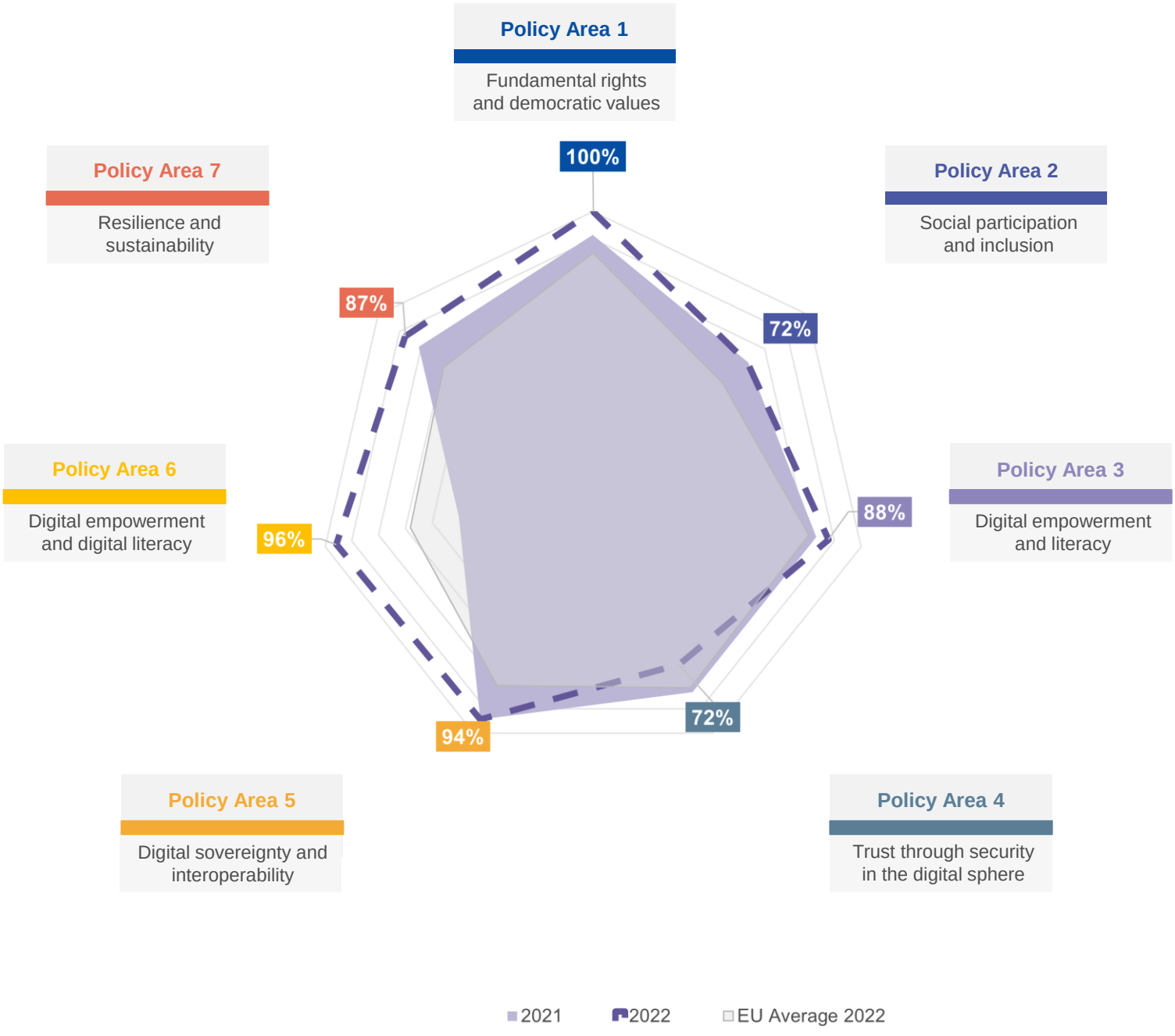


The use of human-centered AI systems in the public sector can be highly beneficial, especially when it comes to safeguarding the online space from harmful or illegal content. One excellent example is the tool created by Oxylabs in partnership with the Communications Regulatory Authority of Lithuania (RRT) to detect content revealing child abuse.
The tool, which uses a mix of web scraping technology and AI-driven recognition tools, was designed to automate the detection of illegal content, specifically child sexual abuse or pornography, in the Lithuanian IP address space. By scanning thousands of pages and identifying potentially harmful visual content units, the tool helps RRT specialists review and investigate websites that violate national or EU laws.

LUXEMBOURG

2022 | Berlin Declaration Monitoring (BDM)

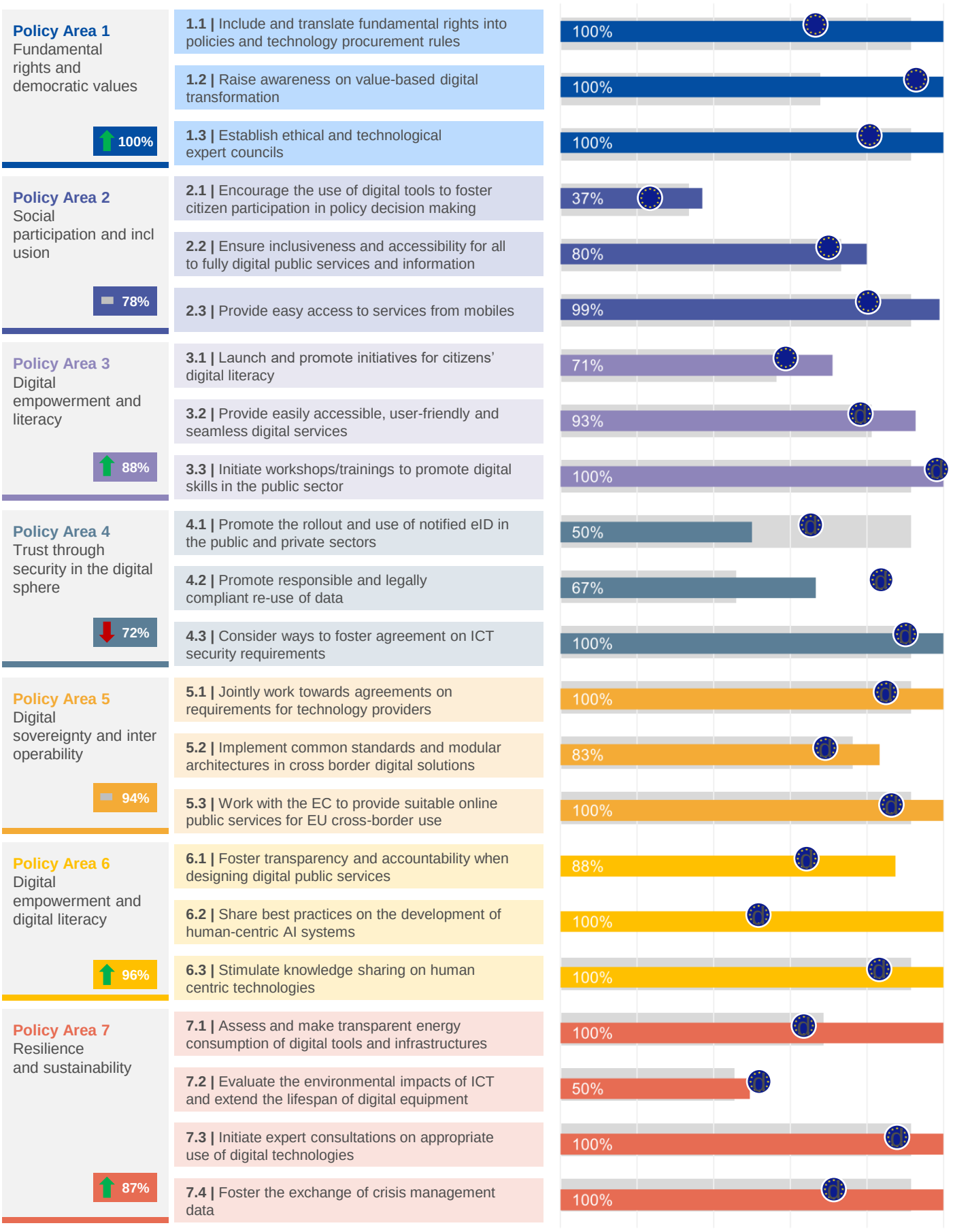
2022 BDM Results for Luxembourg | Policy Areas level of implementation



Overall, in 2022, Luxembourg received higher scores on all the Policy Aeras, except for one, compared to 2021. The biggest increase for Luxembourg can be recorded in Policy Area 6, with an increase of 46 percentage points in comparison to 2021. However, its score on Policy Area 4 decreased, sliding from 83% in 2021 to 72% in 2022, which is also Luxembourg's only Policy Area below the EU average, set at 82%.

2022 BDM Results for Luxembourg | Policy Actions level of implementation

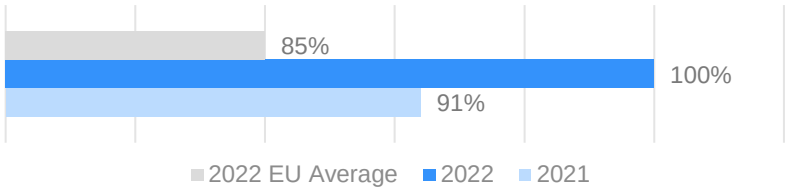
2021 country score | EU average (2022)



Qualitative stories from Luxembourg

Policy Area 1

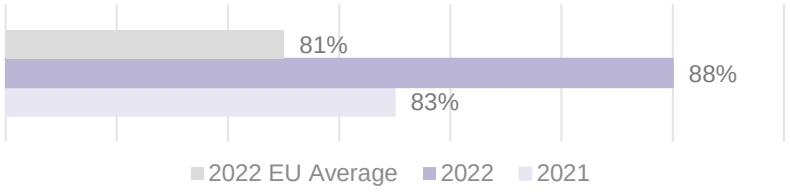
Promote fundamental rights and democratic values in the digital sphere



Several policies and strategies reflect the protection of human rights in the digital sphere, such as the National Strategy for Digital Inclusion, Personal Data Protection Law, Cybercrime Law , Net Neutrali, Open Data Strategy, eCommerce Directive, Digital Skills Strategy. In 2018, Luxembourg adopted a legislation on public procurement that includes provisions on the use of electronic procurement tools, such as eTendering and eAuctions. The legislation requires that electronic procurement tools are accessible to all interested parties, including small and medium-sized enterprises (SMEs), and that they comply with data protection regulations. This ensures that all parties involved in the procurement process have equal opportunities to participate, regardless of their size or resources.

Policy Area 3

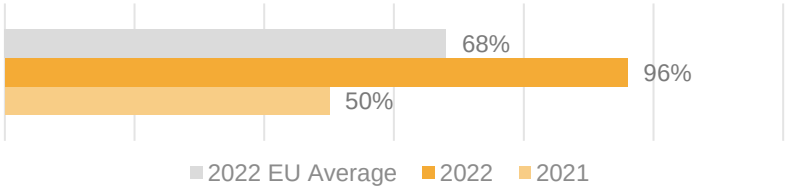
Foster digital empowerment and digital literacy



While the International Academy of Public Administration (INAP) already offers a wide range of training programs for public sector professionals, numerous other public sector bodies and specialised organisations in Luxembourg also organise various training opportunities. These can include workshops, seminars, and other professional development programs aimed at enhancing the skills and knowledge of public sector employees.
With a strong focus on public sector management, Luxembourg has a robust system in place for providing training and development opportunities for its public sector workforce.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

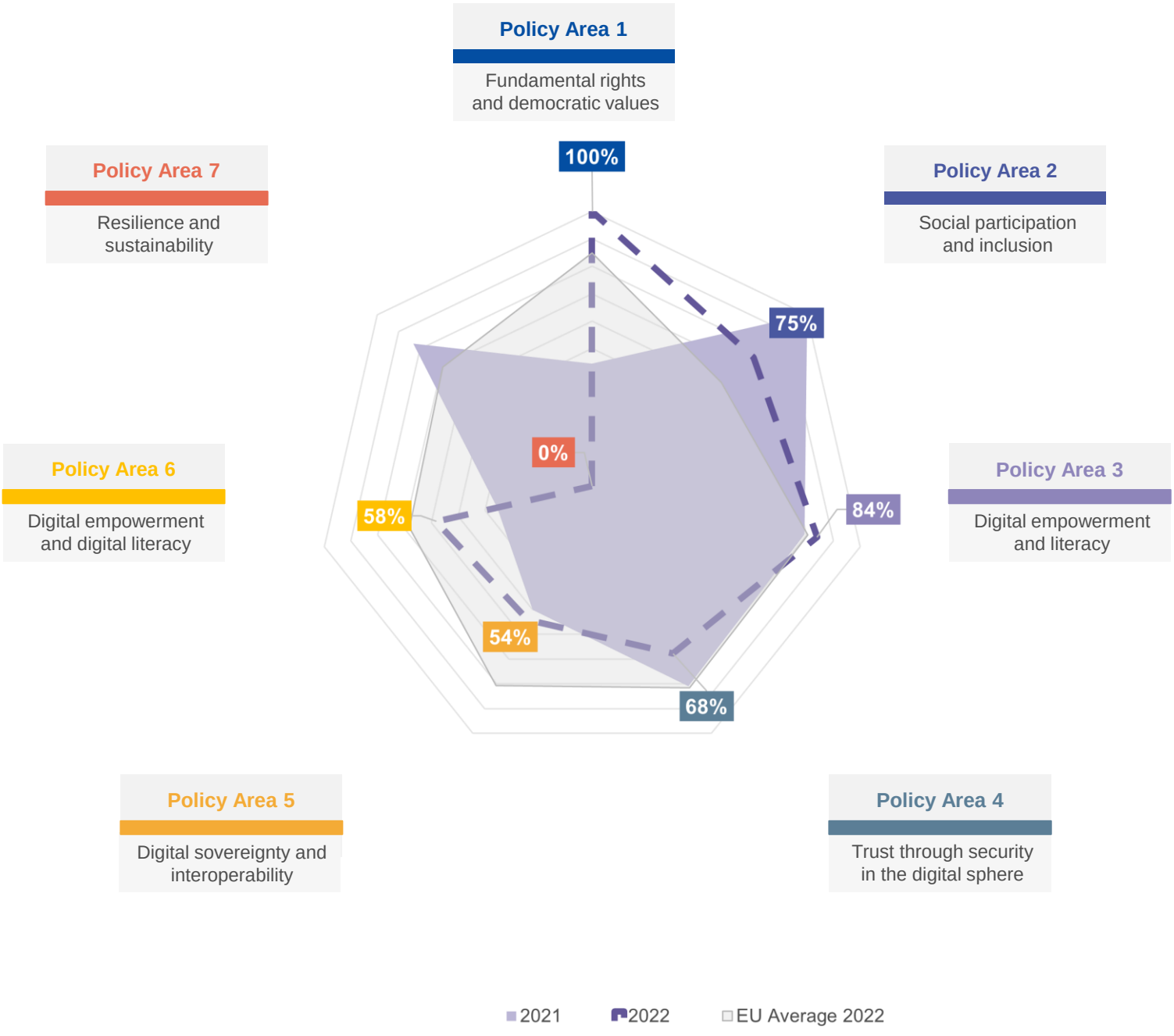


Luxembourg's government is committed to using Artificial Intelligence (AI) in a way that benefits society and aims to lead in AI applications and regulations. The country will collaborate with others, invest in AI, and involve the public in shaping policy. The goal is to turn data into solutions that improve daily life, and a diverse coordination group will lead this effort with input from experts in various fields. Luxembourg sees AI as an unprecedented opportunity to tap into global intelligence.

MALTA

2022 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Malta | Policy Areas level of implementation

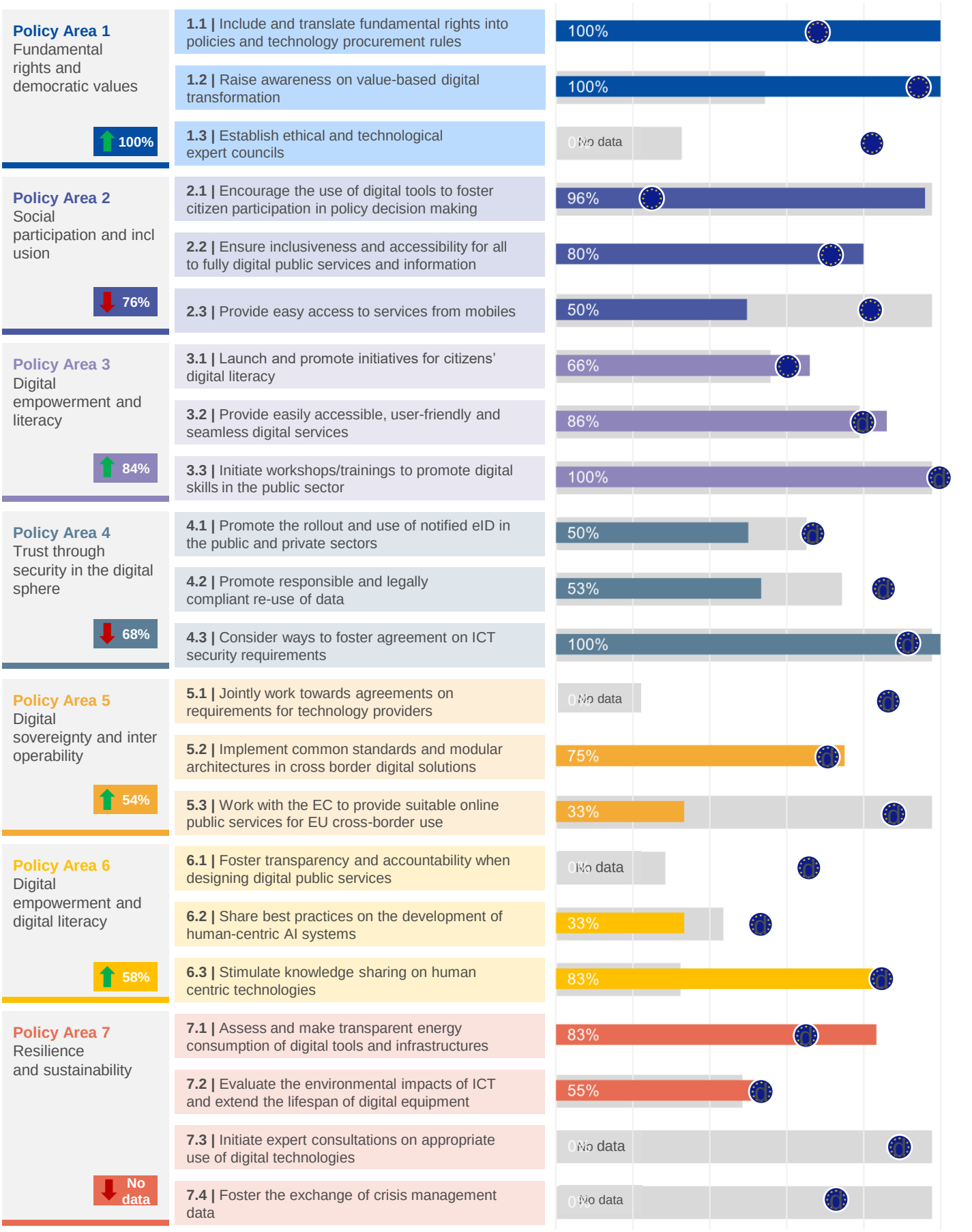


Overall, Malta's scores for the 2022 edition of the Berlin Declaration monitoring mechanism are positive. In fact, the country increased its scores on four out of seven Policy Areas, namely Policy Area 1, Policy Area 3, Policy Area 5 and Policy Area 6. Notwithstanding, the biggest increase for Malta is recorded for Policy Area 1, where the country went from 44% in 2021 to 100% in 2022. Policy Area 56 has also been an important focus for the country as it increased its score by 23 percentage points from one year to the other.

Although there has been a positive increase in the country's scores, Malta still performs below the EU average in four out of seven Policy Areas. Most particularly, there is room for improvement with regard to Policy Area 5, which scored 54% in 2022, well below the EU average of 81%. Nonetheless, it is important to point out that the country still made some progress in this Policy Area compared to last year, when it scored 50%.

2022 BDM Results for Malta | Policy Actions level of implementation

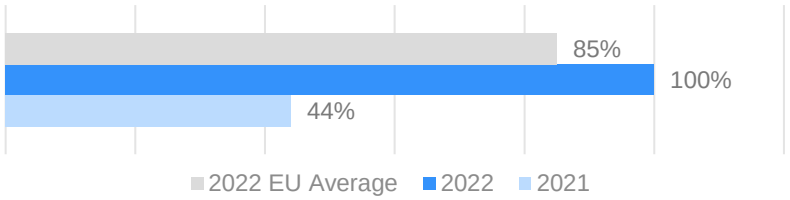
2021 country score | EU average (2022)



Qualitative stories from Malta

Policy Area 1

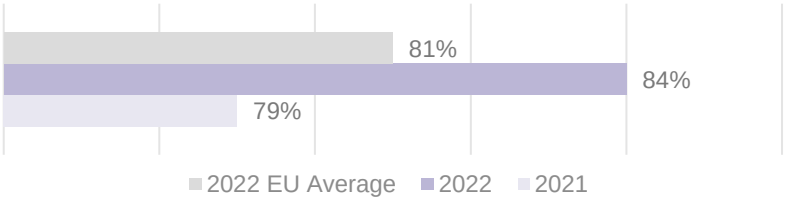
Promote fundamental rights and democratic values in the digital sphere



The Identity Malta Agency is committed to strengthening its digital infrastructure and continuously improving the provision of online services to its clients. Examples are the Single digital gateway and other online services offered to the public such as the public registry service where an applicant can submit an online request for certificates issued by the said unit.

Policy Area 3

Foster digital empowerment and digital literacy



In Malta digital competences are acquired by students through an array of digital literacy learning outcomes embedded in different curricula areas during their early years of education. Students are exposed to the use of productive software, Internet of Things (IoT) and other ancillary 21st Century competences that prepare them to navigate the digital world that surrounds them, in a responsible manner. Similarly, teachers and ancillary educators are trained and qualified from MCAST and the Maltese University. Additionally, in November 2022, the eSkills Malta Foundation launched the new National eSkills Strategy for the period 2022-2025. The objective of the Strategy is to set a path for a coordinated approach to improve the skills, knowledge and attitudes of actors within the education, industry, society and ICT sectors.

NETHERLANDS

2022 | Berlin Declaration Monitoring (BDM)

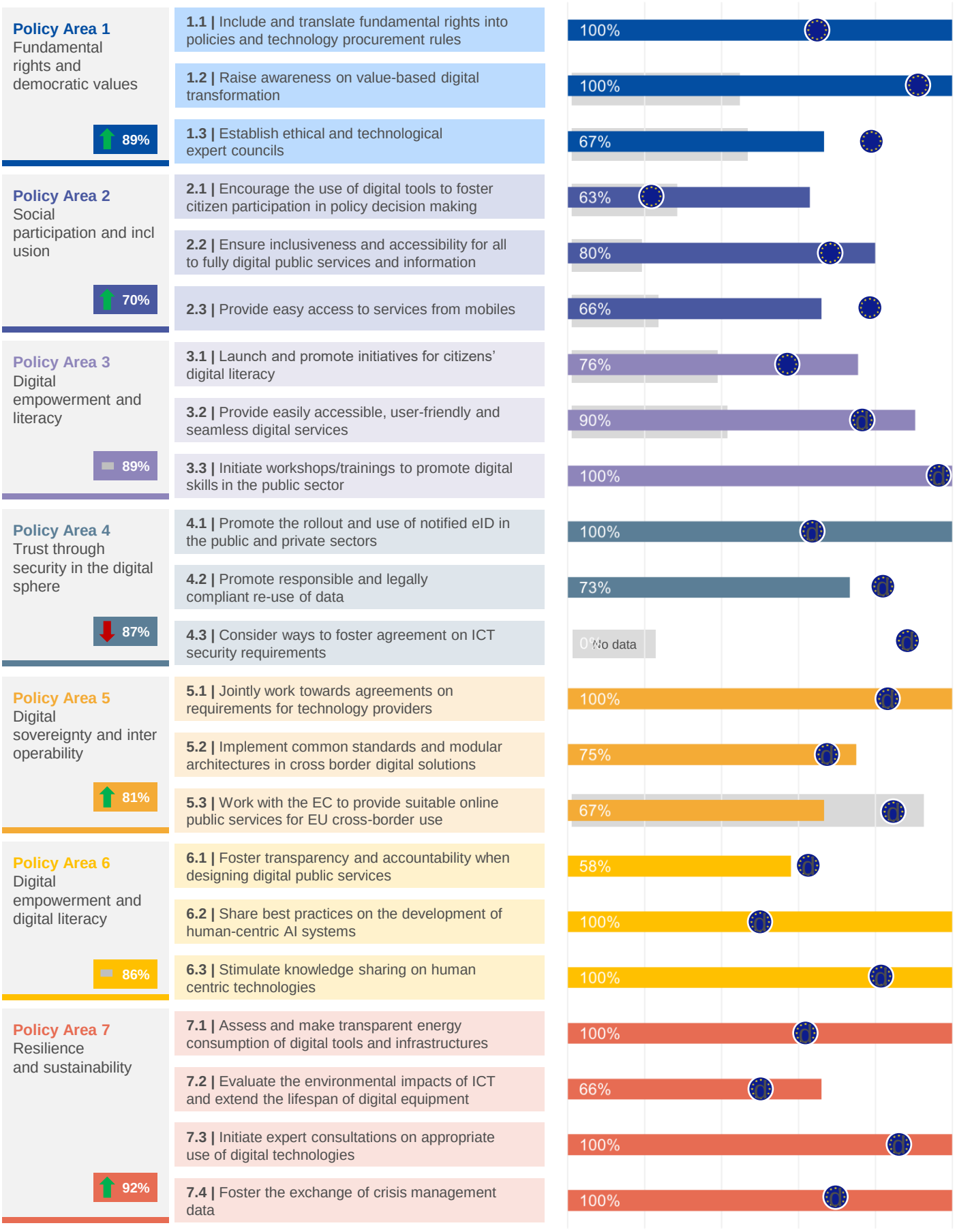
2022 BDM Results for Netherlands | Policy Areas level of implementation

DISCLAIMER - Please note that, for the Netherlands, data from 2021 edition of the Berlin Declaration monitoring mechanism has been reused as The Netherlands did not participate in this year's data collection. Hence, no qualitative stories were collected for this country.

Overall, the Netherlands' scores are positive, with all Policy Areas receiving scores above the EU average, except for Policy Area 5 which equals the EU average. The Netherlands seems to be faring particularly well on Policy Area 7 where the country scored 92%, 23 percentage points above the EU average of 69%. Similarly, the Netherlands' scores are high for Policy Area 6, where it scored 86%, well above the EU average of 68%.

2022 BDM Results for Netherlands | Policy Actions level of implementation

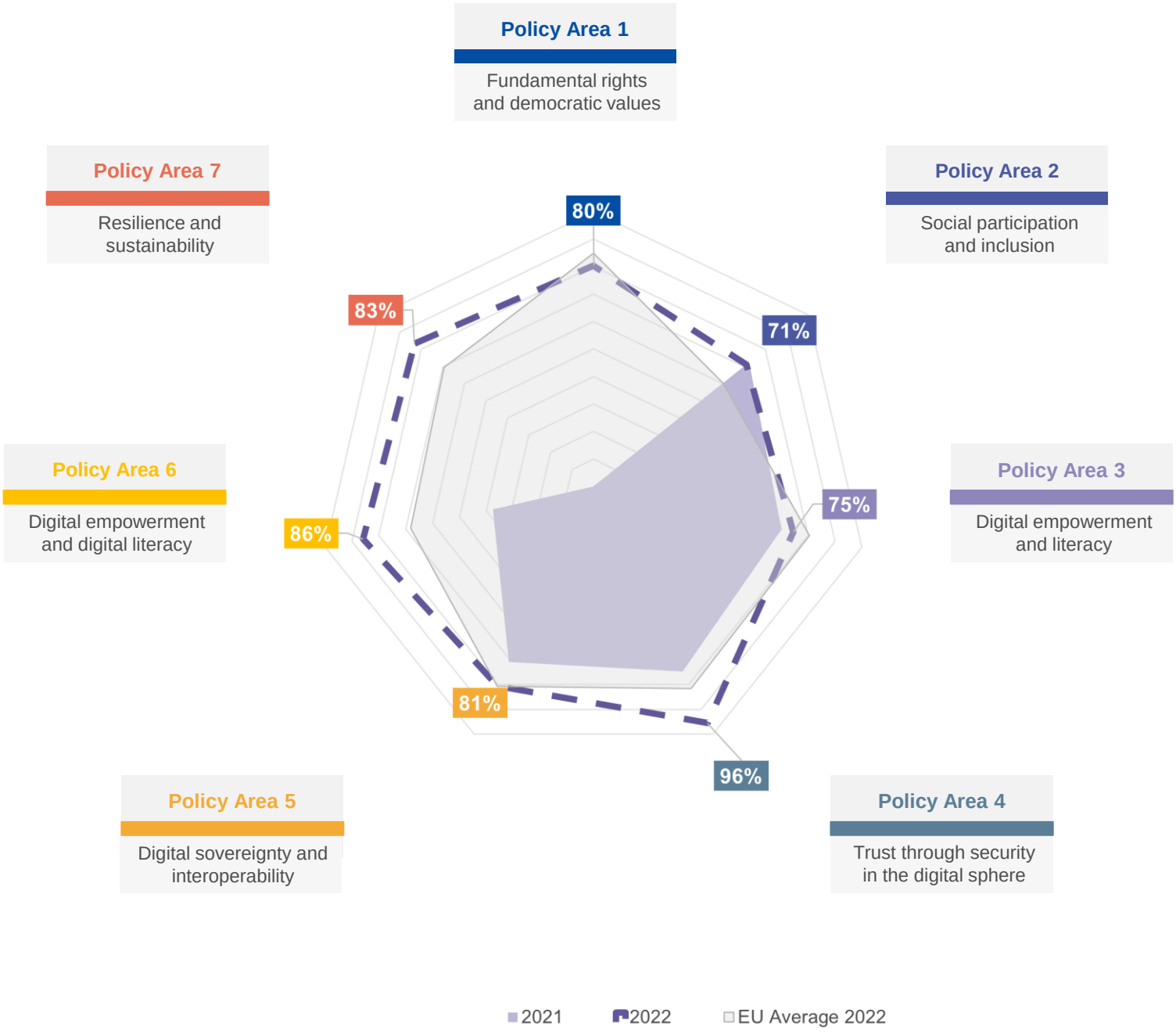
2021 country score | EU average (2022)



POLAND

2022 | Berlin Declaration Monitoring (BDM)

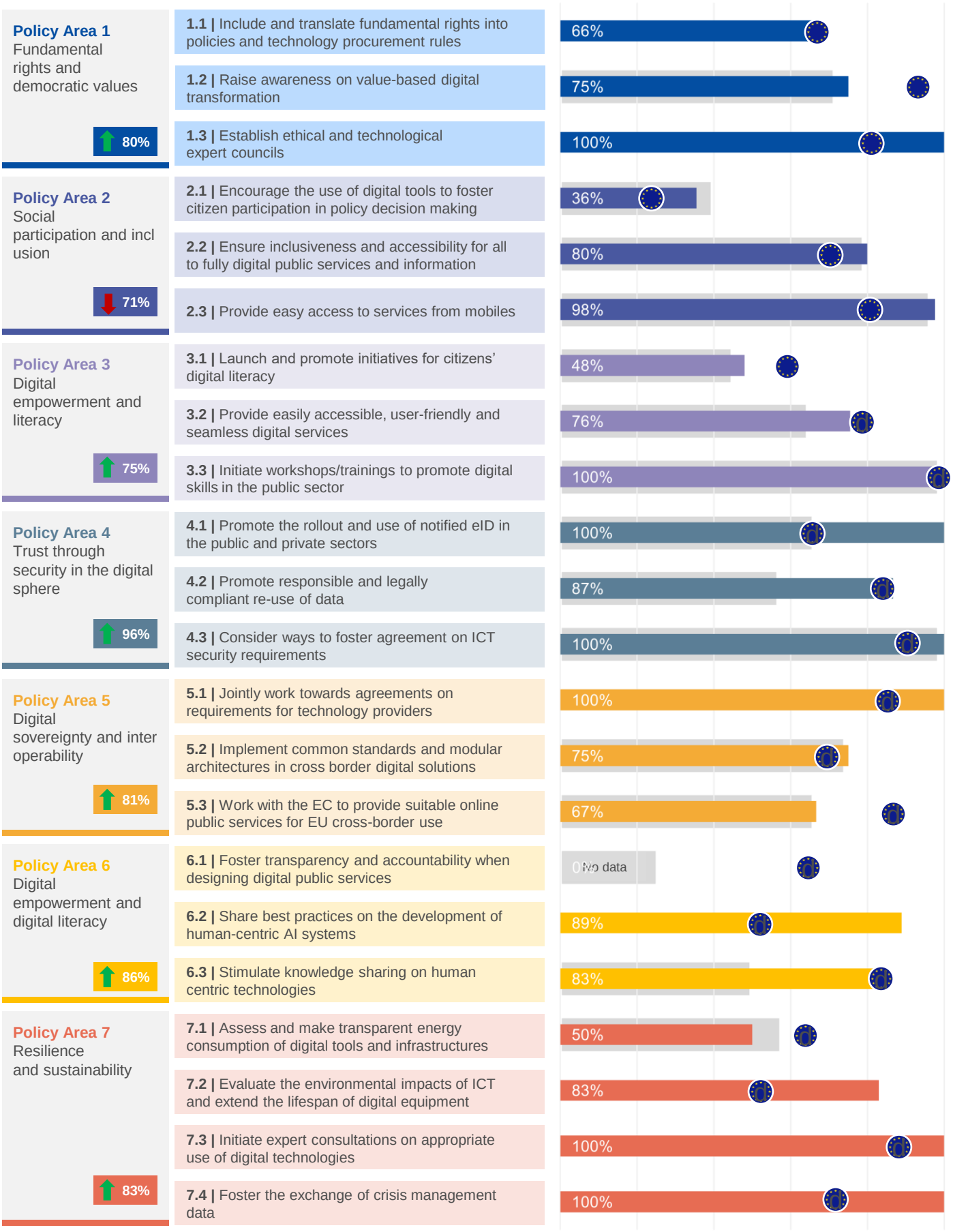
2022 BDM Results for Poland | Policy Areas level of implementation



Poland's results for the 2022 edition of the Berlin Declaration monitoring mechanism are very positive, as all Policy Areas received a higher score than in 2021. The most significant increase is recorded for Policy Area 6, which went from 38% in 2021 to 86% in 2022. Similarly, it seems that Poland focused on Policy Area 1, for which last year it had no data, while this year it received a score of 80%.
In addition, Poland scored at or above the EU average for all of its Policy Areas, except for one. Indeed, there is still room for improvement with regard to Policy Area 3, where Poland scored 75%, 6 percentage points below the EU average. Nonetheless, it is important to point out that the country already made some progress in this Policy Area compared to 2021.

2022 BDM Results for Poland | Policy Actions level of implementation

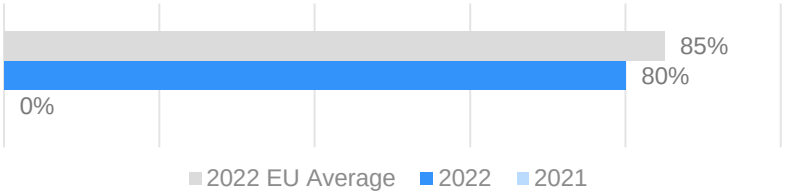
2021 country score | EU average (2022)



Qualitative stories from Poland

Policy Area 1

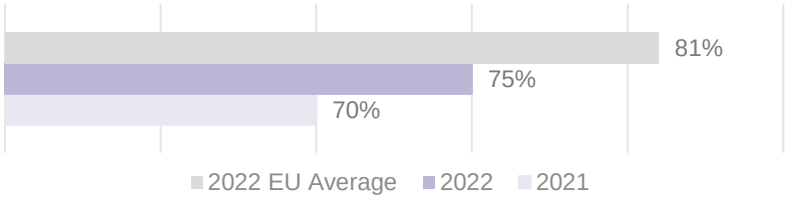
Promote fundamental rights and democratic values in the digital sphere



The Polish Safer Internet Centre (PSIC), which is coordinated by the Polish National Research Institute (NASK), is implementing different projects aiming to promote fundamental rights in the digital sphere. For instance, Saferinternet.pl aims to increase public awareness of the threats posed by new technologies and promote safer use of the internet by children and young people. In 2022, for teachers and specialists working with children were organized: an international conference and webinars, a local conference, Safer Internet Day conference, online lessons and webinars, and two expert seminars. In total, these events were attended by approximately 165 000 people. For children, teenagers and young people were organized: Digital Youth Forum and a series of 5 webinars „Let's talk about the Internet" in which in total participated around 12 000 young people and 380 schools, 20 online performances for children from primary schools with the participation of approximately 100 000 pupils.

Policy Area 3

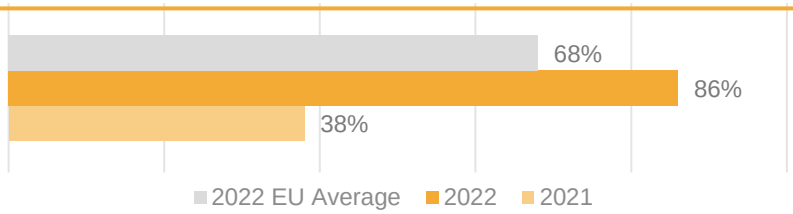
Foster digital empowerment and digital literacy



The Polish Government has developed the Digital Competences Development Programme and has established the Digital Competences Development Centre, which will be responsible for its implementation and monitoring. The government also carries out an activity developing above-basic skills as part of the project 'Academy of Innovative Applications of Digital Technologies (AI Tech)' (*Akademia Innowacyjnych Zastosowań Technologii Cyfrowych* (AI Tech)). The main goal of the project is to create a system model for educating high-class specialists in the field of artificial intelligence, machine learning and cybersecurity. This goal will be achieved thanks to close cooperation between the university, central administration and leading companies operating in the field of digital technologies. After developing curricula, they will be made available to universities to enable the education of high-class ICT specialists based on proven solutions.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

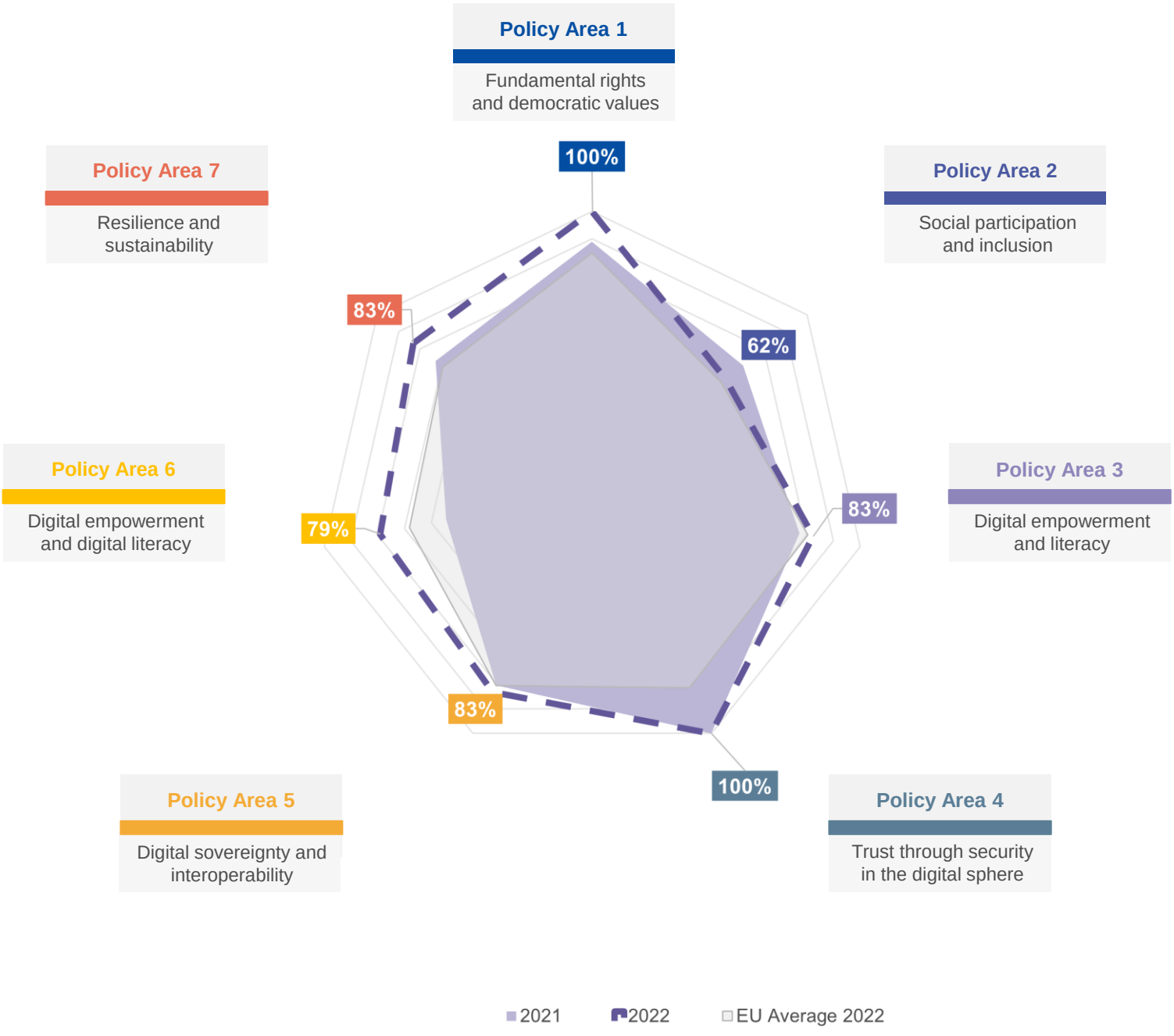


There is a need for further development of support programmes to help the public administrations in the implementation of AI-based solutions. Increased support is also needed in areas such as the creation of a decentralised repository for industrial and raw data (virtual data repositories, data trusts) and a programme to build a trusted public IT cloud for the public sector to hold and process data of Polish citizens using edge computing technology.

PORTUGAL

2022 | Berlin Declaration Monitoring (BDM)

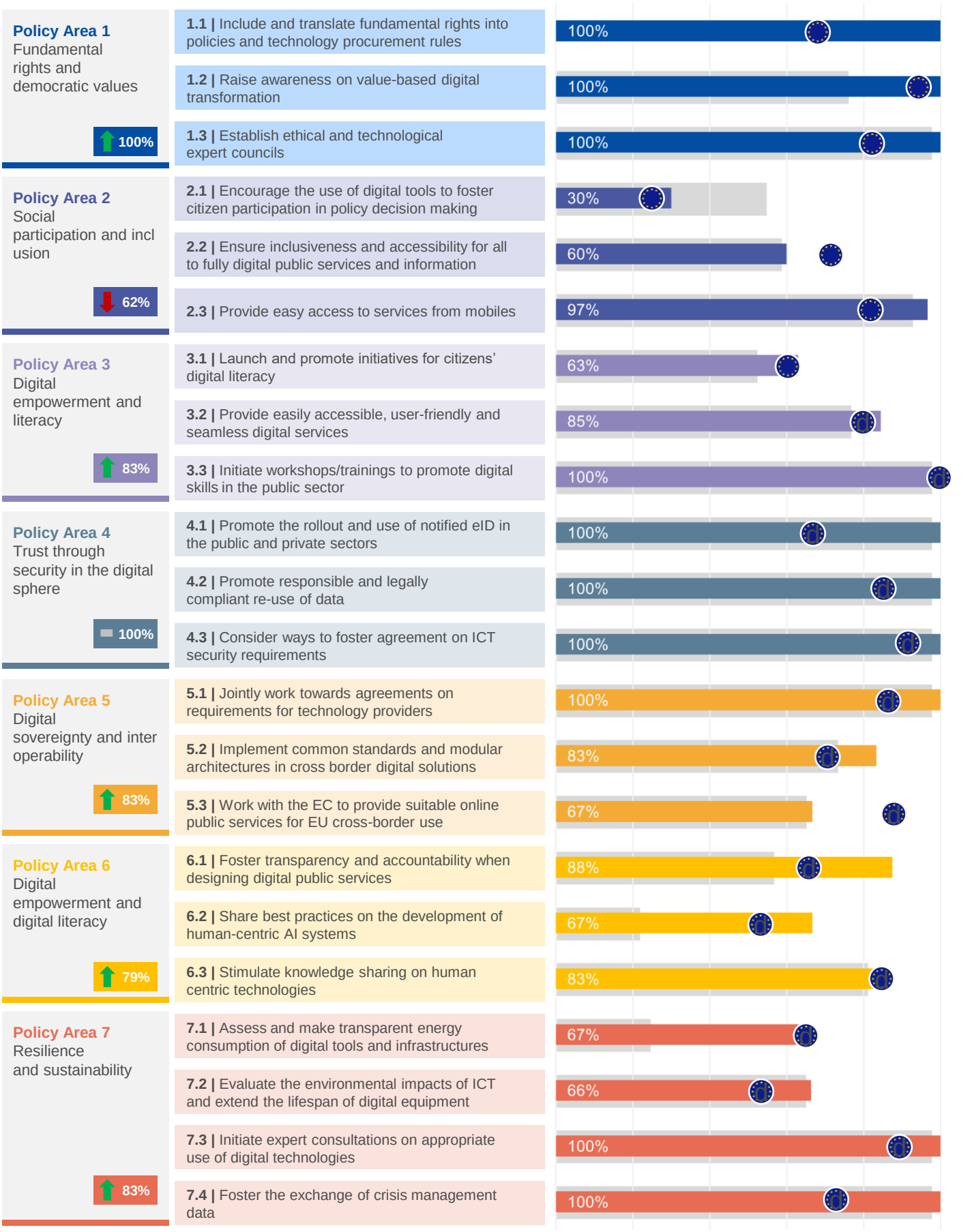
2022 BDM Results for Portugal | Policy Areas level of implementation



Portugal's scores on the 2022 edition of the Berlin Declaration monitoring mechanism are very positive. Indeed, since 2021, the country improved its scores in all Policy Areas, except for one. The biggest increase for Portugal is recorded for Policy Area 6, where the country went from 54% in 2021 to 79% in 2022, an increase of 25 percentage points. The country seems to have focused also on Policy Area 1 and Policy Area 7, for which its scores increased by 11 and 10 percentage points, respectively compared to 2021.
In addition, Portugal scores well above the EU average for all seven Policy Areas.

2022 BDM Results for Portugal | Policy Actions level of implementation

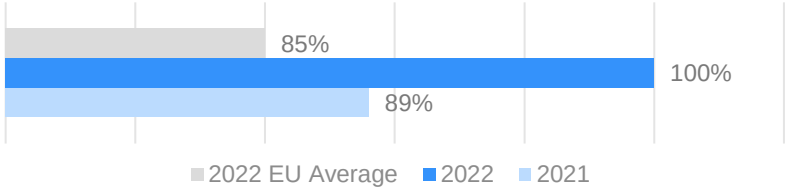
2021 country score | EU average (2022)



Qualitative stories from Portugal

Policy Area 1

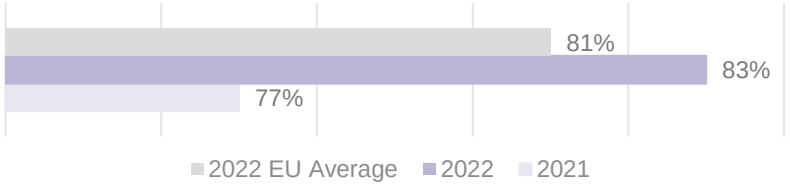
Promote fundamental rights and democratic values in the digital sphere



The Portuguese Charter of Human Rights in the Digital Age, published on 17 May 2021 (Law nº 27/2021), establishes that '*the norms that in the Portuguese legal order enshrine and protect rights, freedoms and guarantees are fully applicable in cyberspace*'. It defines, among others: the right to freedom of expression and creation in a digital environment; the right to privacy in a digital environment; and the right to cybersecurity.

Policy Area 3

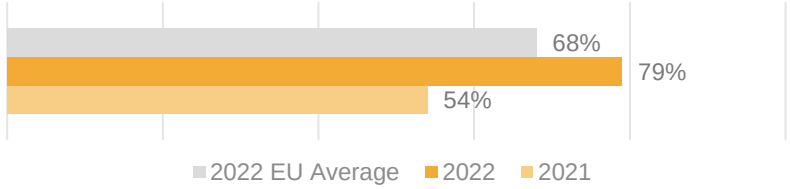
Foster digital empowerment and digital literacy



The National Digital Competences Initiative e.2030 - Portugal INCoDe.2030, launched in 2017, aims to upgrade the ICT basic skills of citizens and is structured around five main axes: education and professional training; (re)qualification; inclusion; advanced training; research. It is implemented by different governmental bodies in collaboration with the private sector, academia and civil society.
One of the projects developed under this initiative is the Portugal Digital Academy; a platform that enables citizens to be empowered in the various stages of their life, providing them with skills that promote digital inclusion. It aggregates free training courses and a tool for diagnosing digital skills.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector



In 2022, the Administrative Modernization Agency (AMA) launched the Guide for Responsible AI as a reference to identify the risks and the best practices to be adopted by those who develop solutions using Artificial Intelligence (AI). The goal is to make AI solutions transparent and auditable, and in a way that they do not discriminate or increase biases. The guidelines consider five dimensions of evaluation of AI projects: accountability, transparency, explainability, fairness and ethics. Additionally, an online tool for self-assessment of risk was made available to be applied in AI projects. It was developed in line with the guidelines of the Guide and recommends concrete actions and suggestions for further readings, depending on the level of maturity of the users.

ROMANIA

2023 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Romania | Policy Areas level of implementation

Policy Area 1
Fundamental rights and democratic values

Policy Area 2
Social participation and inclusion

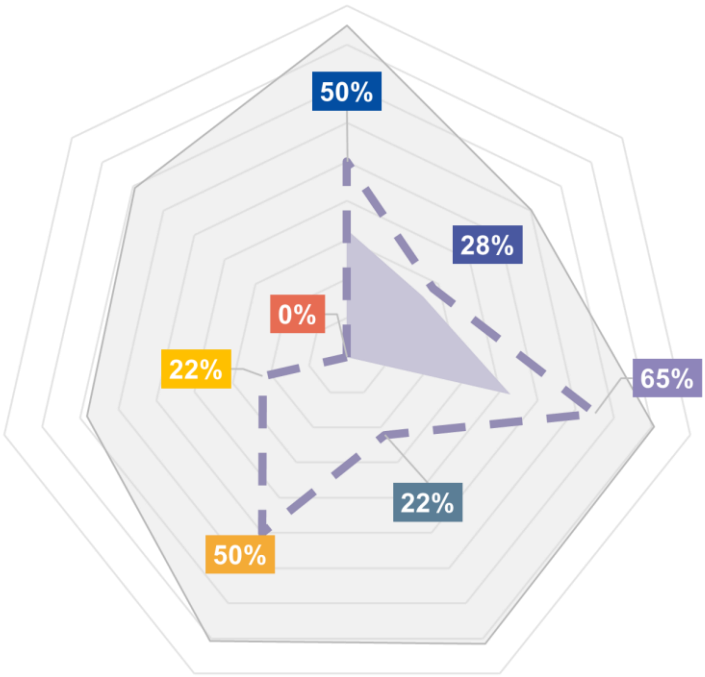
Policy Area 3
Digital empowerment and literacy

Policy Area 4
Trust through security in the digital sphere

Policy Area 5
Digital sovereignty and interoperability

Policy Area 6
Digital empowerment and digital literacy

Policy Area 7
Resilience and sustainability



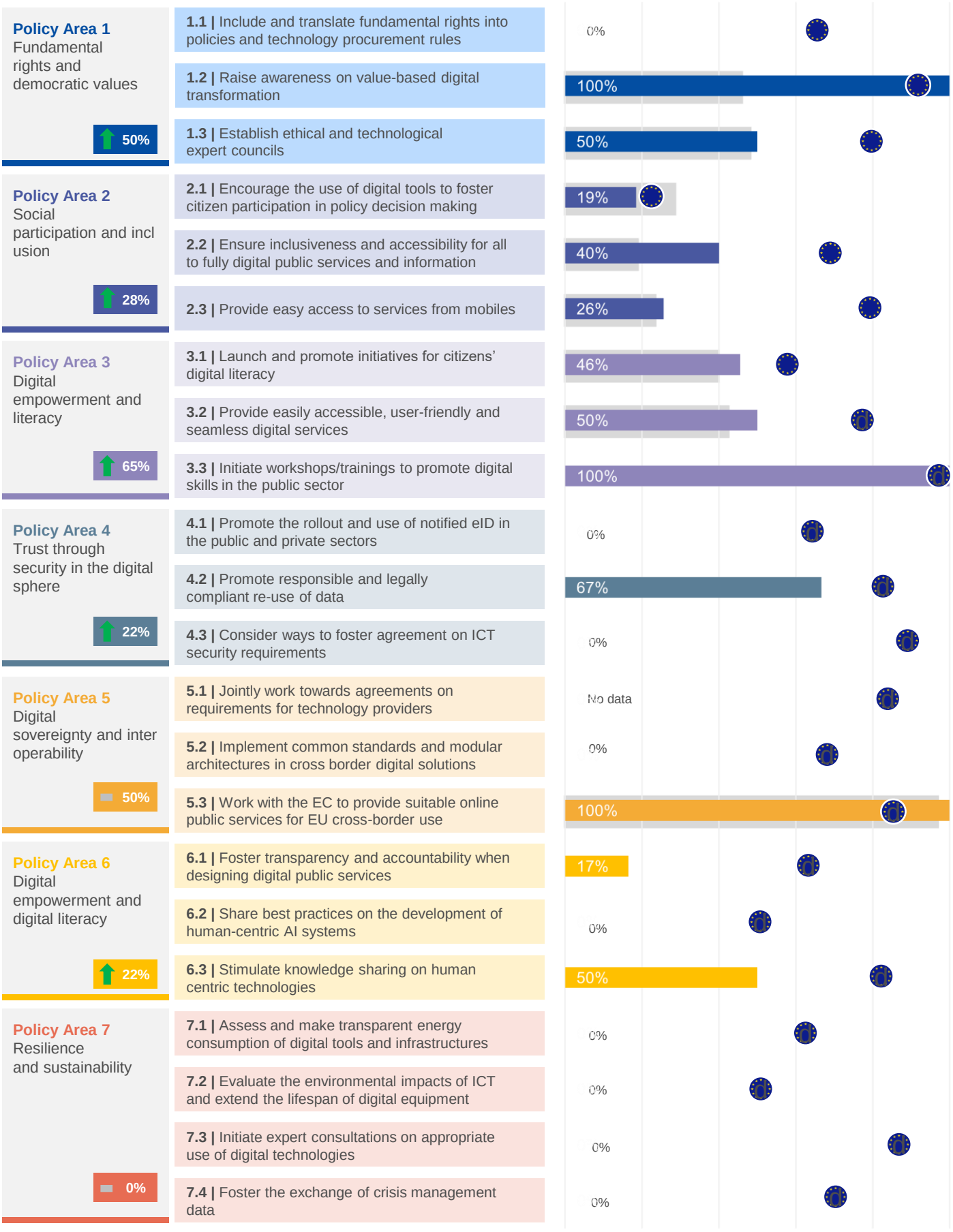
2021 2022 EU Average 2022

Although Romania's scores remain well below the EU average in 2022, it is important to note that a lot of improvements have been recorded in this edition of the Berlin Declaration monitoring mechanism. Indeed, in four out of seven Policy Areas, Romania's scores have all increased by an average of 20 percentage points in one year. Romania's scores for Policy Area 3, Policy Area 4, and Policy Area 6 have all three increased of 22 percentage points compared to 2021.
Nonetheless, there remains room for improvement, particularly regarding Policy Area 7, where Romania did not submit any data and therefore scored 0% in both 2021 and 2022.

DISCLAIMER - Please note that no qualitative stories were collected for this country.

2022 BDM Results for Romania | Policy Actions level of implementation

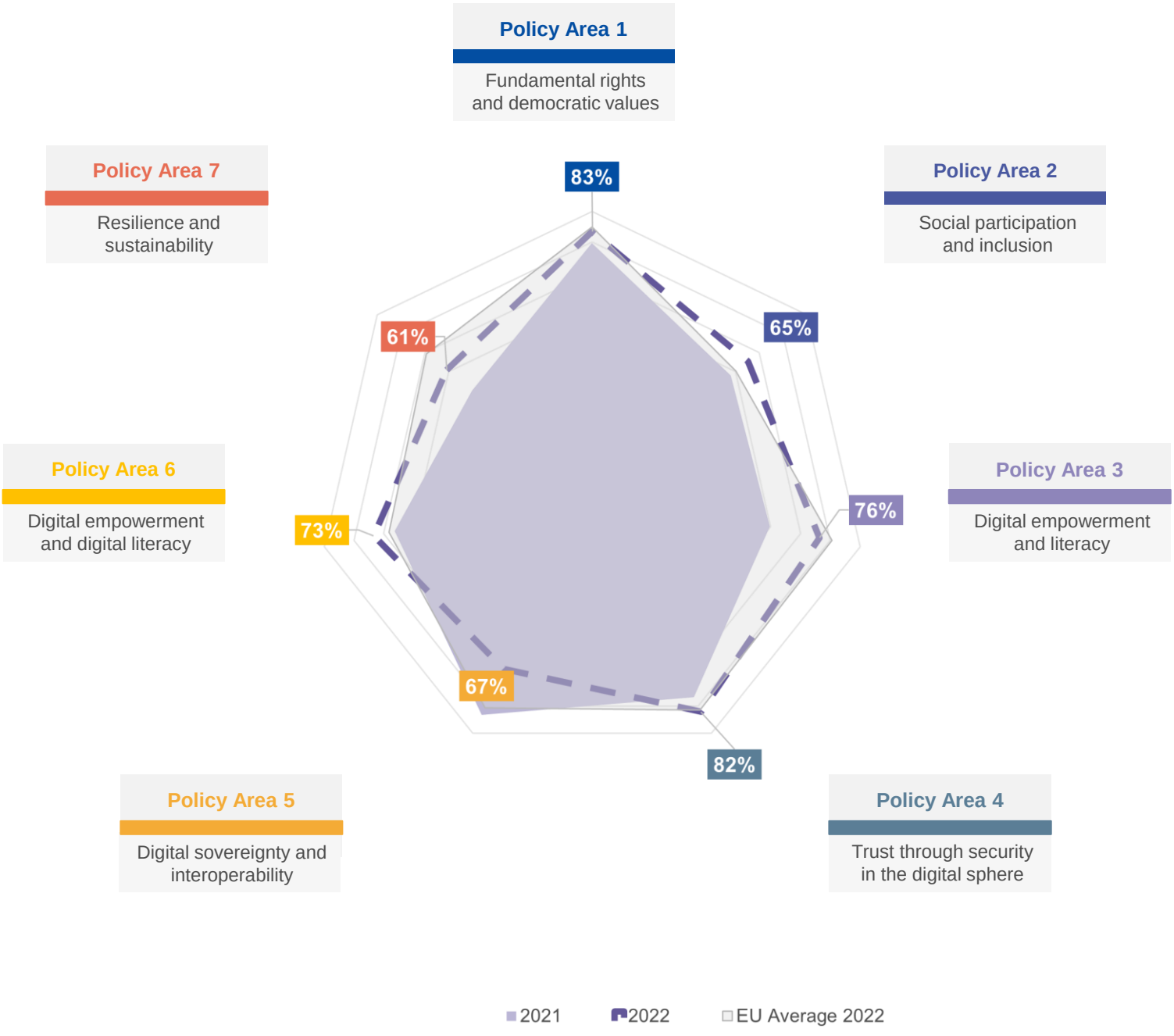
2021 country score | EU average (2022)



SLOVAKIA

2023 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Slovakia | Policy Areas level of implementation



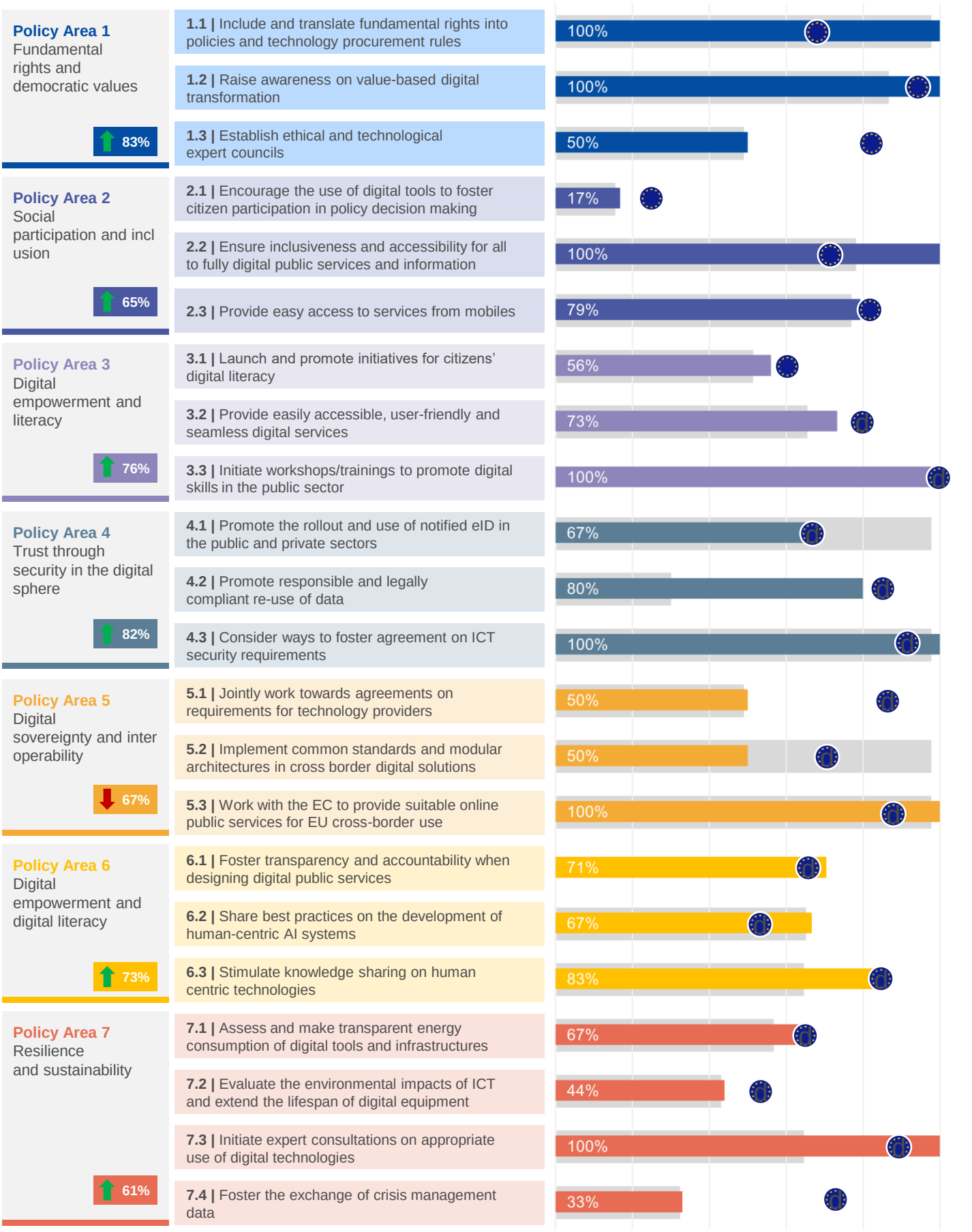
Overall Slovakia's scores on the 2022 edition of the Berlin Declaration monitoring mechanism are very positive. Indeed, in 2022, the scores of all Policy Areas, except for one, have significantly increased compared to 2021. The most important increase for Slovakia is recorded for Policy Area 7, where the country's score went from 59% in 2021 to 61% in 2022. Similarly, for Policy Area 2 and Policy Area 3, Slovakia increased its score of 7 and 16 percentage points, respectively.

Despite these significant improvements, there still remains some room for improvement for Slovakia. Indeed, four out of seven Policy Areas remain below the EU average and could therefore be still improved. For instance, Slovakia could focus on improving its score on Policy Area 5, for which it received a score of 67% in 2022, compared to the EU average at 81%.

DISCLAIMER - Please note that no qualitative stories were collected for this country.

2022 BDM Results for Slovakia | Policy Actions level of implementation

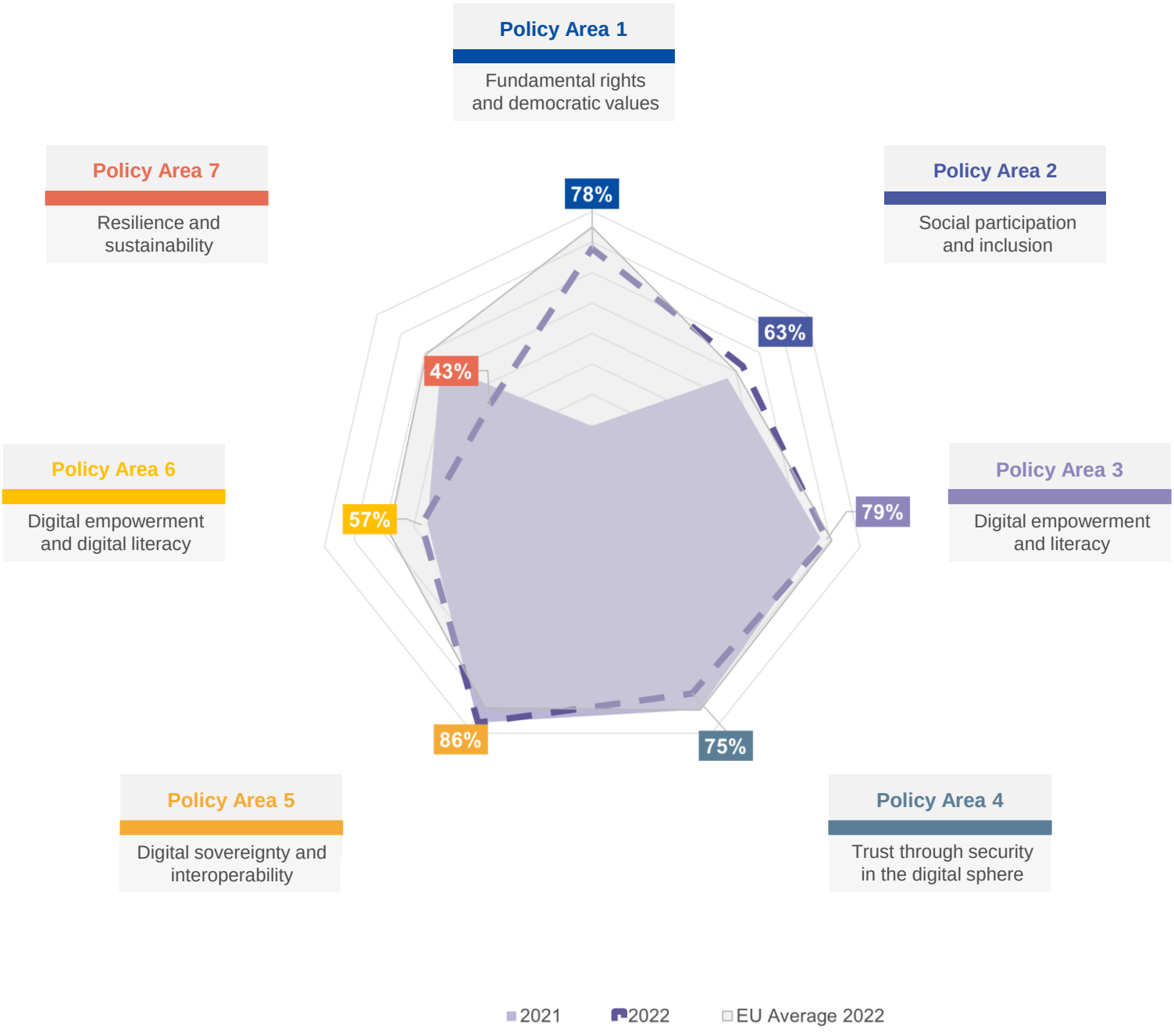
2021 country score | EU average (2022)



SLOVENIA

2023 | Berlin Declaration Monitoring (BDM)

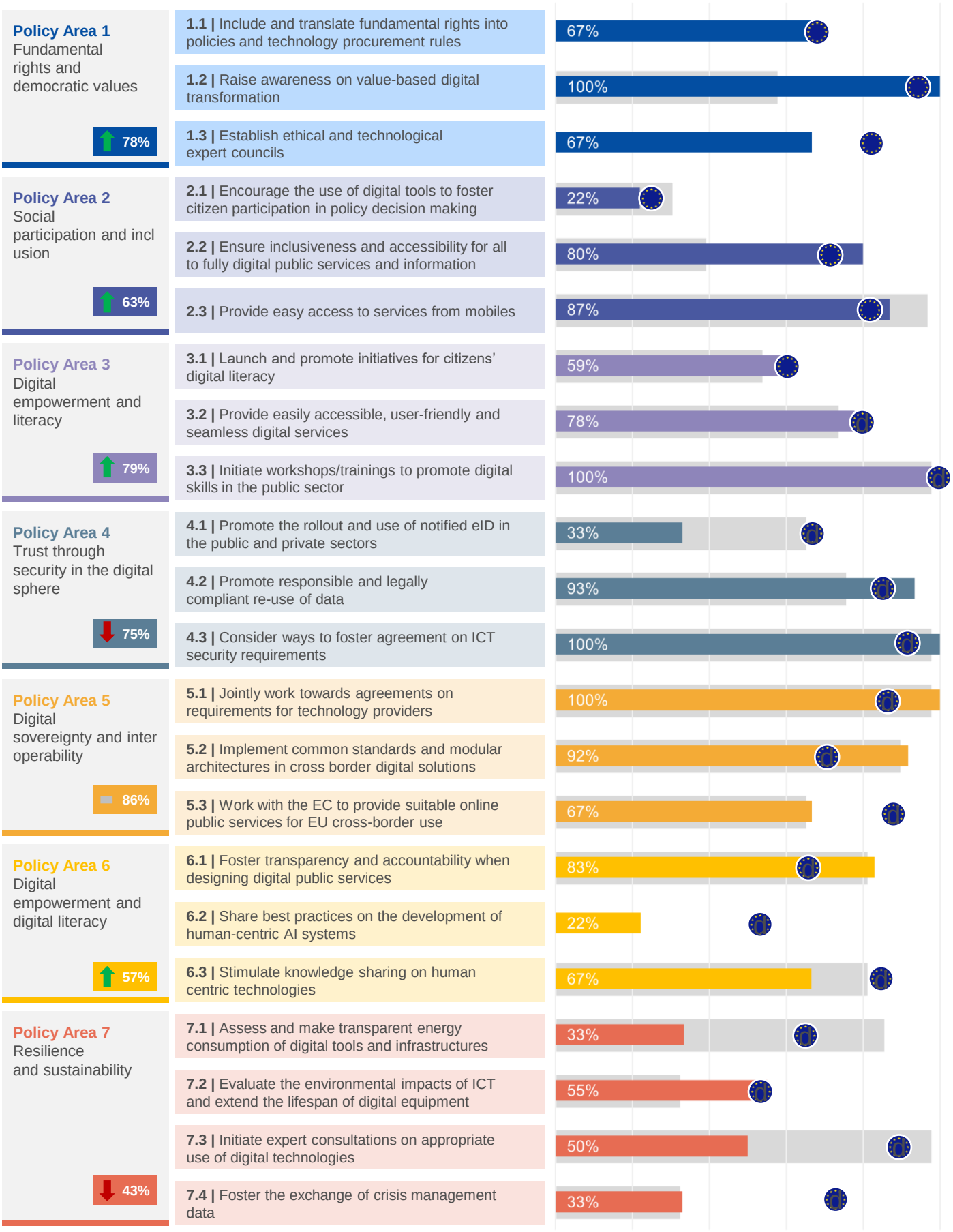
2022 BDM Results for Slovenia | Policy Areas level of implementation



Overall, Slovenia's scores on the 2022 edition of the Berlin Declaration monitoring mechanism are positive, with four Policy Areas out of seven having received higher scores than in 2021. The most significant increase is recorded for Policy Area 1, where Slovenia scored 78% in 2022, compared to 20% in 2021.
However, there is still room for improvement for Slovenia, as five of its Policy Areas score lower than the EU average. Most particularly, the country should focus on improving its score on Policy Area 7, where it received a score of 43% in 2022, while the EU average is at 69%. Similarly, the country should continue to focus on Policy Area 1, in order to reach the EU average.

2022 BDM Results for Slovenia | Policy Actions level of implementation

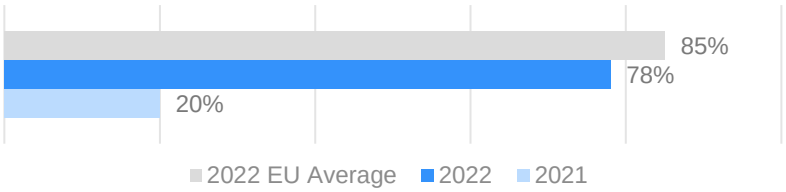
2021 country score | EU average (2022)



Qualitative stories from Slovenia

Policy Area 1

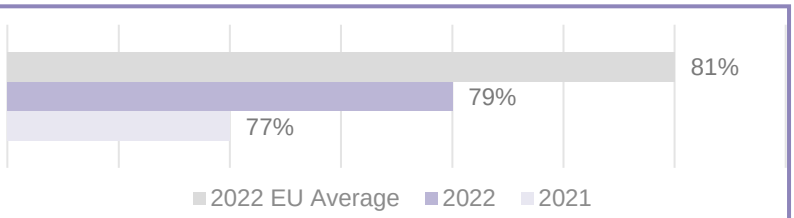
Promote fundamental rights and democratic values in the digital sphere



In 2022, Slovenia Launched the project 'Na-prostem.si: Free software for the digital inclusion of NGOs and its users'. The project aims to enable an independent digital transformation of non-governmental/voluntary organizations and increase the digital inclusion and digital skills of their users. The project was co-funded by the Ministry of Public Administration and has the following two objectives: 1) To a develop digital service supporting an efficient operation of non-governmental organizations in digital sphere and 2) To deliver trainings for the target groups for the use of the "Na-prostem" digital service and the use of free and open-source software (FOSS). Its target groups are employees, associates, members and volunteers in the non-governmental sector, socio-economically weaker users of NGO services and disabled persons or members of disabled organizations.

Policy Area 3

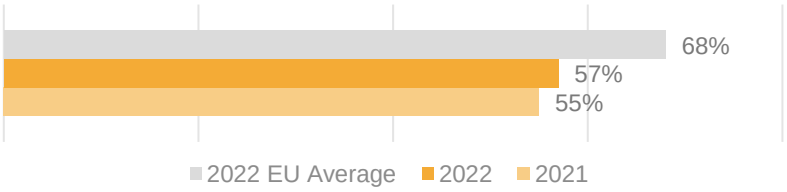
Foster digital empowerment and digital literacy



Free Arnes online courses on safe use of the Internet and modern technologies (MOST-V, MOST-VO and MOST-VS) are aimed at a wide range of users, including children from kindergarten upwards, and last year additionally at 2,500 teachers.
Among the various challenges in Slovenia, the increased use of ICT - in all categories of users, but especially in education - has led to a strong emphasis on the lack of knowledge or awareness about the safe use of digital services, the privacy of communication, the processing of personal data and copyright in the digital environment, and the challenges of excessive use of screen technologies. Arnes' key activities include the free massive open online course on safe use of the internet and devices.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

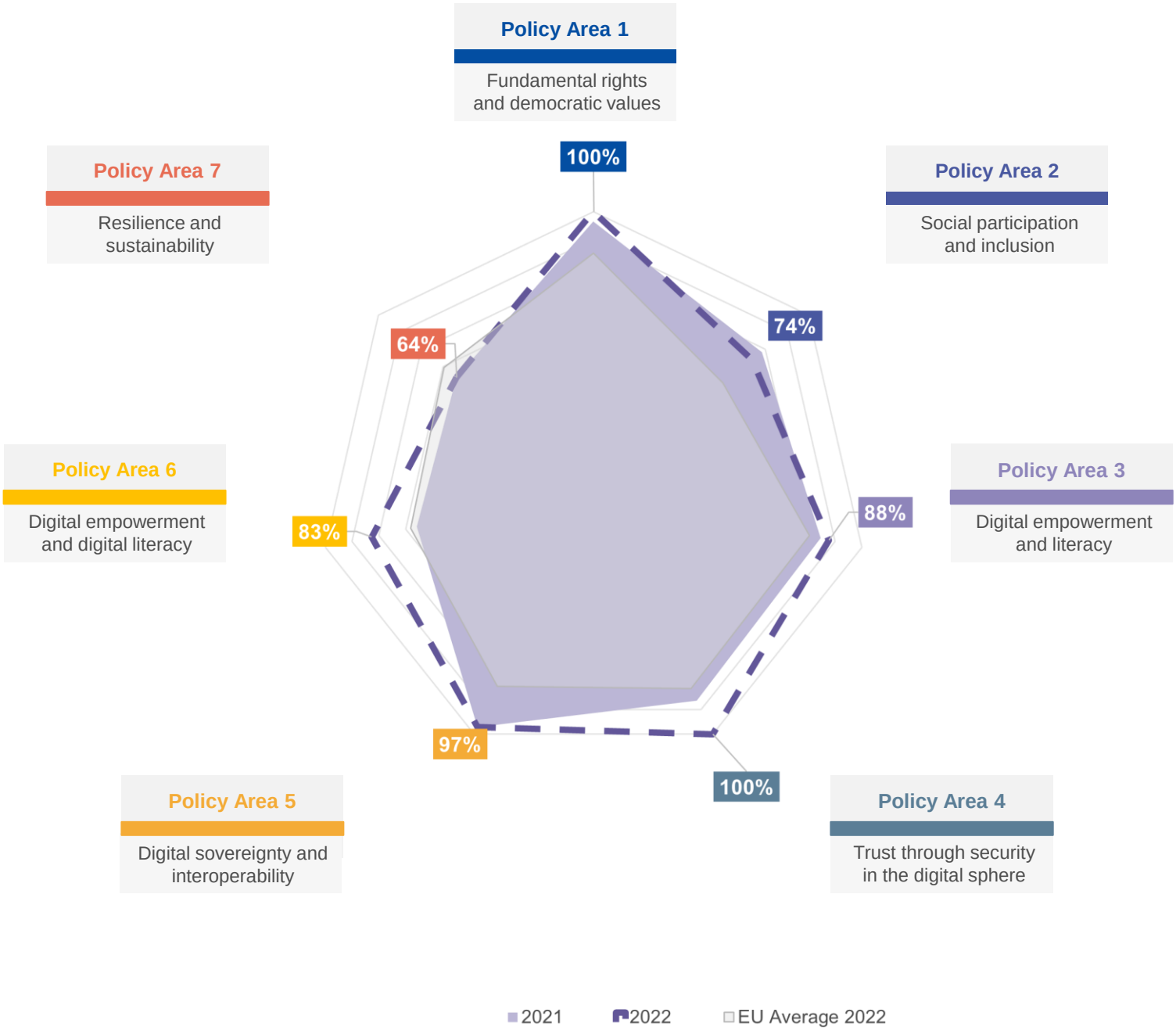


Slovenia implemented a Data exchange system, at operational level, named Tray, that uses elements of AI. Tray is a data exchange system that allows public organizations to exchange data between different applications. Data is shared in a secure and efficient way and can simplify communication between different applications. Tray is used by 24 IT systems, with the largest number of transactions being made by the Tray. Tray ensures that any data set is always retrieved from the primary data source. The set of data returned by the resource is minimal - a consistent legal basis for a particular application. Number of Tray clients is constantly increasing, and the need for data exchange is growing. Tray Machine Learning system is an open interface microservice that builds a predictive model based on big data and machine learning algorithms

SPAIN

2023 | Berlin Declaration Monitoring (BDM)

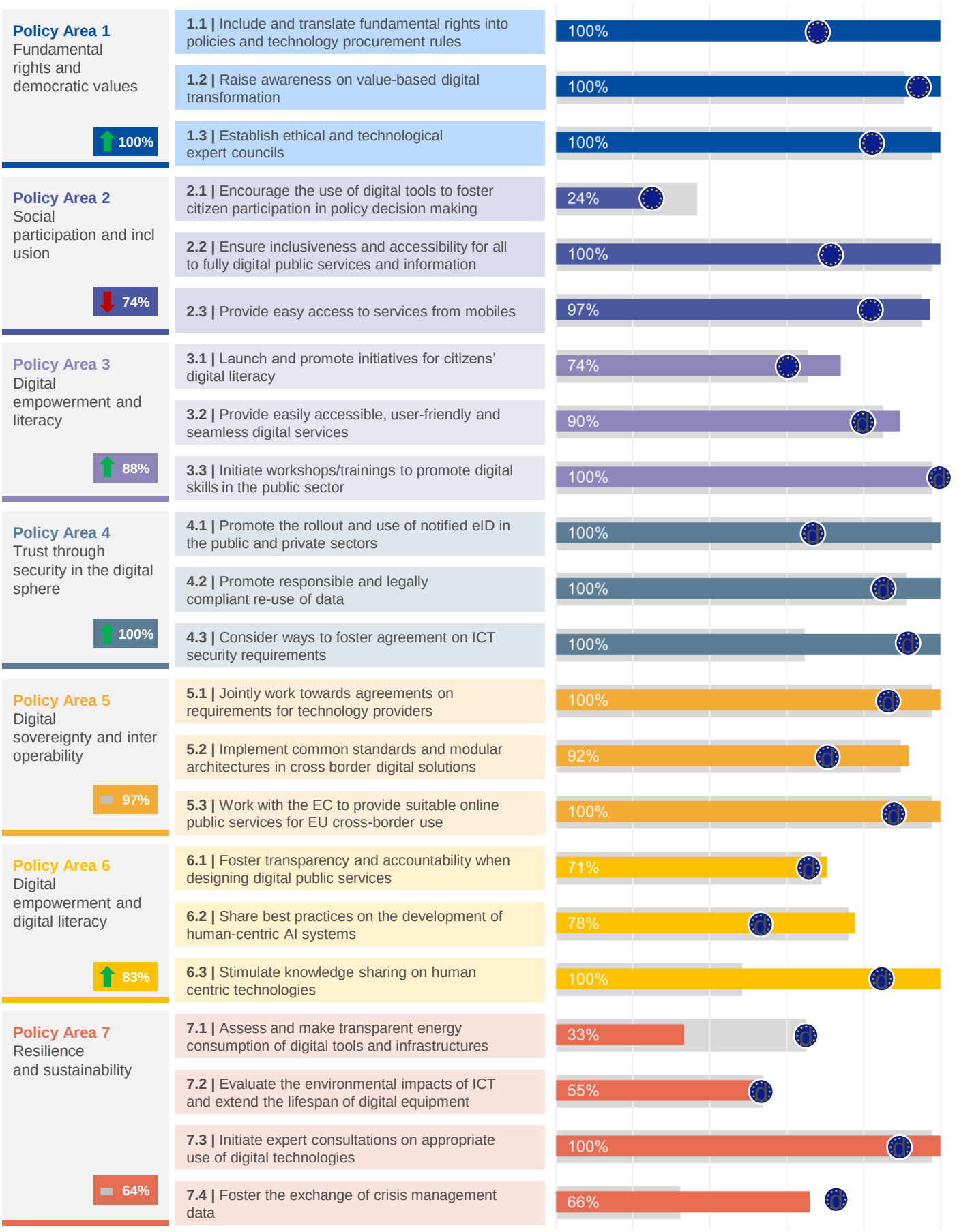
2022 BDM Results for Spain | Policy Areas level of implementation



Overall, Spain's results on the 2022 edition of the Berlin Declaration monitoring mechanism are very positive. Indeed, four Policy Areas have increased their scores, while two have received the same score as in 2021. The most significant increases are recorded for Policy Area 4, whose score went from 86% in 2021 to 100% in 2022, and Policy Area 6, whose score went from 66% in 2021 to 83% in 2022. Although Spain scores above the EU average for six out of seven Policy Areas, there remains some room for improvement regarding Policy Area 7, whose score at 64% remains below the EU average, which is at 69%.

2022 BDM Results for Spain | Policy Actions level of implementation

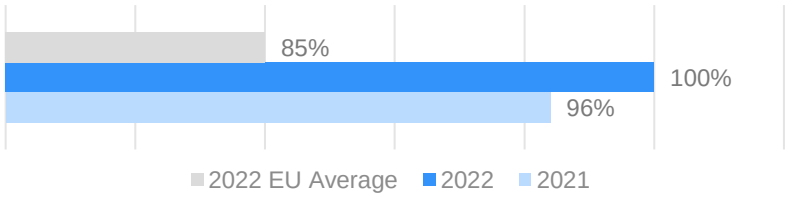
2021 country score | EU average (2022)



Qualitative stories from Spain

Policy Area 1

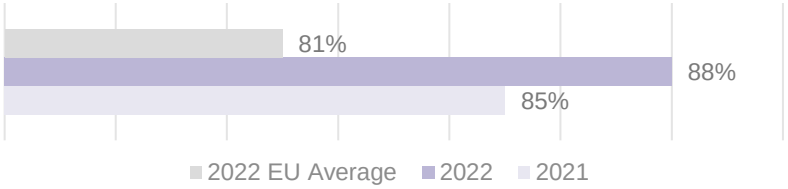
Promote fundamental rights and democratic values in the digital sphere



In 2021 Spain launched the Spanish Digital Right Charter. This is one of the Government's most important commitments to protect the rights of citizens in the new era of the Internet and Artificial Intelligence. Right 3.XVIII includes digital rights of citizens in their relations with public administrations. This Digital Right Charter is not regulatory in nature but proposes a framework of reference for the action of all public authorities. It is intended to serve as a guide for future legislative projects and to develop fairer public policies. This chart is aligned with the rights and freedoms recognised in the Universal Declaration of Human Rights, the Spanish Constitution, the European Convention on Human Rights, the Charter of Fundamental Rights of the European Union, and the international treaties and agreements on the same matters ratified by Spain.

Policy Area 3

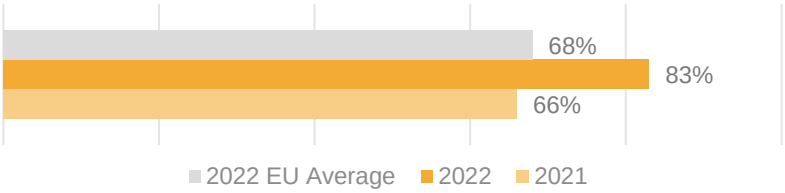
Foster digital empowerment and digital literacy



In November 2022, the 'Generation D Pact', a large-scale public-private commitment, was created. This is part of the 'National Digital Skills Plan' which was articulated in 2021 with the aim of guaranteeing the digital training and inclusion of workers and citizens as a whole to boost the creation of quality jobs, reduce unemployment, increase productivity and close digital divides. The 'Generation D Pact' partners commit themselves to identify, create, promote or disseminate employment and learning initiatives aimed at the acquisition and improvement of digital skills by signing a Manifesto. The aim is to create a cohesive, coordinated and complete ecosystem to make visible and involve Spanish society in the digital transformation process, in order to close the digital skills gap, raising the percentage of the Spanish population with these skills from the current 70% to 100%.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector

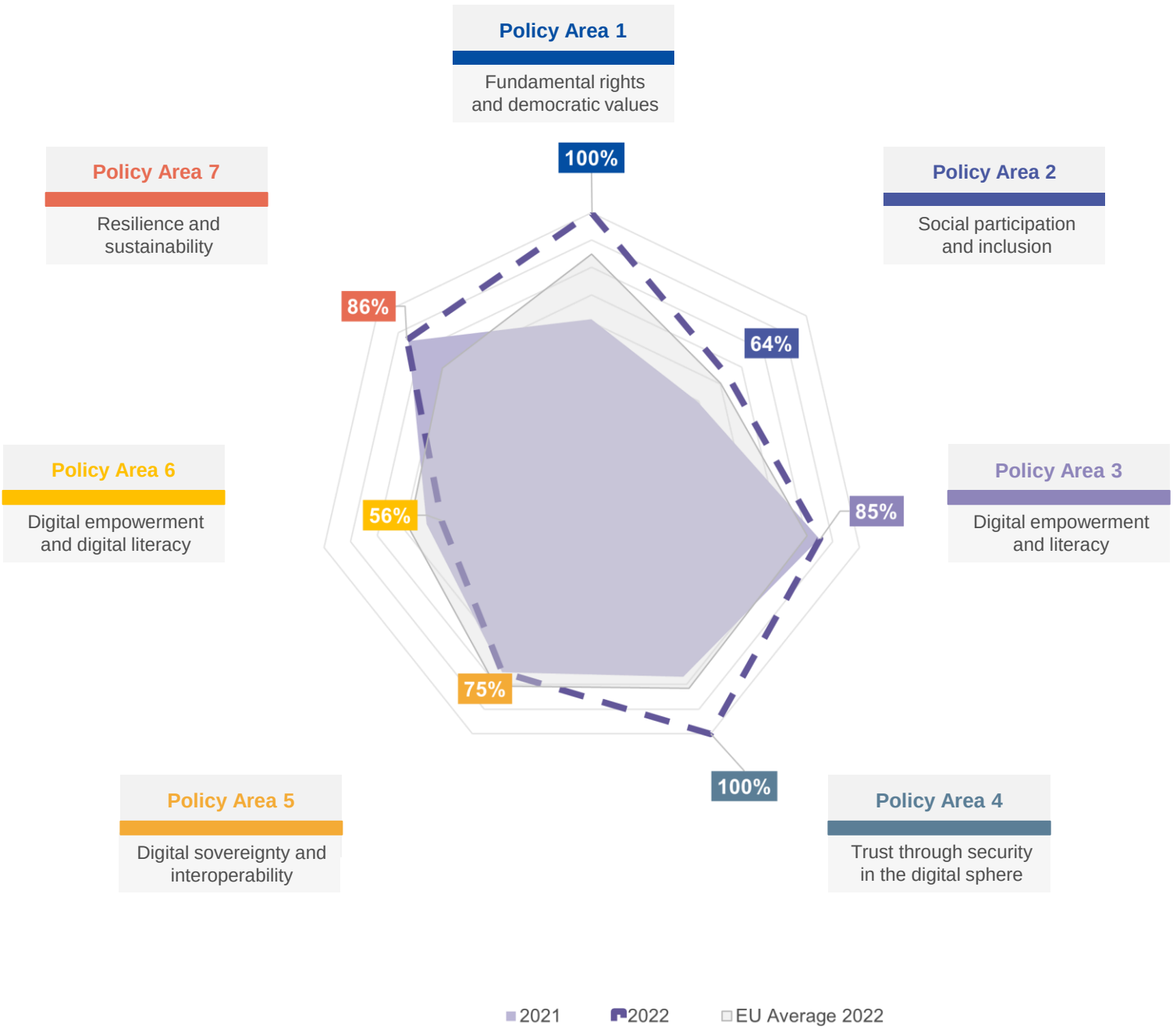


An example of a successful human-centric AI systems in the public sector is ADA, the new conversational assistant of the 'My Citizens' Folder' portal. ADA is able to understand the user's needs and thus guide her to the corresponding section where the requested information appears. Its aim is to facilitate access for people with disabilities and those less familiar with the digital environment. ADA will continue to learn and advance in its functionalities in order to help citizens in their relationship with the administration.

SWEDEN

2023 | Berlin Declaration Monitoring (BDM)

2022 BDM Results for Sweden | Policy Areas level of implementation

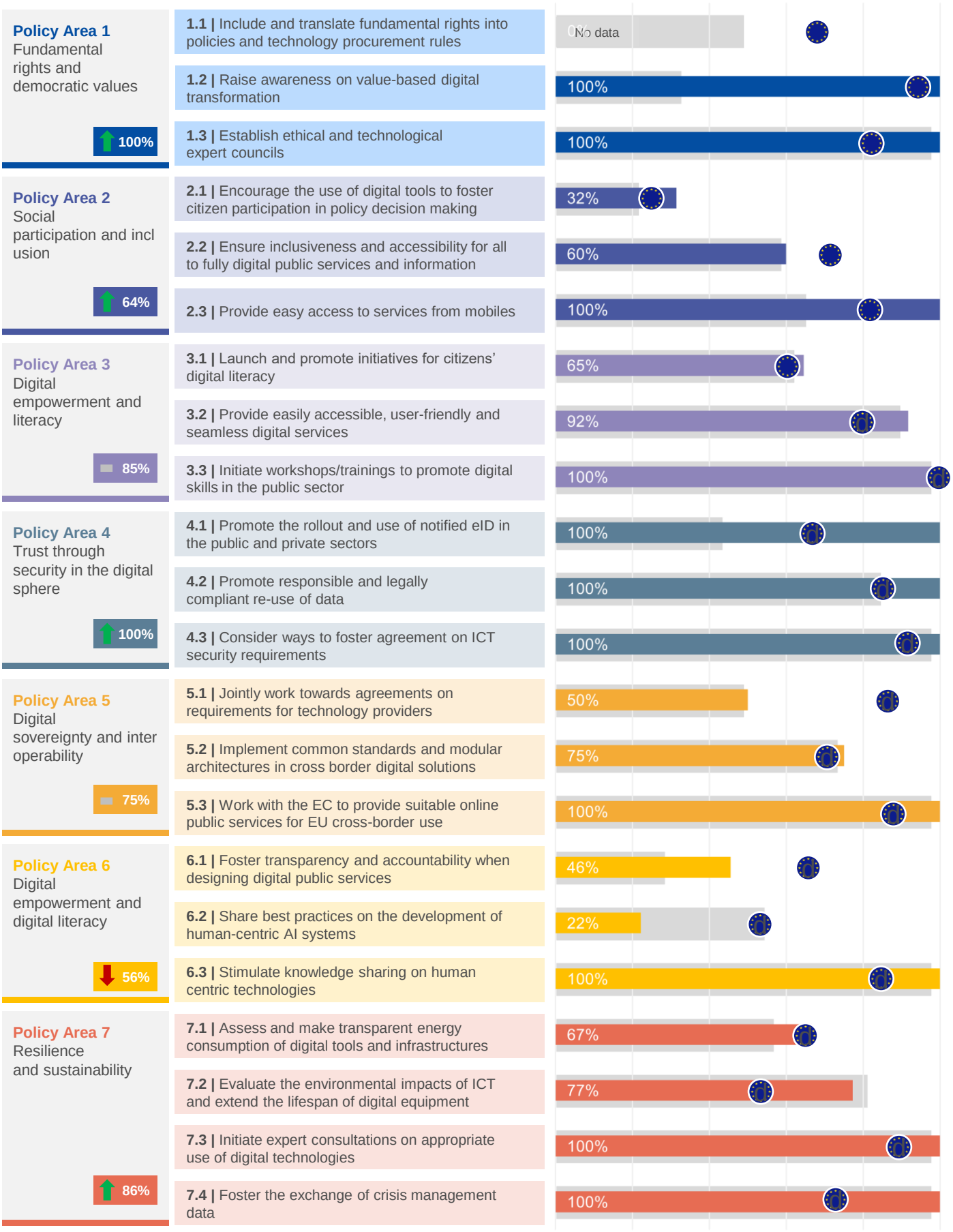


Overall, Sweden's scores on the 2022 edition of the Berlin Declaration are very positive. The country increased its scores on four out of seven Policy Areas, with the most significant increase recorded for Policy Area 1, where Sweden scored 100% in 2022, compared to 61% in 2021. For Policy Area 2 and Policy Area 4, the country also significantly improved, increasing its score of 14 and 23 percentage points respectively in 2022.

Nonetheless, despite Sweden receiving high scores in the 2022 edition of the monitoring mechanism, there still remains some room for improvement, most particularly with regard to Policy Areas 5 and Policy Area 6, which are the only two Policy Areas with scores below the EU average.

2022 BDM Results for Sweden | Policy Actions level of implementation

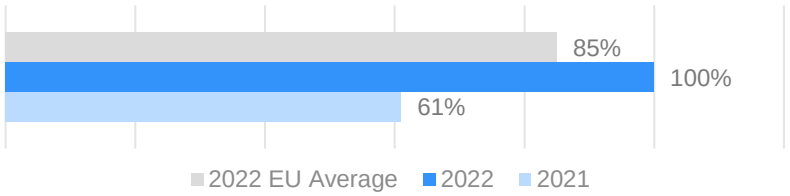
2021 country score | EU average (2022)



Qualitative stories from Sweden

Policy Area 1

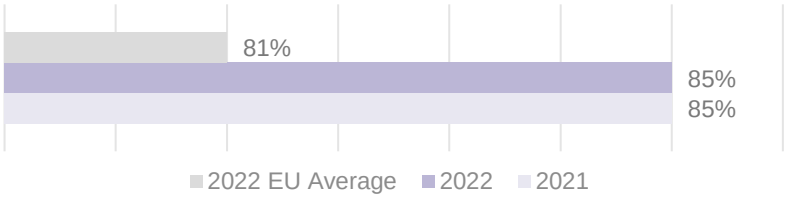
Promote fundamental rights and democratic values in the digital sphere



Sweden has implemented a national infrastructure for a standardised and secure handling of digital powers of attorneys called 'Mina ombud'. It makes it possible for someone to represent companies and natural persons in digital services. This includes a national web service to manage digital powers of attorney (e.g., creating new powers and showing or revoking all parties on a power of attorney). Mina ombud also stores powers of attorney and offers services for third parties to administrate templates and permissions.

Policy Area 3

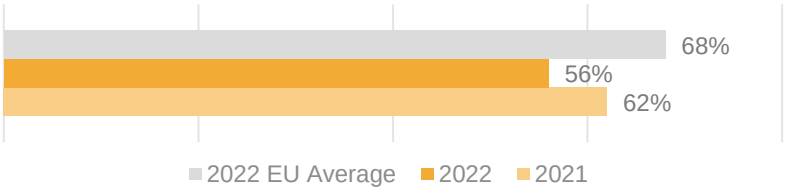
Foster digital empowerment and digital literacy



In 2019, the Swedish Government tasked the Swedish Higher Education Authority (UKÄ) and the Swedish Agency for Economic and Regional Growth (Tillväxtverket) to collaborate in analysing and proposing how access to cutting-edge digital expertise could be ensured both in the short-term and long-term. As part of the assignment, these governmental agencies started a dialogue on collaboration among stakeholders about the needs of their organisations for cutting-edge digital expertise, with the goal of increasing access to these and ensuring as far as possible improved access to statistics and forecasts about supply and demand to cutting-edge digital expertise on the Swedish labor market. On 31 October 2022, a final report was submitted to the Government Offices (Ministry of Infrastructure and Ministry of Education and Research). This report presented a broad package of policy suggestions on how to increase the access to cutting-edge digital expertise in both short term and long term.

Policy Area 6

Create value-based, human-centred AI systems for use in the public sector



The municipality of Skellefteå in northern Sweden has developed a human-centred digital solution to support and enable people to participate in the city's cultural centre 'Sara kulturhus'. The digital solution combines technologies from artificial intelligence (AI) and augmented reality (AR) to help in both the presentation of information, and the physical navigation within the cultural centre for people with for example visual impairments, and/or cognitive and mental disabilities. The solution was tested and further enhanced together with representatives of the target categories, along with participants from different age cohorts. The human-centred technology developed in Skellefteå has helped to increase the sense of independence for more groups of people and has created more space for participation in the city's cultural events and facilities in service of the common good.

Appendix I – Methodology

This first Appendix has objectives to provide an overview of the rationale behind the Berlin Declaration and the creation of its dedicated monitoring mechanism (BDM). It also shows how the BDM was developed and deployed, using a two-step approach: the design phase followed by the implementation phase. Furthermore, given the 2022 data collection and following feedback received from the Member States, a revision phase has been undertaken to amend some of the KPIs and the related questions of the BDM. Finally, this Appendix also provides the limitations (and related mitigating measures) of this monitoring mechanism.

1.1. Rationale and objectives

By means of the Berlin Declaration on Digital Society and Value-based Digital Government, each EU Member State agreed to implement a set of 22 Policy Actions and related commitments in its national frameworks by the end of 2024. To assess the level of implementation of these Policy Actions and to identify Member States' progress over the years, a dedicated monitoring mechanism has been created, with the first data collection in 2021 and the last one in 2024. This initiative is being led by the National Interoperability Framework Observatory (NIFO) of the European Commission, in parallel to the monitoring of the European Interoperability Framework (EIF), as to ensure coherence between the two monitoring mechanisms.

1.2. Approach to design the monitoring mechanism

Design phase

The design phase is meant to define the theoretical framework on which the monitoring mechanism is based, as well as its underlying indicators. More specifically, the design phase includes:

> Designing the structure of the monitoring mechanism defining the elements to be measured, the granularity levels and how they relate to one another (i.e., the theoretical framework) based on the Declaration itself;
> Identifying a set of secondary indicators from existing data sources to assess each of the Policy Actions, complemented with custom-made primary indicators;
> Defining the scoring mechanism (i.e., the method to aggregate the indicators) with support from the Joint Research Centre - Competence Centre on Composite Indicators and Scoreboards (JRC – COIN) to ensure the creation of a statistically solid assessment framework;
> Validating the drafted monitoring mechanism through stakeholder consultations (i.e., volunteer Member States and relevant contact points in the Member States); and
> Designing the questionnaire to collect primary data from the Member States.

The output of the design phase is the BDM itself with a defined theoretical framework, a robust set of indicators and a statistically sound methodology to conduct the analysis of gathered data

The secondary indicators were collected from existing information sources that are publicly available to avoid the duplication of data requests in line with the Once-Only Principle:

- Open Data Portal:
  - 1. Open data policy – 'Does the strategy/policy outline measures to support the re-use of open data by the public sector?' (BDM KPI 23)
  - 1. Open data policy - 'Existence of an Open Data portal (extent to which data can easily be found at one central place for reuse purposes)' (BDM KPI 24)
  - 1. Open data policy - 'Existence of specific activities to support for the reuse of Open Data' (BDM KPI 25)
- DESI - Digital Economy and Society Index:
  - '2a Internet User Skills - 2a1 At least basic Digital Skills (People with "basic" or "above basic" digital skills in each of the following four dimensions: information, communication, problem-solving and software for content creation (as measured by the number of activities carried out during the previous 3 months))' (BDM KPI 13)
  - 'Dimension 1 on Connectivity', now 'Dimension 2 on Digital Infrastructures' (BDM KPI 14)
  - 'Dimension 5 on Digital Public Services Dimension comprising of eGovernment' (BDM KPI 18)
- eGovernment Benchmark:
  - '2.3 Transparency of service design - E2 Does the website provide information on the user's ability to participate in policy making process?' (BDM KPI 7)
  - '2.3 Transparency of service design - E4 Does the website provide information on how users can enrol in any activity to improve the design and delivery of services?' (BDM KPI 8)
  - 'Mobile Friendliness' (BDM KPI 10)
  - 'Online Availability - User Centricity' (BDM KPI 15)
- CEF:
  - Notification to the European Commission of the national eID scheme (BDM KPI 20)
  - Number of eIDAS nodes that have passed the interoperability test (BDM KPI 21 – Deleted for 2022 data collection)
- DG CONNECT:
  - Compliance with the Regulation (EU) 2018/1724 of the European Parliament and of the Council of 2 October 2018 establishing a single digital gateway to provide access to information, procedures and to assistance and problem-solving services. (BDM KPI 27 – Not collected in 2022 as the deadline for implementing Regulation (EU) 2018/1724 is set for the end of 2023)

For the Policy Actions that cannot be fully evaluated using secondary data sources, a set of custom-made primary indicators was designed, and data was collected through an online survey sent to contact points in all the Member States. Hence, the BDM partly relies on a self-assessment provided by Member States' administrations on the actions and initiatives in place for the 22 Policy Actions of the Declaration.

Implementation phase

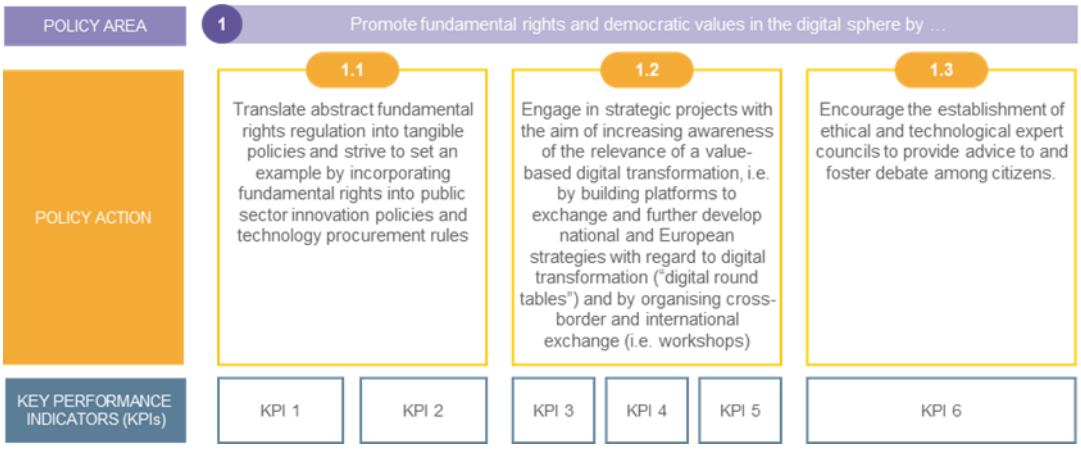
Following the design of the BDM, the implementation phase consists in launching the data collection through an EU-wide questionnaire to gather data for primary indicators. The data collection will be conducted jointly with the one of the EIF monitoring mechanisms in a combined online questionnaire to reduce burden on Member States.

1.3. Theoretical Framework

The BDM is targeted at assessing the level of implementation of the 22 Policy Actions (detailed in Appendix III) taken by the EU Member States with the signature of the Berlin Declaration. These are a set of statements that the Member States have committed to achieving in their respective countries by 2024. They are clustered into 7 Policy Areas (detailed in Appendix III), which are themselves in line with the 7 principles set out by the Declaration. The BDM's objectives are focused on monitoring the implementation of the Policy Actions by the Member States; as such, the Policy Actions mentioned in the Berlin Declaration to be achieved by the European Commission and other EU institutions are discarded from the BDM.

The architecture of the BDM is based on three granularity levels: the 7 Policy Areas (level 1) aggregating the 22 Policy Actions (level 2) assessed through a set of KPIs (level 3). For each level, all elements encompassed do not overlap and are of equal importance and weight. Figure 7 below shows an excerpt of the theoretical framework with the three levels for Policy Area 1 on the promotion of fundamental rights and democratic values in the digital sphere.

Figure 7 - Excerpt of the theoretical framework for Policy Area 1



The assessment of each Policy Action relies on a set of primary and/or secondary KPIs. The secondary indicators are collected from existing information sources publicly available (e.g., Open Data Portal, Digital Economy and Society Index (DESI)) to avoid the duplication of data requests in line with the Once-Only Principle. For Policy Actions that cannot be fully evaluated using secondary data sources, a set of custom-made primary indicators is designed and collected through a questionnaire issued to contact points in all the Member States.

1.4. Scoring Mechanism

The implementation of the Policy Actions defined under the Berlin Declaration by the Member States was assessed on a **percentage scale** (i.e., from 1 to 100%), based on the level of completion of each of the KPIs. Such a scale allows the alignment of the BDM with existing monitoring activities such as the European Commission's eGovernment Benchmark and provides a readable score.

The percentage of implementation for each Policy Action has been calculated as the **arithmetic mean** of the KPIs, designed to assess the corresponding Policy Action, for which it is assumed that all KPIs are of equal importance and weight. Similarly, the percentage of implementation for each Policy Area will be calculated as the **arithmetic mean** of the percentages of implementation of all of its underlying Policy Actions. At each granularity level, the aggregation provides a result only if at least two-thirds (66.66%) of underlying values are available. Meaning that if there is any above 33.33% of unavailable values (i.e., "no data"), the following aggregation level will provide a "no data" result as well. Such a statistical rule has been established to ensure that the aggregated results at Policy Action and Area level are relevant with sufficient underlying data to carry meaning.

1.5. Revision

Based on Member States' feedback received in the frame of the first BDM data collection in 2021, some modifications were performed to the mechanism, survey questions and related definitions, and were implemented into the 2022 edition. The justification for such amendments was to align with the feedback received from the Member States and to improve the clarity and ease of completion of the online survey. However, it is important to bear in mind that these changes may affect the comparability of results over the years, since some of the KPIs and survey questions have been removed, replaced or modified, as well as some of the survey questions. In addition to these changes, more definitions were provided throughout the survey by using tooltips. These definitions have been discussed and validated with some Member States.

Therefore, Table 2 below provides an overview of the various changes made to the BDM KPIs (primary sources only) and related survey questions before the 2022 data collection. The changes are highlighted in blue police.

[12] The arithmetic mean, also called the mean or the average, is the sum of a collection of numbers divided by the count of numbers in the collection.

Table 2 - Berlin Declaration Monitoring Mechanism (2022 edition) and related changes

KPI ID	KPI Title	Impacted Policy Areas/Actions	Question ID	Survey Question (2022 edition)
KPI 1	Inclusion of fundamental rights principles in public sector innovation policies	Policy Area 1 Policy Action 1.1	Q44	The fundamental rights are defined in the EU Charter of Fundamental Rights. However, their translation into policy might be challenging and subject to interpretation. In your country, are there any structured processes (e.g., guidelines, documentation, controls) to support the translation of fundamental rights into...: - Public sector innovation policies (KPI 1) - Technology procurement rules (KPI 2)
KPI 2	Inclusion of fundamental rights principles in technology procurement rules	Policy Area 1 Policy Action 1.1	Q44	The fundamental rights are defined in the EU Charter of Fundamental Rights. However, their translation into policy might be challenging and subject to interpretation. In your country, are there any structured processes (e.g., guidelines, documentation, controls) to support the translation of fundamental rights into...: - Public sector innovation policies (KPI 1) - Technology procurement rules (KPI 2)
KPI 3	Number of workshops/events organised on cross-border initiatives at the national level or European level This KPI has been removed from the framework.	Policy Area 1 Policy Action 1.2	/	/
KPI 4	Existence of platforms to exchange and further develop national strategies for digital transformation	Policy Area 1 Policy Action 1.2	Q45	Is your country engaged in strategic projects to increase awareness of the relevance of a value-based digital transformation at the national or EU level in the past year? - Through the organisation of workshops or events at the national level. - Through any initiatives (e.g., portals, programmes, communities) on knowledge sharing between practitioners of administrative innovation strategies. - Through any cross-border and international exchange aimed at increasing awareness of the relevance of the value brought by digital transformation (e.g., through digital roundtables, workshops, etc.)

KPI ID	KPI Title	Impacted Policy Areas/Actions	Question ID	Survey Question (2022 edition)
KPI 5	Existence of strategic projects to increase awareness of the relevance of a value-based digital transformation	Policy Area 1 Policy Action 1.2	Q45	Is your country engaged in strategic projects to increase awareness of the relevance of a value-based digital transformation at the national or EU level in the past year? - Through the organisation of workshops or events at the national level. - Through any initiatives (e.g., portals, programmes, communities) on knowledge sharing between practitioners of administrative innovation strategies. - Through any cross-border and international exchange aimed at increasing awareness of the relevance of the value brought by digital transformation (e.g., through digital roundtables, workshops, etc.)
KPI 35	Existence of strategic projects to increase awareness of the relevance of a value-based digital transformation	Policy Area 6 Policy Action 6.3	Q45	Is your country engaged in strategic projects with the aim of increasing relevance of a value-based digital transformation at the national or EU level in the past year? - Through the organisation of workshops or events at the national level. - Through any initiatives (e.g., portals, programmes, communities) on knowledge sharing between practitioners of administrative innovation strategies. Through any cross-border and international exchange aimed at increasing awareness of the relevance of the value brought by digital transformation (e.g., through digital roundtables, workshops, etc.)
KPI 6	Existence of initiatives promoting the setup of ethical and technological expert councils to provide advice to, and foster debate among citizens	Policy Area 1 Policy Action 1.3	Q46	Has your country established an ethical and/or technological expert council at the national level to provide advice and foster debate among citizens? - Ethical council - Technological council
KPI 12	Existence of a national strategy to enable citizens to use their mobile devices to access digital public services	Policy Area 2 Policy Action 2.3	Q48	Has your country developed a national strategy or implemented initiatives (e.g. development of solutions, creation of guidelines for the deployment of digital public services, etc.) to enable citizens to use their mobile devices to access digital public services?

KPI ID	KPI Title	Impacted Policy Areas/Actions	Question ID	Survey Question (2022 edition)
KPI 14	Dimension 2 - Digital Infrastructures 2 out of the 9 previously collected indicators are not collected anymore.	Policy Area 3 Policy Action 3.1	Secondary data (DESI)	Please note that, due to this change, corresponding results at KPI, Policy Action and Policy Areas levels cannot be compared to 2021 results.
KPI 17, now KPI 45	Internet use: Website or app of public authorities The previous indicator (IGOV12) is not collected from 2022. Hence, a proxy indicator (IGOVANYS) will be used from 2022 onward.	Policy Area 3 Policy Action 3.2	Secondary data (Eurostat)	Please note that, due to this change, corresponding results at KPI, Policy Action and Policy Areas levels cannot be compared to 2021 results.
KPI 19	Promotion of digital skills and awareness in the public sector	Policy Area 3 Policy Action 3.3	Q49	About the activities, you have put in place in your country to promote digital skills and awareness (by 'digital awareness' we mean the knowledge of the existence of something, or understanding/ perception of a situation or subject/fact at present based on information or experience. This includes digital awareness, which can be described as the awareness of the knowledge, skills and attitudes required for individuals to use digital tools effectively) in the public sector, what are the areas in which you focus the most? - Digital skills in public administrations (for public servants) - Digital skills in the education system (for teachers and students) - Digital skills for businesses and access to a skilled talent pool of qualified workforce - Advanced digital skills amongst the working population - Basic digital skills for all citizens - Digital skills in the healthcare system

KPI ID	KPI Title	Impacted Policy Areas/Actions	Question ID	Survey Question (2022 edition)
KPI 21	Number of eIDAS nodes that have passed the interoperability test This KPI has been removed from the 2022 data collection as it has not been collected in 2022.	Policy Area 4 Policy Action 4.1	Secondary data (CEF)	Please note that, due to this change, corresponding results at KPI, Policy Action and Policy Areas levels cannot be compared to 2021 results.
KPI 22	Incentives for private sector bodies to use European trustworthy and notified eID	Policy Area 4 Policy Action 4.1	Q50	Has your country provided the private sector with any incentives (By "incentive" we mean a motive for acting in a certain way, a procedure designed to encourage a desired response from people. Such incentives can be monetary and non-monetary) (e.g., allowing eIDAS for identification on the private website) to use eIDAS notified eIDs?
KPI 25	Existence of specific activities to support for the reuse of Open Data This indicator has been deleted from the BDM framework because it has been removed from the European Open Data Portal and no substitute KPI could be identified.	Policy Area 4 Policy Action 4.2	Secondary data (European Open Data Portal)	Please note that, due to this change, corresponding results at KPI, Policy Action and Policy Areas levels cannot be compared to 2021 results.

KPI ID	KPI Title	Impacted Policy Areas/Actions	Question ID	Survey Question (2022 edition)
KPI 27	Compliance with the Regulation (EU) 2018/1724 of the European Parliament and of the Council of 2 October 2018 establishing a single digital gateway to provide access to information, procedures and assistance and problem-solving services. This KPI is not considered for the 2022 data collection, as it is related to the SDG Regulation which is to be implemented by December 2023 by Member States.	Policy Area 4 Policy Action 4.2	/	/
KPI 37	Adoption of implementing acts following Article 24(2) of Directive (EU) 2019/944 (this is not linked to primary sources, but to a secondary source - database of implementing acts of the Commission, here you can see when an implementing act is adopted). This KPI has been removed from the framework.	Policy Area 7 Policy Action 7.1	/	/

KPI ID	KPI Title	Impacted Policy Areas/Actions	Question ID	Survey Question (2022 edition)
KPI 38	Participation to actions at EU Level for improving the interoperability in smart buildings and products This KPI has been removed from the framework.	Policy Area 7 Policy Action 7.1	/	/

1.6. Limitations

The BDM has some limitations that can be drawn from the first two data collection exercises. It is important to note the following:

- **Limiting, to the extent possible, the monitoring burden on Member States –** To monitor the digital transformation of the public sector, the BDM relies on a variety of secondary data sources (such as DESI, eGovernment Benchmark, etc.). However, due to the innovative nature of the Declaration upon which the BDM is based, a significant number of KPIs based on primary data were necessary, increasing the efforts and workload for Member States. The use of primary data sources is also due to the formulation of the BDM Policy Actions and Areas which presented a challenge as they were conceptual and difficult to translate into measurable KPIs, resulting in the use of proxy indicators.
- **Minimising human bias in the data collection –** To improve monitoring accuracy and consistency, it would be beneficial to rely more on data collected through direct measurement (secondary data) rather than self-assessment (primary data), which can be influenced by human bias. Existing data sources that could be reused are investigated regularly.
- **Ensuring the comparability of results over time –** There is no doubt that the stability of the KPIs of the BDM needs to be secured to ensure that the results are comparable over time and, therefore, to maintain the sustainability of the monitoring exercise. However, some changes were necessary to improve the clarity of the framework and related KPIs for Member States and to facilitate their participation in the online survey. Although the changes made are not necessarily major, they may have altered the interpretation and understanding by the Member States, and therefore the way they assess the element in the survey questions. Changes to some KPIs and related questions should therefore be kept in mind when analysing Member States' results over time.
- **Drawing meaningful conclusions –** As this year’s reports cover the results of the two first data collection exercises only, limited conclusions on the progress made by Member States could be drawn. A deeper analysis will be possible as of next year, with the identification of concrete trends and more solid conclusions.

Appendix II – BDM databases

Principle	ID Policy area	Policy area	ID MS Policy action	MS Policy action	ID KPI	KPIs	Source
Validity and respect of fundamental rights and democratic values	1	Promote fundamental rights and democratic values in the digital sphere by	1,1	Translate abstract fundamental rights regulations into tangible policies and strive to set an example by incorporating fundamental rights into public sector innovation policies and technology procurement rules.	KPI 1	Inclusion of fundamental rights principles in public sector innovation policies.	Survey
					KPI 2	Inclusion of fundamental rights principles in technology procurement rules.	Survey
			1,2	Engage in strategic projects with the aim of increasing awareness of the relevance of a value-based digital transformation, i.e. by building platforms to exchange and further develop national and European strategies with regard to digital transformation ("digital round tables") and by organising cross-border and international exchange (i.e. workshops)	KPI 3	Number of workshops/events organised on cross-border initiatives at national level or European level.	Survey
					KPI 4	Existence of platforms to exchange and further develop national strategies with regard to digital transformation.	Survey
					KPI 5	Existence of strategic projects with the aim of increasing awareness of the relevance of a value-based digital transformation	Survey
			1,3	Encourage the establishment of ethical and technological expert councils to provide advice to and foster debate among citizens.	KPI 6	Existence of initiatives promoting the set up of ethical and technological expert councils to provide advice to, and foster debate among citizens.	Survey
Social participation and digital inclusion to shape the digital world	2	Enhance social participation and inclusion by	2,1	Put co-creation and collaboration with citizens into practice and encourage the use of digital tools to foster participation of citizens in political-decision-making	KPI 7*	Online information on citizens ability to participate in policy making processes.	eGovernment Benchmark
					KPI 8*	Online information on how users can enrol in activities to improve the design and delivery of services.	eGovernment Benchmark
			2,2	Ensure that the digital transformation is inclusive of and accessible for persons with disabilities and elderly persons and increase our efforts to make public services and information fully digitally accessible in accordance with the Web Accessibility Directive and the European Accessibility Act	KPI 9	Compliance with the European accessibility standards of the Directive on the accessibility of the websites and mobile applications of public-sector bodies	EIF Monitoring Mechanism
			2,3	Provide easy access to services for the mobile channel by enabling citizens to use their mobile devices to carry out digital public services and by cooperating at EU level in establishing necessary elements for ensuring mobile device interoperability across borders	KPI 10*	Mobile Friendliness	eGovernment Benchmark
					KPI 11	Cooperation between EU Member States to ensure cross-border access to services via the mobile channel	Survey
					KPI 12	Existence of a national strategy to enable citizens to use their mobile devices to carry out digital public services	Survey
Empowerment and digital literacy	3	Foster digital empowerment and digital literacy by	3,1	Launch and promote initiatives to ensure that the general public is equipped with access and a minimum understanding of digital technologies and digital skills (i.e. online service of "digital ambassadors")	KPI 13*	Human capital – digital skills	DESI
					KPI 14*	Connectivity	DESI
			3,2	Continue to provide easily accessible, user-friendly services and seamless digital public services, tools and applications	KPI 15*	Online Availability - User Centricity	eGovernment Benchmark
					KPI 16*	Extent to which strategies or frameworks take the EIF into account	EIF Monitoring Mechanism
					KPI 45*	Internet use - Website or app of public authorities	EIF Monitoring Mechanism
					KPI 18*	Digital Public Services Dimension comprising of eGovernment	DESI
			3,3	Initiate workshops, training etc. in order to promote digital skills and awareness in the public sector	KPI 19	Promotion of digital skills and awareness in the public sector	Survey
Trust and security in digital government interactions	4	Strengthen trust through security in the digital sphere by	4,1	Promote the rollout and use of notified eID means and introduce incentives for the private sector to use European trustworthy and notified eID	KPI 20	Notification to the European Commission of the national eID scheme	CEF Dashboard
					KPI 22	Incentives for private sector bodies to use European trustworthy and notified eID	Survey
			4,2	Promote responsible and legally compliant re-use of data and the Once-Only Principle in line with the Tallinn Declaration and encourage new concepts such as personal data management based on user consent.	KPI 23	Strategy/policy outline measures supporting the re-use of open data by the public sector	Open Data Portal
					KPI 24	Existence of an Open Data portal (extent to which data can easily be found at one central place for reuse purposes)	Open Data Portal
					KPI 25	Existence of specific activities to support for the reuse of Open Data	Open Data Portal
					KPI 26	Existence of raising awareness initiatives on new concepts such as personal data management based on user consent	Survey
					KPI 27	Compliance with the Regulation (EU) 2018/1724 of the European Parliament and of the Council of 2 October 2018 establishing a single digital gateway to provide access to information, to procedures and to assistance and problem-solving services.	Survey
			4,3	Consider ways to foster agreement on ICT security requirements	KPI 28	Existence of initiatives to foster agreement on ICT security requirements for the public procurement of data processing services	Survey
Digital sovereignty and interoperability	5	Strengthen Europe's digital sovereignty and interoperability by	5,1	Jointly work towards agreements on requirements for technology providers and solutions in the public sector that are essential for digital sovereignty	KPI 29	Participation of Member States in EU Actions essential for digital sovereignty	Survey
			5,2	Establishing common standards and modular architectures	KPI 30	Use of common standards, modular architecture and consideration of open source software in the development and deployment of cross-border digital solutions	Survey
			5,3	Work with the European Commission to jointly agree on concrete deadlines and criteria such as a demand driven approach for providing further suitable public services online for EU cross-border use	KPI 31	Extent to which a Member State is meeting the requirements set by the Single Digital Gateway Regulation on the online availability and accessibility of the administrative procedures	EIF Monitoring Mechanism
Human-centred systems and innovative technologies in the public sector	7	Create value-based, human-centred AI systems for use in the public sector by	6,1	Foster transparency and accountability i.e. by revealing when automated decision-making processes are used in digital public services, and ensure quality standards of data sets fed into AI systems when designing digital public services (e.g. by quality seals for data sets);	KPI 32	Transparency with regards to automated decision making process used in digital public services	Survey
					KPI 33	Use of quality standards of data sets to fed into AI systems when designing digital public services	Survey
			6,2	Share best practices on the development of successful human-centric AI systems in the public sector;	KPI 34	Share best practices on the development of successful human-centric AI systems in the public sector that can be used by all public administrations at European, national and sub-national levels.	Survey
			6,3	Stimulate knowledge sharing between practitioners of administrative innovation strategies and on examples of human centric technologies in public administrations.	KPI 35	Knowledge sharing on public sector innovation strategies	Survey
					KPI 36	Knowledge sharing on human centric technologies	Survey
					KPI 38	Participation to actions at EU Level for improving the interoperability in smart buildings and products	Survey
					KPI 39	Actions at national or sub-national level for improving energy efficiency, optimise local consumption of digital tools and infrastructures	Survey
			7,2	Evaluate the environmental impacts of ICT using a multi-criteria lifecycle analysis and establish a strategy to extend the lifespan of digital equipment and promote the eco-design of ICT products to improve circular product cycles	KPI 40	Evaluation of the energy consumption and GHG emissions resulting from ICT activities in the public sector	Survey
					KPI 41	Lifespan of digital equipment used by the public sector	Survey
					KPI 42	Ecodesign of digital public services	Survey
			7,3	Initiate expert consultations to provide guidelines on healthy and appropriate use of digital technologies and work-life balance to prevent adverse impact on mental or physical human health development	KPI 43	Guidelines on healthy and appropriate use of digital technologies;	Survey
			7,4	Foster the exchange of crisis management data, in particular in the health sector, e.g. via the European Health Data Space	KPI 44	Active exchange of crisis management data between Member States	Survey

2. BDM database (results at Policy Area level)

Policy Area	1	2	3	4	5	6	7
Austria	78%	75%	80%	93%	89%	88%	92%
Belgium	63%	60%	80%	81%	81%	69%	71%
Bulgaria	83%	41%	69%	63%	75%	47%	75%
Croatia	67%	64%	78%	81%	94%	78%	83%
Cyprus	47%	55%	78%	72%	72%	41%	53%
Czech Republic	67%	55%	80%	92%	92%	43%	72%
Denmark	100%	67%	91%	100%	88%	69%	81%
Estonia	92%	52%	81%	93%	88%	94%	75%
Finland	94%	60%	91%	75%	88%	79%	69%
France	100%	54%	82%	100%	64%	74%	89%
Germany	83%	50%	75%	93%	96%	84%	86%
Greece	94%	57%	77%	77%	92%	62%	53%
Hungary	100%	61%	78%	70%	78%	64%	47%
Ireland	100%	58%	86%	64%	64%	47%	53%
Italy	No Data	62%	77%	81%	83%	60%	75%
Latvia	83%	48%	81%	98%	75%	72%	75%
Lithuania	75%	64%	80%	77%	88%	64%	61%
Luxembourg	100%	72%	88%	72%	94%	96%	87%
Malta	100%	75%	84%	68%	54%	58%	No Data
Netherlands	89%	70%	89%	87%	81%	86%	92%
Poland	80%	71%	75%	96%	81%	86%	83%
Portugal	100%	62%	83%	100%	83%	79%	83%
Romania	50%	28%	65%	22%	50%	22%	0%
Slovakia	83%	65%	76%	82%	67%	73%	61%
Slovenia	78%	63%	79%	75%	86%	57%	43%
Spain	100%	74%	88%	100%	97%	83%	64%
Sweden	100%	64%	85%	100%	75%	56%	86%
EU Average	**85%**	**60%**	**81%**	**82%**	**81%**	**68%**	**69%**

2. BDM database (results at Policy Action level)

Policy Action	1,1	1,2	1,3	2,1	2,2	2,3	3,1	3,2	3,3	4,1	4,2	4,3
Austria	33%	100%	100%	26%	100%	100%	62%	79%	100%	100%	80%	100%
Belgium	50%	75%	No Data	9%	80%	92%	53%	88%	100%	No Data	40%	100%
Bulgaria	83%	100%	67%	10%	60%	54%	47%	60%	100%	17%	73%	100%
Croatia	33%	100%	No Data	17%	100%	74%	63%	71%	100%	50%	93%	100%
Cyprus	33%	75%	33%	2%	80%	83%	59%	74%	100%	17%	100%	100%
Czech Republic	33%	100%	67%	8%	80%	77%	59%	81%	100%	83%	93%	100%
Denmark	100%	100%	100%	34%	No Data	100%	78%	96%	100%	100%	100%	100%
Estonia	100%	75%	100%	30%	60%	66%	56%	87%	100%	100%	80%	100%
Finland	83%	100%	100%	36%	60%	83%	76%	96%	100%	33%	93%	100%
France	No Data	100%	100%	22%	40%	99%	69%	78%	100%	100%	100%	100%
Germany	50%	100%	100%	13%	No Data	88%	58%	68%	100%	100%	87%	No Data
Greece	83%	100%	100%	15%	60%	95%	%	68%	100%	100%	87%	No Data
Hungary	100%	100%	100%	8%	80%	95%	59%	76%	100%	17%	93%	100%
Ireland	100%	100%	100%	49%	60%	66%	71%	86%	100%	0%	93%	100%
Italy	No Data	100%	No Data	10%	80%	97%	58%	73%	100%	50%	93%	100%
Latvia	100%	100%	50%	10%	80%	55%	57%	86%	100%	100%	93%	100%
Lithuania	No Data	100%	50%	13%	80%	99%	58%	81%	100%	50%	80%	100%
Luxembourg	100%	100%	100%	37%	80%	99%	71%	93%	100%	50%	67%	100%
Malta	100%	100%	No Data	96%	80%	50%	66%	86%	100%	50%	53%	100%
Netherlands	100%	100%	67%	63%	80%	66%	76%	90%	100%	100%	73%	N/A
Poland	66%%	75%	100%	36%	80%	98%	48%	76%	100%	100%	87%	100%
Portugal	100%	100%	100%	30%	60%	97%	63%	85%	100%	100%	100%	100%
Romania	0%	100%	50%	19%	40%	26%	46%	50%	100%	0%	67%	0%
Slovakia	100%	100%	50%	17%	100%	79%	56%	73%	100%	67%	80%	100%
Slovenia	67%	100%	67%	22%	80%	87%	59%	78%	100%	33%	93%	100%
Spain	100%	100%	100%	24%	100%	97%	74%	90%	100%	100%	100%	100%
Sweden	No Data	100%	100%	32%	60%	100%	65%	92%	100%	100%	100%	100%
EU Average	**75%**	**96%**	**83%**	**25%**	**74%**	**82%**	**61%**	**80%**	**100%**	**64%**	**85%**	**96%**

2. BDM database (results at Policy Action level)

Policy Action	5,1	5,2	5,3	6,1	6,2	6,3	7,1	7,2	7,3	7,4
Austria	100%	67%	100%	88%	89%	No Data	100%	67%	100%	100%
Belgium	100%	92%	67%	No Data	100%	58%	50%	33%	100%	100%
Bulgaria	50%	75%	100%	42%	33%	67%	67%	33%	100%	100%
Croatia	100%	83%	100%	No Data	56%	100%	50%	83%	100%	100%
Cyprus	50%	67%	100%	42%	22%	58%	67%	44%	100%	0%
Czech Republic	100%	75%	100%	58%	22%	50%	33%	55%	100%	100%
Denmark	No Data	75%	100%	63%	44%	100%	67%	55%	100%	100%
Estonia	No Data	75%	100%	83%	100%	100%	67%	66%	100%	66%
Finland	100%	75%	No Data	71%	67%	100%	67%	44%	100%	66%
France	100%	25%	67%	100%	22%	100%	100%	55%	100%	100%
Germany	100%	92%	No Data	75%	78%	100%	67%	78%	100%	100%
Greece	100%	75%	100%	58%	44%	83%	67%	77%	0%	66%
Hungary	50%	83%	100%	71%	22%	100%	33%	55%	100%	0%
Ireland	50%	42%	100%	46%	11%	83%	67%	44%	100%	0%
Italy	100%	83%	67%	46%	33%	100%	100%	33%	100%	66%
Latvia	100%	58%	67%	No Data	78%	67%	67%%	33%	100%	100%
Lithuania	No Data	75%	100%	No Data	44%	83%	83%	No Data	0%	100%
Luxembourg	100%	83%	100%	88%	100%	100%	100%	50%	100%	100%
Malta	No Data	75%	33%	No Data	33%	83%	83%	55%	No Data	No Data
Netherlands	100%	75%	67%	58%	100%	100%	100%	66%	100%	100%
Poland	100%	75%	67%	No Data	89%	83%	50%	83%	100%	100%
Portugal	100%	83%	67%	88%	67%	83%	67%	66%	100%	100%
Romania	No Data	0%	100%	17%	0%	50%	0%	0%	0%	0%
Slovakia	50%	50%	100%	71%	67%	83%	67%	44%	100%	33%
Slovenia	100%	92%	67%	83%	22%	67%	33%	55%	50%	33%
Spain	100%	92%	100%	71%	78%	100%	33%	55%	100%	66%
Sweden	50%	75%	100%	46%	22%	100%	67%	77%	100%	100%
EU Average	86%	71%	87%	65%	53%	84%	65%	54%	87%	73%

3. BDM database (results at KPI level)

KPI	KPI 1	KPI 2	KPI 4	KPI 5	KPI 6	KPI 7	KPI 8	KPI 9	KPI 10	KPI 11	KPI 12	KPI 13	KPI 14	KPI 15	KPI 16	KPI 18	KPI 19	KPI 20	KPI 22
Austria	33%	33%	100%	100%	100%	36%	18%	100%	99%	100%	100%	63%	60%	91%	75%	75%	100%	100%	100%
Belgium	0%	100%	100%	50%	No data	8%	17%	80%	99%	No data	83%	54%	51%	90%	100%	80%	100%	100%	No data
Bulgaria	66%	100%	100%	100%	67%	1%	1%	60%	90%	0%	67%	31%	63%	80%	75%	57%	100%	33%	0%
Croatia	33%	33%	100%	100%	No data	9%	55%	100%	99%	100%	33%	63%	63%	91%	75%	61%	100%	100%	0%
Cyprus	33%	33%	100%	50%	33%	11%	1%	80%	78%	100%	67%	50%	67%	71%	75%	61%	100%	0%	33%
Czech Republic	33%	33%	100%	100%	67%	12%	1%	80%	89%	100%	50%	60%	57%	87%	100%	58%	100%	100%	66%
Denmark	100%	100%	100%	100%	100%	86%	57%	No data	99%	100%	100%	69%	87%	100%	100%	85%	100%	100%	100%
Estonia	100%	100%	50%	100%	100%	87%	25%	60%	95%	0%	100%	56%	56%	96%	75%	92%	100%	100%	100%
Finland	66%	100%	100%	100%	100%	33%	33%	60%	100%	100%	50%	79%	73%	99%	100%	91%	100%	0%	66%
France	No data	100%	100%	100%	100%	9%	55%	40%	98%	100%	100%	62%	75%	92%	75%	63%	100%	100%	100%
Germany	0%	100%	100%	100%	100%	1%	8%	No data	92%	100%	67%	49%	67%	90%	No data	64%	100%	100%	100%
Greece	66%	100%	100%	100%	100%	58%	1%	60%	98%	100%	100%	52%	53%	91%	100%	57%	100%	0%	100%
Hungary	100%	100%	100%	100%	100%	1%	40%	80%	79%	100%	100%	49%	68%	95%	75%	61%	100%	0%	33%
Ireland	100%	100%	100%	100%	100%	55%	55%	60%	97%	0%	100%	70%	71%	90%	100%	70%	100%	0%	0%
Italy	33%	No data	100%	100%	No data	36%	1%	80%	96%	100%	100%	46%	70%	90%	75%	60%	100%	100%	0%
Latvia	100%	100%	100%	100%	50%	1%	1%	80%	99%	0%	67%	51%	62%	93%	100%	79%	100%	100%	100%
Lithuania	No data	No data	100%	100%	50%	17%	17%	80%	95%	100%	100%	49%	67%	92%	75%	84%	100%	100%	0%
Luxembourg	100%	100%	100%	100%	100%	50%	62%	80%	93%	100%	100%	64%	78%	95%	100%	87%	100%	100%	0%
Malta	100%	100%	100%	100%	No data	100%	100%	80%	97%	0%	50%	61%	71%	100%	75%	93%	100%	100%	0%
Netherlands	100%	100%	100%	100%	67%	58%	58%	80%	100%	0%	100%	79%	72%	95%	100%	92%	100%	100%	100%
Poland	66%	66%	50%	100%	100%	44%	44%	80%	91%	100%	100%	43%	53%	86%	100%	61%	100%	100%	100%
Portugal	100%	100%	100%	100%	100%	33%	33%	60%	97%	100%	100%	55%	71%	97%	100%	72%	100%	100%	100%
Romania	0%	0%	100%	100%	50%	8%	1%	40%	80%	0%	0%	28%	63%	71%	75%	33%	100%	0%	0%
Slovakia	100%	100%	100%	100%	50%	71%	1%	100%	91%	50%	100%	55%	57%	86%	75%	58%	100%	100%	33%
Slovenia	100%	33%	100%	100%	67%	29%	29%	80%	91%	100%	67%	50%	67%	92%	75%	71%	100%	33%	33%
Spain	100%	100%	100%	100%	100%	27%	9%	100%	95%	100%	100%	64%	84%	98%	100%	80%	100%	100%	100%
Sweden	No data	100%	100%	100%	100%	91%	27%	60%	100%	100%	No data	67%	62%	95%	100%	79%	100%	100%	100%
EU Average	68%	81%	96%	96%	83%	36%	28%	74%	94%	71%	81%	56%	66%	91%	88%	71%	100%	73%	56%

3. BDM database (results at KPI level)

KPI	KPI 23	KPI 24	KPI 26	KPI 28	KPI 29	KPI 30	KPI 31	KPI 32	KPI 33	KPI 34	KPI 35	KPI 36	KPI 39	KPI 40	KPI 41	KPI 42	KPI 43	KPI 44
Austria	100%	100%	40%	100%	100%	67%	100%	75%	100%	89%	No data	100%	100%	No data	33%	100%	100%	100%
Belgium	0%	100%	20%	100%	100%	92%	67%	No data	66%	100%	50%	66%	50%	33%	0%	66%	100%	100%
Bulgaria	100%	100%	20%	100%	50%	75%	100%	50%	33%	33%	100%	33%	67%	66%	0%	33%	100%	100%
Croatia	100%	100%	80%	100%	100%	83%	100%	No data	100%	56%	100%	100%	50%	No data	66%	100%	100%	100%
Cyprus	100%	100%	100%	100%	50%	67%	100%	50%	33%	22%	50%	66%	67%	0%	33%	100%	100%	0%
Czech Republic	100%	100%	80%	100%	100%	75%	100%	50%	66%	22%	100%	0%	33%	66%	33%	66%	100%	100%
Denmark	100%	100%	100%	100%	No data	75%	100%	25%	100%	44%	100%	100%	67%	100%	0%	66%	100%	100%
Estonia	100%	100%	40%	100%	No data	75%	100%	100%	66%	100%	100%	100%	67%	66%	66%	66%	100%	66%
Finland	100%	100%	80%	100%	100%	75%	No data	75%	66%	67%	100%	100%	67%	66%	33%	33%	100%	66%
France	100%	100%	100%	100%	100%	25%	67%	100%	100%	22%	100%	100%	100%	66%	66%	33%	100%	100%
Germany	100%	100%	60%	No data	100%	92%	No data	50%	100%	78%	100%	100%	67%	100%	33%	100%	100%	100%
Greece	100%	100%	40%	100%	100%	75%	100%	50%	66%	44%	100%	66%	67%	100%	66%	66%	0%	66%
Hungary	100%	100%	80%	100%	50%	83%	100%	75%	66%	22%	100%	100%	33%	100%	0%	66%	100%	0%
Ireland	100%	100%	80%	100%	50%	42%	100%	25%	66%	11%	100%	66%	67%	66%	0%	66%	100%	0%
Italy	100%	100%	80%	100%	100%	83%	67%	25%	66%	33%	100%	100%	100%	No data	33%	33%	100%	66%
Latvia	100%	100%	80%	100%	100%	58%	67%	0%	No data	78%	100%	33%	67%	0%	33%	66%	100%	100%
Lithuania	100%	100%	40%	100%	No data	75%	100%	75%	No data	44%	100%	66%	83%	No data	0%	No data	0%	100%
Luxembourg	0%	100%	100%	100%	100%	83%	100%	75%	100%	100%	100%	100%	100%	No data	33%	66%	100%	100%
Malta	0%	100%	60%	100%	No data	75%	33%	No data	No data	33%	100%	66%	83%	66%	33%	66%	No data	No data
Netherlands	100%	100%	20%	No Data	100%	75%	67%	50%	66%	100%	100%	100%	100%	66%	66%	66%	100%	100%
Poland	100%	100%	60%	100%	100%	75%	67%	No data	100%	89%	100%	66%	50%	No data	100%	66%	100%	100%
Portugal	100%	100%	100%	100%	100%	83%	67%	75%	100%	67%	100%	66%	67%	100%	66%	33%	100%	100%
Romania	100%	100%	0%	0%	No data	0%	100%	0%	33%	0%	100%	0%	0%	No data	0%	0%	0%	0%
Slovakia	100%	100%	40%	100%	50%	50%	100%	75%	66%	67%	100%	66%	67%	66%	33%	33%	100%	33%
Slovenia	100%	100%	80%	100%	100%	92%	67%	100%	66%	22%	100%	33%	33%	66%	33%	66%	50%	33%
Spain	100%	100%	100%	100%	100%	92%	100%	75%	66%	78%	100%	100%	33%	33%	66%	66%	100%	66%
Sweden	100%	100%	100%	100%	50%	75%	100%	25%	66%	22%	100%	100%	67%	66%	100%	66%	100%	100%
EU Average	89%	100%	66%	96%	86%	71%	87%	57%	73%	53%	96%	74%	65%	65%	38%	61%	87%	73%

Appendix III – Policy Areas & Policy Actions of the Berlin Declaration

The below figure aims to present the architecture of the BDM. As a reminder, the BDM assesses the level of implementation of 22 Policy Actions which are clustered into 7 Policy Areas, in line with the 7 principles set out by the Declaration. Hence, the architecture of the BDM is based on three granularity levels: the 7 Policy Areas (level 1) aggregating the 22 Policy Actions (level 2) assessed through a set of primary and/or secondary Key Performance Indicators (KPIs) (level 3).

BDM Theoretical Framework

Level 1 Policy Areas	Level 2 Policy Actions	Level 3 KPIs
Policy Area 1 Promote fundamental rights and democratic values in the digital sphere	**1.1 |** Include and translate fundamental rights into policies and technology procurement rules	1-2
	1.2 | Raise awareness on value-based digital transformation	3-5
	1.3 | Establish ethical and technological expert councils	6
Policy Area 2 Enhance social participation and inclusion	**2.1** | Encourage the use of digital tools to foster citizen participation in policy decision making	7-8
	2.2 | Ensure inclusiveness and accessibility for all to fully digital public services and information	9
	2.3 | Provide easy access to services from mobiles	10-12
Policy Area 3 Foster digital empowerment and digital literacy	**3.1** | Launch and promote initiatives for citizens' digital literacy	13-14
	3.2 | Provide easily accessible, user-friendly and seamless digital services	15-18
	3.3 | Initiate workshops/trainings to promote digital skills in the public sector	19
Policy Area 4 Strengthen trust through security in the digital sphere	**4.1** | Promote the rollout and use of notified eID in the public and private sectors	20-22
	4.2 | Promote responsible and legally compliant re-use of data	23-27
	4.3 | Consider ways to foster agreement on ICT security requirements	28
Policy Area 5 Strengthen Europe's digital sovereignty and interoperability	**5.1** | Jointly work towards agreements on requirements for technology providers	29
	5.2 | Implement common standards and modular architectures in cross border digital solutions	30
	5.3 | Work with the EC to provide suitable online public services for EU cross-border use	31
Policy Area 6 Create value-based, human-centered AI systems for use in the public sector	**6.1** | Foster transparency and accountability when designing digital public services	32-33
	6.2 | Share best practices on the development of human-centric AI systems	34
	6.3 | Stimulate knowledge sharing on human centric technologies	35-36
Policy Area 7 Foster resilience and sustainability	**7.1** | Assess and make transparent energy consumption of digital tools and infrastructures	37-39
	7.2 | Evaluate the environmental impacts of ICT and extend the lifespan of digital equipment	40-42
	7.3 | Initiate expert consultations on appropriate use of digital technologies	43
	7.4 | Foster the exchange of crisis management data	44