

Digital Public Administration factsheet 2022

Ukraine



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1

Country Profile

1 Country Profile

1.1 Digital Public Administration Indicators

At the present moment the Digital Economy and Society Index (DESI) does not collect data for Ukraine.

However, the following are some relevant statistics for Ukraine:

- Mobile-cellular subscriptions per 100 inhabitants: 139.4*;
- Fixed (wired)-broadband subscriptions per 100 inhabitants: 18.62*;
- Mobile-broadband subscriptions per 100 inhabitants: 85.3*;
- 68.2% of households have a computer** (2021);
- 67.6 % of Ukrainian citizens use the internet**;
- 62.6 % of Ukrainian citizens have internet access at home**.

Among the Ukrainian population***:

- 75% use the internet frequently (at least once every three months);
- 25% do not use the internet frequently or have never used it.

Source:

- * ICT statistics on Ukraine (Latest data available: 2020) ITU;
- ** DataReportal 'Digital Ukraine 2021' (2021);
- *** World Bank statistics on individuals using the Internet in Ukraine (2020).

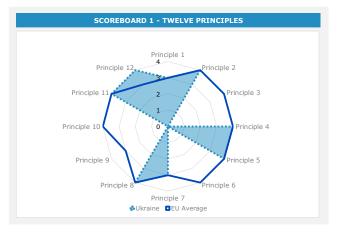
1.2 Interoperability State of Play

In 2017, the European Commission published the European Interoperability Framework (EIF) to give specific guidance on how to set up interoperable digital public services through a set of 47 recommendations. The picture below represents the three pillars of the EIF around which the EIF Monitoring Mechanism was built to evaluate the level of implementation of the EIF within the Member States. It is based on a set of 71 Key Performance Indicators (KPIs) clustered within the three main pillars of the EIF (Principles, Layers and Conceptual model), outlined below.



Source: European Interoperability Framework Monitoring Mechanism 2021

For each of the three pillars, a different scoreboard was created to breakdown the results into their main thematic areas (i.e. the 12 principles of interoperability, the interoperability layers and the components of the conceptual model). The thematic areas are evaluated on a scale from one to four, where one means a lower level of implementation and 4 means a higher level of implementation. The graphs below show the result of the third EIF Monitoring Mechanism data collection exercise for Ukraine in 2021.



Source: European Interoperability Framework Monitoring Mechanism 2021

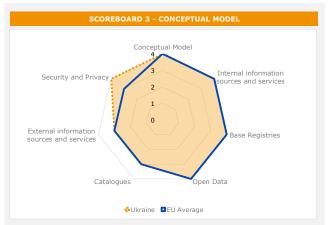
Ukraine's results in Scoreboard 1 show an overall good implementation of the EIF principles, despite the lack of data for Principle 3 (Transparency), Principle 6 (Usercentricity), Principle 9 (Multilingualism) and Principle 10 (Administrative

simplification). Ukraine scores above the European average for Principle 12 (Assessment of Effectiveness and Efficiency) with a maximal score of 4, and meets the European average for every other principle. The mid-upper performance of Ukraine for Principle 1 (Subsidiarity and Proportionality) indicates that Ukrainian public administrations could improve their performance on the implementation of this principle by ensuring that their national interoperability frameworks and interoperability strategies are aligned with the EIF and, if needed, tailor and extend them to address the national context and needs. (Recommendation 1).



Source: European Interoperability Framework Monitoring Mechanism 2021

The Ukrainian results for the implementation of interoperability layers assessed for Scoreboard 2 show a good performance. Ukraine scores a maximal score of 4 for every interoperability layers. Despite the score of 4 obtained for the implementation of interoperability governance, Ukrainian public administrations could improve the implementation of the Recommendation 23, which independently gets a lower score of 2, by consulting more relevant catalogues of standards, specifications and guidelines at national and EU level when procuring and developing ICT solutions.



Source: European Interoperability Framework Monitoring Mechanism 2021

Ukraine's scores assessing the Conceptual Model in Scoreboard 3 show a good performance in the implementation of all recommendations. In line with the European average, Ukraine gets a maximal score of 4 for open data, base registries, internal information sources and services, security and privacy, as well as the conceptual model itself, and an upper middle score of 3 for catalogues and external information sources and services. Higher than the European average, Ukraine obtains a maximal score of 4 for security and privacy. In order to reach a higher performance in catalogues, a potential area of improvement could be to enhance the implementation

of Recommendation 44, on the provision of catalogues of public services, public data, and interoperability solutions and the use of common models for describing them.

1.3 eGovernment State of Play

This section of the factsheet is meant to presents the country performance on the main eGovernment indicators according to the latest eGovernment Benchmark report, which monitors the development of eGovernment in Europe.

At the present moment, the report does not analyse the state of play of eGovernment in Ukraine.

2

Digital Public Administration Highlights

2 Digital Public Administration Highlights



Digital Public Administration Political Communications

Implemented in 2021, the 'State Programme to Boost the Economy to Overcome the Negative Consequences of COVID-19 Quarantine Restrictions for years 2020 – 2022' envisages actions to boost the economy and to create jobs opportunities in the industry 4.0 sector that will be able to provide a significant impetus to the post-pandemic economic development and drive sustainable long-term growth. The Program also provides a list of economic activities that would benefit mostly from digitalisation (i.e. IT and programming services, science and education, healthcare, telecommunication, and transport).



Digital Public Administration Legislation

In July 2021, the *Verkhovna Rada* of Ukraine (Ukrainian Parliament) adopted the new Law of Ukraine No. 1689-IX On Public Services Provision that regulates the paperless mode on the provision of public services.



Digital Public Administration Infrastructure

In 2021, the Ministry of Digital Transformation of Ukraine, in cooperation with the Cabinet of Ministers, launched a new national platform for eDemocracy named *Vzayemodiia*. This platform is designed to increase interactions of executive bodies with citizens and civil society institutions. The platform expands existing opportunities for vulnerable groups to be involved and participate in politics, representing a public that was less able to influence public decisions.

3

Digital Public Administration Political Communications

3 Digital Public Administration Political Communications

3.1 Specific political communications on digital public administration

State Programme to Boost the Economy to Overcome the Negative Consequences of COVID-19 Quarantine Restrictions for years 2020–2022

On May 27, 2020, the Cabinet of Ministers of Ukraine adopted the State Programme to Boost the Economy to Overcome the Negative Consequences of COVID-19 Quarantine Restrictions for years 2020 - 2022.

The document contains the digital strategy for the recovery post COVID-19. The Programme envisages the actions to boost the economy and to create jobs opportunities in the Industry 4.0 sector. They will be able to provide a significant impetus to post-pandemic economic development and to drive sustainable long-term growth. The Programme also provides a list of the economic activities that would get the greatest benefit from digitalisation, i.e. IT and programming services, science and education, healthcare, telecommunications and transport.

Among all the actions included in the plan, the following will benefit greatly from digital transformation:

- 1. Development of the national digital platform to consult small and medium businesses;
- 2. Development of the single digital platform to order digitalisation services for businesses (i.e. development of websites, reengineering of business processes, consulting services and digital marketing);
- 3. Development of the platform for innovative and digital instruments for businesses and peer to peer case learning;
- 4. Development of the national digital strategy, with the exact role of the state in the digitalization processes;
- 5. Development of the strategy to create jobs opportunities in innovative industries;
- 6. Development of the single digital strategy for digital economy;
- 7. Development of public eServices in different sectors, such as smart cities;
- 8. Professional learning for unemployed citizens, including digital skills.

Additional information materials supporting the programme can be found here.

Ukrainian Economic Development National Strategy till 2030

On March 21, 2021, the Government of Ukraine adopted the Ukrainian Economic Development National Strategy till 2030. The strategy covers 20 priorities, i.e., Quality of Life, Transport and Infrastructure and Mining Industry. Priority 18 is Digital Economy, which is equivalent to the national eGovernment strategy. Priority 18, called 'Digital Economy', has 4 strategic objectives:

- Acceleration of economic activity;
- Transformation of business sectors into highly productive, intelligent and competitive ones;
- Transformation of life spheres into effective, modern and comfortable ones, and
- Creating opportunities for human capital, innovative, creative and digital industries, as well as businesses development.

The strategy also contains actions to achieve these objectives, assessment indicators, and expected results. The Digital Economy priority of the National Strategy covers the following sectors: access to the Internet, computerisation of households and social infrastructure objects, interoperability of State information resources, cloud services, cybersecurity, digital identification, open data, cashless payments, digital skills and public eServices.

- The strategic objective 1 can be achieved via the following actions: increasing
 the level of coverage of mobile and broadband Internet, computerisation of
 households and social infrastructure objects, implementation of the cloud first
 approach, data digitalisation and registries interoperability, improvement of the
 national electronic identification system, focusing on the cybersecurity, etc;
- The strategic objective 2 can be achieved via the following actions: digital transformation of factories, transfer to cashless payments and eCommerce;
- The strategic objective 3 can be achieved via the following actions: digital transformation of the national education system, further development of eHealth system and increasing the number of available eServices; and
- The strategic objective 4 can be achieved via the following actions: digital skills, harmonisation of digital legislation, cross-border data exchange, further development of eParticipation tools, digital inclusion and an increased transparency of State and local budgets.

Some Issues on the Digital Transformation

In February 2021, the Cabinet of Ministers of Ukraine drafted the new Decree no. 365-r on Some Issues on the Digital Transformation. The Decree defines the priority sectors that have to be digitised until 2023. The Ministry of Digital Transformation has identified 94 digital transformation projects and has developed dashboards to monitor their implementation.

Draft Concept of the Digital Infrastructure Development in Ukraine

In December 2019, the Ministry of Digital Transformation of Ukraine (MDT) developed and launched the public debate on the draft concept for the digital infrastructure development in Ukraine for the period 2020-2023. The document provided the MDT's vision on the digital infrastructure development and the key objectives of digital transformation in Ukraine. While developing this concept note, the experts used a multi-stakeholder approach. By doing so, the main purpose of State authorities was to determine, prioritise, and coordinate the stakeholders' interests. The draft concept underlines three priorities to be achieved by 2023. These priorities are:

- The enhancement of public eServices;
- The development of broadband internet connections; and
- The implementation of innovative technologies and optical networks.

The enhancement of public eServices aims to facilitate the delivery of eServices to both citizens and businesses. The digitalisation of business processes in public bodies will simplify the interaction between citizens, businesses and the State, resulting in higher efficiency.

The broadband development represents the basis for the development of public digital infrastructure. In order to ensure the demand of broadband connections, the MDT insists on prioritising the connection of social infrastructure to the broadband (i.e. schools, libraries, museums, healthcare institutions, administrative service offices etc.).

The implementation of innovative technologies and optical networks is paramount to enable the development of the 5th generation connection in Ukraine. As optical networks are a basic infrastructure for 5G connection, their development is a priority for the next five years.

The draft has not been adopted yet but is expected to be approved in 2022.

Cabinet of Ministers of Ukraine Decree No. 849 on the Approval of the Cabinet of Ministers of Ukraine Action Programme

On 29 September 2019, the Cabinet of Ministers of Ukraine adopted its Action Programme. The programme contains a set of priorities and key performance indicators assigned to each ministry for the next five years. After the presidential and parliamentary elections, the government has streamlined and transformed the structure of the government itself. On 2 September 2019, a new MDT of Ukraine replaced the State Agency for eGovernance of Ukraine. The MDT currently drives the digital transformation of Ukraine both at national and local levels. The government of Ukraine set three key objectives for the MTD:

- 1. Complete availability of public services in electronic format;
- 2. Full access to the internet broadband from all international roads and urban locations; and
- 3. Full access to opportunities to acquire digital skills granted to citizens.

Concerning the availability of public services in electronic format, the MDT shall make an inventory of all public services provided to citizens and businesses in order to proceed to their optimisation and digitalisation. Additionally, the MDT will continue developing means of electronic identification (e.g. smart ID), together with the setup of a Diia eServices portal where all public services will be placed.

Regarding the full access to opportunities, the MDT developed and launched an Online Platform for Digital Education allowing Ukrainians to improve their digital skills.

Digital Agenda for Ukraine (2018–2020)

In 2018, with the publication of the new Digital Agenda for Ukraine, the government and the State agency for eGovernance of Ukraine laid the groundwork for the future. eGovernance is one of the main policy directions of its current government. The Digital Agenda for Ukraine was adopted on 17 January 2018. It was the main strategic document providing the direction for the Ukrainian government and the country's economic development. The plan outlined the principles of Ukraine's development in the digital space and the basis for the development of the digital economy.

- The Digital Agenda for Ukraine consists of seven main pillars:

 1. Telecommunications and ICT infrastructure;
 - 2. Digital skills;
 - 3. eMarket;
 - 4. Digital governance;
 - 5. Innovation and R&D;
 - 6. Trust and cybersecurity; and
 - 7. Benefits from ICT for society and economy.

The digital skills pillar aims to guarantee equal opportunities to all citizens that seek to obtain services, information and digital skills via ICT technologies. It is being implemented by granting free access to public information and digital skills for all. Additionally, it foresees the development of a list of digital skills required by target audiences, the development of high-quality digital education content, the provision of online and offline courses on digital education, the assessment and certification of digital competences, the development of a digital education regulatory framework, and the provision of obligatory digital skills for public officials.

The digital governance pillar lays down actions to foster the modernisation of Ukraine's public administration. The pillar has developed a new architecture of ministerial functions (e.g. data collection, data application, information security, etc.) and has introduced unified document templates and standard solutions for common business processes.

The trust and cybersecurity pillar lays down actions that shall help to modernise Ukraine's national cybersecurity system. The pillar includes, among others, the development of a front-line system against cyber threats and technical vulnerabilities,

enhancing the protection from cyber threats, and the provision of learning courses on cybersecurity.

More information on the Digital Agenda for Ukraine is available in Ukrainian here. The Digital Agenda for Ukraine ended in 2020, it has not yet been renewed for 2021-2022.

Concept of Digital Economy and Society Development

On 17 January 2018, the government adopted the Concept of Digital Economy and Society Development and its action plan. The document's objective was the implementation of the Digital Agenda of Ukraine. The aim was to help the economy and promote investment, improve competition, provide citizens with digital solutions, create new opportunities for human capital, and develop new digital businesses. It is aligned with such initiatives such as the Digital Agenda for Europe and the Digital Single Market.

Action Plan for the Implementation of the eServices Development Concept for the Years 2019–2020

On 30 January 2019, the government adopted the Action Plan for the Implementation of the eServices Development Concept for the Years 2019–2020. The document details actions to improve the quality of administrative service delivery for citizens and businesses. The action plan is compliant with European requirements. Among the main priorities of the action plan are:

- Improving public-sector efficiency based on principles of effectiveness, efficiency, transparency, accessibility and accountability;
- Ensuring mobility and competitiveness of citizens and businesses in a modern economic environment;
- Eliminating possible corruption risks during administrative services provision; improving investment promotion, business environment and competitiveness of the country; and
- Driving the development of an information society.

This document has not yet been updated for 2021-2022, but it is still legally valid.

Action Plan for the Implementation of the eGovernment Development Concept for the Years 2018–2020

On 22 August 2018, the government adopted the Action Plan for the Implementation of the eGovernment Development Concept for the Years 2018–2020. The document explained the concrete activities to be undertaken by State entities to ensure the development of eGovernance by the end of 2020.

The action plan focuses on three key initiatives:

- 1. The modernisation of eServices and development of electronic interaction between State entities, citizens and businesses;
- 2. The modernisation of the public administration via information technology; and
- 3. The management of eGovernment development. The implementation allows for the improvement of public sector efficiency, the eService delivery system, and investment promotion and business.

This document has not yet been updated for 2021-2022, but it is still legally valid.

Roadmap on the Integration of Ukraine into the EU Digital Single Market

In December 2020, the MDT presented the updated Roadmap on the Integration of Ukraine into the EU Digital Single Market (link available in English) for the years 2021-2023. The updated roadmap was developed based on the recommendations of the European Commission and significant changes in EU law and provides for the

introduction of the latest digital norms and standards of the EU. In particular, the implementation of 75 acts of EU law (25 basic and 50 implementing).

29 State authorities are responsible for implementing the 141 activities stated in the roadmap by 2023. The implementation of the roadmap will ensure the following:

- Implementation of the EU electronic communications code;
- Introduction of the system of electronic trust services in compliance with EU regulations;
- Introduction of 5G Internet coverage;
- Development and use of broadband internet access;
- Development of e-commerce;
- Introduction of a single emergency number 112;
- Introduction of cybersecurity protection systems for networks and information systems in compliance with EU recommendations; and
- Ukraine's involvement in the EU Digital Economy and Society Index (DESI).

Additional Article to the European Union Association Agreement with Ukraine on Digital Development

In November 2021, during the Sixth meeting of the Association Committee in Trade Configuration (ACTC) in Brussels, Ukraine and the EU approved a bilateral decision to amend the 'digital' Appendix XVII-3 (Rules applicable to telecommunications services) of the Association Agreement between Ukraine and the EU. Preparations for this began in 2019.

With this Decision, Ukraine has committed itself to implementing the latest EU legislation in the field of digitalisation, at the same time as the EU Member States, in order to obtain a full internal market regime ('digital visa-free') and integration into the EU Digital Single Market.

In preparation for the meeting, Ukraine updated its Roadmap for its integration into the EU Digital Single Market. The parties also agreed on further developing a fruitful cooperation, in particular through the establishment of the DESI (Digital Economy and Society Index) ecosystem in Ukraine. This will allow Ukraine to identify the dynamics and progress of digital development compared to the EU's digital economies, thus facilitating integration into the EU's Digital Single Market as an equal partner.

Draft National Strategy of the Broadband Internet Access Development in Ukraine

In September 2020, the MDT developed and launched the public discussion on the for the development of broadband internet access in Ukraine. The concept provides the MDT's vision and necessary steps needed to provide at least 95% of Ukrainians with the access to high-speed fixed and mobile internet. The strategy provides 5 key steps on how to achieve the abovementioned goal:

- To simplify the functions of operators and providers;
- To improve national certification standards of telecommunications equipment;
- To make changes to existing infrastructure standards;
- To use alternative infrastructure for telecommunications networks (roads, railways, power lines, sewerage networks, heating networks, water supply, oil and gas pipelines); and
- To develop fixed broadband in remote settlements by connecting social facilities (schools, hospitals, libraries, etc.) to fibre-optic networks. In this way, citizens of remote settlements will have the technical ability to connect to highquality fixed internet.

This concept strategy was developed based on the analysis of optical networks coverage in Ukraine. The detailed report in this regard can be found via this link.

The MDT has also developed an interactive map of the connection of settlements to fibre-optic networks, where everyone can find their village or city and check our data.

3.2 Interoperability

No political communication has been adopted in this field to date.

3.3 Key enablers

3.3.1 Access to public information

Action Plan on the Implementation of the Open Government Partnership Initiative for the Years 2018–2020

On 18 December 2018, the Cabinet of Ministers of Ukraine adopted the Action Plan on the Implementation of the Open Government Partnership Initiative for the Years 2018-2020. The detailed plan is aimed to help the country increase its transparency. The document provided detailed implementing activities such as adopting the best international standards of open information so as to ensure the transparency of infrastructure activities (CoST), enhancing the transparency of the public finances budget through the development of the Open Budget Portal, providing information on the projects that are funded by international organisations (IFI), enhancing transparency and efficiency of State control in the sphere of public procurement, implementing verification mechanisms on information about end beneficiaries, etc. This document has not yet been updated for 2021-2022, but it is still legally valid.

Action Plan on the Implementation of the International Open Data Charter Principles

The government approved another initiative, the Action Plan on the implementation of the International Open Data Charter Principles. Ukraine, which joined the International Open Data Charter in 2016, committed to implementing the Charter principles, especially the principle of open government data. It ensures the efficient development of open data in Ukraine, citizens access to information rights, transparency and openness of State entities, and the fostering of new innovations.

3.3.2 eID and Trust Services

Draft National Strategy on Development of eID and Trust Services in Ukraine

In March 2021, the MDT started developing the Draft National Strategy on Development of eID and Trust Services in Ukraine (the document is not available yet). The implementation of this strategy will have the following impact:

- Speed up the integration of Ukraine into the EU Digital Single Market;
- Simplify the access to public eServices (including cross-border eServices) for citizens and businesses;
- Implement new types of trust services; and
- Ensure long-lasting storage of data with eSignatures.

Also, the MDT developed a working plan (available in English) on mutual recognition of trust electronic services with the EU. Mutual recognition of trust services will allow for citizens and businesses to obtain cross-border services and sign agreements online via Qualified Electronic Signature (QES). The MDT is already taking the first steps towards mutual recognition of electronic trust services. The Ministry participated in a joint pilot project with Estonia, one of the leaders in e-government in the EU, on cross-border electronic signatures. As a result, it will be technically possible to verify the e-signature of Estonia in Ukraine and vice versa.

3.3.3 Security aspects

Action Plan on Implementation of Cybersecurity Strategy in Ukraine

In July 2018, the government approved the Action Plan on the Implementation of a Cybersecurity Strategy in Ukraine. This plan implemented cybersecurity initiatives in 18 areas, including ensuring the legislative framework in the sphere of cyber security, the development of the technological component of the national cyber security system, establishing relations with international partners of Ukraine, and establishing the process of personnel training on cyber security.

3.3.4 Interconnection of base registries

Mapping Report on State Electronic Information Resources. Status and Perspectives

The State Agency for eGovernance of Ukraine launched a Mapping Report on State Electronic Information Resources. Status and Perspectives, which provides the state of play of base registries in Ukraine. According to the report, there were more than 135 State information resources (registries) owned by more than 40 State authorities in Ukraine. Per the calculations based on the 23 analysed registries, the State spent an average UAH 21 million (approximately EUR 713,000) per year on the maintenance of each registry. The report stressed problems on the interconnection of base registries and the lack of proper identifiers (low level of distribution of digital ID numbers among citizens and lack of the identifiers in existing State registries). The report included a list of recommendations for improvements, i.e. readying State registries for their integration into the national interoperability system, distribution of unique registration numbers (UNRs), development and adoption of the law regulating development, functionality and maintenance of State registries, prevention of State registries data fragmentation and duplication, efficiency improvement of IT infrastructure management for State bodies.

Research on Anti-Corruption Impact of Public Registries

In July 2021, the MDT prepared a report on the anti-corruption analysis often selected registries (both in Ukrainian and English). The analysis is being conducted using a methodology which has been approved by the MDT. The purpose of this task is to analyse the legislative and financial aspects of ten public registries as well as the quality, accessibility and openness of their data. As part of this task, the experts have also analysed potential corruption-related activities that could take place within the registries (e.g., hostile takeovers) and they have provided recommendations on how to improve the current state of play of the analysed registries. According to the report, the most frequent corruption-related activities within the registries include: unauthorised registration, illegal registration (i.e., hostile takeovers), registration with forged documents or papers that don't exist, 'ghost' payments (i.e., payments to deceased or non-existent persons), and data selling. The general recommendations on how to avoid these activities include: introducing automatic monitoring of risky registration actions to prevent illegal registration, adding a double verification process to check for the legality of the registrar's actions, improving technical and functional properties of registry software and its interactions with users (technical support); improving and centralising the management system of state registries (i.e. developing a single legislation framework, introducing a national system of accounting for intellectual property rights to State registry software and for licenses) and others. More detailed recommendations for each of the analysed registries can be found in the report.

3.3.5 eProcurement

No political communication has been adopted in this field to date.

3.4 Domain-specific political communications

eHealth Action Plan

The eHealth Action Plan was approved on 1 October 2019. It aims at contributing to the development of eHealth throughout Ukraine. In this regard, the plan foresees 14 steps, including the approval of the concept of an electronic healthcare system, the auditing of the existing information systems and registers in the healthcare sector, and the development of a plan for the introduction of standards for the storage and transfer of medical information.

Strategy of Digital Transformation of the Social Sector in Ukraine

On 28 October 2020, the government of Ukraine adopted the Strategy of Digital Transformation of the Social Sector in Ukraine which was developed jointly by the MDT and the Ministry of Social Policy of Ukraine. The purpose of this Strategy is to implement European standards in the functioning of social protection institutions, the provision of social services, financial stability of the social sector, increase its transparency and optimise its administrative expenditures. The Strategy's key tasks include:

- Increasing the efficiency of social protection for citizens;
- Improving the system to manage the financial resources of the social sector;
- Automating management and control systems in the social sector; and
- Using innovative IT technologies to manage the social sector.

The Strategy also foresees:

- Developing the Single Social Sector Information System;
- Developing the Single Social Registry;
- Integrating the Single Social Registry with the State eServices Portal "Diia" to provide eServices in the social sector; and
- Developing the 'social treasury' that will allow for automated social benefits payments directly to citizens' bank accounts.

The official presentation of the Strategy is available via this link (in Ukrainian).

Concept of Digital Competencies Development until 2025

In March 2021, the Government of Ukraine adopted the Concept of Digital Competencies Development in Ukraine until 2025. In general, the implementation of the Concept will allow citizens to increase the competitiveness on the labour market, provide opportunities for lifelong learning, provide the comfort of living in a digital country, increase access to public services and reduce risks when using the internet. It will also attract more skilled workforce, in terms of digital skills, and increase productivity and efficiency of business processes in companies. Finally, it will align the basic concepts and requirements of digital competencies with European standards, modernize public administration processes, reduce the digital gap and harmonise the national digital market with the European Union, as well as accelerate the introduction of eDemocracy and eGovernment tools.

Provision of the Government of Ukraine on National Online Platform for Digital Literacy: Diia. Education

On March 10, 2021, the Cabinet of Ministers of Ukraine approved the Regulation on the National Online Digital Literacy Platform 'Diia. Digital Education', which defines the purpose, main tasks, functionalities and subjects of the web portal, the content of the information contained in it, and other issues. The main tasks of the Platform are:

- Providing access to educational materials;
- Ensuring digital literacy for people of all ages;
- Ensuring testing, in particular digital literacy testing;
- Ensuring the receipt of electronic documents confirming training;
- Developing an individual list of educational materials;
- Displaying of news and research results in the field of education;
- Distributing of digitalization ideas, bringing information about the latest digital technologies;
- Providing information on enterprises, institutions and organizations that can provide access to digital education (digital education centres);
- Using methods and mechanisms to improve learning outcomes; and
- Protecting data (including personal ones) posted on the digital education web portal from unauthorized access, destruction and modification.

National Strategy on Digital Accessibility as a Part of a National Strategy for Barrier-Free Space in Ukraine till 2030

In April 2021, the Cabinet of Ministers of Ukraine approved the National Strategy on the creation of a barrier-free space in Ukraine for the period till 2030. Direction 3 of the National Strategy is a Digital Barrier-Free Space. Its vision is that all social actors should have access to high-speed Internet, public services and public digital information. Strategic goals of this Direction are: (1) accessibility of all citizens to high-speed Internet and means of Internet access; (2) accessibility of all citizens to digital education; (3) accessibility of all citizens to digital services, as well as government websites and applications.

The barrier-free space will be achieved through:

- Increased coverage of fixed and mobile broadband Internet access;
- Computerisation and Internet connection of social infrastructure;
- Creation of an accessible digital education system;
- Increase of the digital accessibility of websites and applications; and
- Digitisation of public services.

3.5 Emerging Technologies

3.5.1 Artificial Intelligence (AI)

Concept of Artificial Intelligence Development on Ukraine

On 2 December 2020, the government of Ukraine adopted the Concept of Artificial Intelligence (AI) Development in Ukraine which was developed by the MDT based on the approach taken by the European Commission with the Made in Europe initiative. The document presents the areas which will be covered by the development of AI in the country, namely education, professional training, science and research, economy, cybersecurity and defence. As concerns the public administration, the government aims to use AI in the development of electronic administrative services and databases. The implementation of the Concept of AI will allow Ukraine to:

- Occupy a significant segment of the world market of AI technologies and a leading position in the international ranking (therefore attracting foreign investments in the industry);
- Create conducive conditions for Ukraine's participation in the activities of international organizations and the implementation of initiatives for the definition of strategies for the development, regulation and standardisation of AI in the world;

- Introduce AI technologies in such sectors as education, economics, public administration, cybersecurity, defence and other areas to increase Ukraine's long-term competitiveness in the international market; and
- Develop an effective legal framework regulating AI technologies, taking into account international standards.

On May 12, 2021, the Cabinet of Minister of Ukraine adopted the plan of activities to implement the strategy on AI development in Ukraine. The key activities include (but are not limited to) the following:

- Developing a legislation framework to regulate AI solutions in Ukraine;
- Developing information campaigns to promote AI in Ukraine;
- State support to implement AI solutions in all sectors of the economy; and
- Introducing AI solutions into the national cybersecurity infrastructure, etc.

In addition, the MDT developed the catalogue of AI educational programs that are currently available in Ukrainian education institutions. The catalogue can be found via this link (in Ukrainian).

3.5.2 Distributed ledger technologies

No political communication has been adopted in this field to date.

3.5.3 Big data

No political communication has been adopted in this field to date.

3.5.4 Cloud computing

No political communication has been adopted in this field to date.

3.5.5 Internet of Things (IoT)

No political communication has been adopted in this field to date.

3.5.6 High-performance computing

No political communication has been adopted in this field to date.

3.5.7 High-speed broadband connectivity

Action Plan to Develop High-Speed Broadband Connection in 2021-2022

In September 2021, the Cabinet of Ministers of Ukraine approved a Plan of Measures to develop high-speed broadband Internet connection for 2021-2022. Implementation of the Plan will ensure the connection of social infrastructure facilities to the fixed broadband Internet.

It is expected that the implementation of the Plan will boost the development of all types of settlements, as they will have the possibility to connect to high-speed Internet, receive public services online, introduce open data by local authorities and increase the digital literacy of the population of the regions.

According to the Plan, the government aims to connect numerous communities to the Internet. Approximately 6,000 social infrastructure facilities will be connected to the optical Internet. Access to the infrastructure by carriers and telecommunications providers will be improved. The list of quality indicators and their standardised levels for mobile services will be updated. The issues of electromagnetic compatibility calculations will be settled with consideration of the experience of the International Telecommunication Union.

Decree on Provision of the Subvention to Local Budgets to Implement High-Speed Broadband Connectivity in Rural Areas

In April 2021 the Cabinet of Ministers of Ukraine adopted a Decree on Provision of the Subvention to Local Budgets to Implement High-Speed Broadband Connectivity in Rural Areas. It defines the procedure and conditions for granting a subvention. A subvention is the purchase of Internet connection services. Before works start, operators receive an advance of 30% of the purchase amount, and the remaining 70% will be paid at the end of the purchase. According to the Procedure, the procurement will be conducted by local communities. Procurement will be coordinated by the MDT. connection of social infrastructure facilities (educational institutions, Administrative Service Centres, medical institutions, libraries, local fire brigades, etc.) will be financed exclusively in villages where there is no Internet coverage based on fiber-optic technologies. If there is at least one operator or telecommunications provider offering fiber-optic-based services on the date of announcement of the call for tender, then it will not be possible to go ahead with the procurement to connect a social infrastructure facility in such a village. All the existing social infrastructure facilities of a village should be connected by means of a single procurement.

3.5.8 Other emerging technologies

Draft Strategy of Virtual Assets Development in Ukraine

In 2021, the MDT, together with representatives of the virtual assets market, drafted the Strategy of Virtual Assets Development in Ukraine. The Strategy is developed based on the virtual assets market research which will be conducted according to the latest foresight methodology. The methodology focuses on the interests of members of the virtual assets' ecosystem in Ukraine and a proactive approach to building the future. The research will identify the main trends that will shape the future of the virtual assets market and the nature of their impact in Ukraine.

Roadmap on Virtual Assets Development in Ukraine

In 2021, the MDT, together with representatives of the government and the virtual assets market, presented the final report of the study "Virtual Assets in Ukraine - 2030" and a roadmap for the development of the industry. The roadmap is a joint development of the crypto community and the result of a study of the field of virtual assets, which was conducted using the foresight methodology.

Virtual assets will become an important phenomenon in public administration and relations between people over the next 5 years. Therefore, the National Bank of Ukraine, as an independent regulator, is interested in making virtual assets as convenient, secure, and profitable as possible for all stakeholders in the market. The study period for the "Virtual Assets in Ukraine - 2030" report lasted four months, and was aimed at coming up with a strategy for the development of the industry and the community. More than100 individuals from the public and private sectors joined the foresight survey: MPs, representatives of Ukrainian and foreign crypto companies, relevant business associations, the National Bank, the National Securities Commission, and other central executive bodies.

The roadmap will be published in 2022.

Diia City

On February 8, 2022, the MDT launched the Diia City. Diia City is a special legal framework for the IT industry that will make it possible to create the most powerful IT

hub in Central and Eastern Europe right in Ukraine. It will have no limits for investing, creating jobs, or developing new technologies. Ukrainians and international entrepreneurs will be able to implement the most ambitious and innovative business ideas quickly and effectively. Diia City was officially presented on 5 April 2021. The implementation of the Diia city project is expected to increase the share of the Ukrainian IT sector to 10% of the GDP (now the share is about 3.7-4.2%). The revenues of the IT sector in Ukraine are expected to increase from UAH 6 billion to UAH 16.5 billion during the first five years after the implementation of the Diia City project. The Diia City framework is regulated by the Law of Ukraine on Stimulating the Development of the Digital Economy in Ukraine. During first three days after the launch of Diia City, 52 IT companies applied to join it.

4

Digital Public Administration Legislation

4 Digital Public Administration Legislation

4.1 Specific legislation on digital public administration

Presidential Order No. 647/2019 on Some Activities to Ensure Access to High-Quality eServices

On 4 September 2019, the President of Ukraine issued Order No. 647/2019 on Some Activities to Ensure Access to High-Quality eServices. The order introduced the principle of State as a service. The principle aims to develop a new digital infrastructure and enhance the accessibility of public eServices for citizens and businesses. The Cabinet of Ministers of Ukraine developed and implemented single requirements for the State service delivery system. These requirements included indicators on efficiency, maximum waiting time and user satisfaction. The order mandated State authorities to gradually digitise their services and publish quarterly reports on these activities. In addition, the order stated the necessity to develop a State customer support system for the most frequently used State services (e.g. pension and social insurance, issuing of ID cards, registration of private enterprises and legal entities, vehicle registration, issuing of driver licenses).

Presidential order No. 558/2019 on Some Activities to Enhance the Access to State eServices for Citizens and Businesses

On 29 July 2019, the President of Ukraine issued Order No. 558/2019 on Some Activities to Enhance the Access to State eServices for Citizens and Businesses. The order addresses both operational and data protection issues of State registries. Additionally, it improves the accessibility of eServices for citizens and businesses while eliminating corruption risks resulting from the delivery of such services. The order states the necessity to conduct an audit of public information resources, including the analysis of legislation framework, technical capacities and the level of registry protection. Following the results of the audit, the responsible State bodies have to implement the single unique identifier of physical persons (unique registration number), to verify data in the State Demographic Registry and to ensure the electronic interaction between the registries with the final aim of minimising the number of personal inquiries to State bodies. Also, the order compels to develop a Diia State eServices Portal that will provide eServices to physical persons and legal entities based on the one-stop-shop principle.

Decree No. 56 on Some Issues of Digital Development

On 30 January 2019, the government approved a decree on Some Issues of Digital Development, which defined the digital-by-default principle. It emphasised key principles such as the mobile-first principle, the need for eParticipation, digital inclusion and engagement. The implementation of the digital-by-default policy models the joint approach to be taken when accessing online services and provides guidance on free-of-charge integration, management of electronic information resources, security issues management and data protection. Thus, State entities save time, reduce spending on service delivery, increase transparency and improve the quality of services provided to citizens and businesses.

Law of Ukraine No. 4355 on the Unified State Demographic Registry and Documents proving Ukrainian Citizenship or Identity

In March 2021, the *Verkhovna Rada* of Ukraine (Ukrainian Parliament) adopted Law No. 1368-IX on the Unified State Demographic Registry and Documents proving

Ukrainian Citizenship or Identity, which legally regulates digital ID cards in the Diia mobile app. Starting from 23 August 2021, digital national and international ID cards which are available on the Diia mobile app will have the same legal power as paper-based documents and can be legally used to identify people. Digital ID cards will be legally used to identify the person or his/her citizenship. The life situations that might need identification of people via ID cards include:

- Obtaining public services from State authorities and Administrative Services Centers;
- Receiving parcels in post offices;
- Confirming the age at supermarkets;
- Obtaining banks services, i.e., confirmation of person's identity, opening bank accounts, cash transactions; and
- Travelling within Ukraine and checking-in in hotels.

Ukraine has become the first country with a digital ID that is totally valid and can be used everywhere within the country. Moreover, all digital documents in Diia now have the same legal force as their plastic or paper counterparts.

Law of Ukraine No. 1689-IX On Public Services Provision

In July 2021, the *Verkhovna Rada* of Ukraine (Ukrainian Parliament) adopted the Law of Ukraine No. 1689-IX on Public Services Provision that regulate the paperless provision of public services. According to this law, government agencies in Ukraine shall not require paper documents or certificates from citizens, if the information is already stored in public registries. To fully implement the law, the MDT will work in 4 directions:

- Digital legislation regulating the provision of all digital public services;
- Digital documents. All the digital documents available in the Diia mobile application have the same legal power as their paper counterparts;
- Developing a secure document management flow system; and
- Digitising public services for all life events.

Decree No. 1137 on a Single eServices State Portal and on the State Portal of Administrative Services

On 4 December 2019, the Cabinet of Ministers of Ukraine adopted the Decree approving the provision on the Diia State eServices Portal (Π optan \mathcal{L} ia). The decree defined the objective, major tasks and functional opportunities of the Diia eServices portal as well as the content to be published on the portal. The portal provides information about electronic, administrative and other public services. eServices are delivered using data from the national electronic information resources. Digital images of documents are created via the portal (i.e. Diia mobile application) and the user's eCabinet on the portal provides information about the user from the national electronic information resources. The Diia State eServices Portal has technical capacity for identification via the national identification system, qualified electronic signatures and stamps. Moreover, the Diia State eServices Portal is integrated with the national interoperability system, which provides the portal with the data needed for the delivery of eServices.

Decree No. 956 on the Pilot Project for the Use of Electronic Driver Licences and Electronic Document on Vehicle Registration

On 23 October 2019, the Cabinet of Ministers of Ukraine adopted Decree No. 956 on the Pilot Project for the Use of Electronic Driver Licences and Electronic Documents on Vehicle Registration. The decree defined the ordering, using and tracking of electronic driver licenses and electronic documents related to the registration of vehicles. In order to obtain these electronic documents, citizens have to download their electronic

driver licenses and/or electronic documents on vehicle registration via the Diia mobile application and conduct an electronic identification process. The exchange of data between the mobile application and the single information system of the Ministry of Internal Affairs of Ukraine takes place in real time using means of technical and cryptographic protection of information according to the Law of Ukraine on the Protection of Information in the Information Telecommunications Systems.

Decree No. 1051 on the Implementation of an Experimental Project on the Use of the Electronic Student Identification Card

On 18 December 2019, the Cabinet of Ministers of Ukraine adopted Decree No. 1051 on the Implementation of an Experimental Project on the Use of the Electronic Student Identification Card. The decree defined the ordering, using and tracking of electronic student tickets. In order to obtain these electronic documents, students have to download their electronic student ID card via the Diia mobile application and conduct an electronic identification process. The exchange of data between the mobile application and the single information system of the Ministry of Education and Science of Ukraine takes place in real time using means of technical and cryptographic protection of information according to the Law of Ukraine on the Protection of Information in the Information Telecommunications Systems.

Decree No. 357 on Some Issues on Interoperability of State Information Resources

On 10 May 2018, the government adopted Decree No. 357 on Some Issues on Interoperability of State Information Resources. This decree established procedures for electronic interaction among State electronic information resources. Implementation provisions ensured the efficient use of State information by State entities during service delivery. It established the Registry of Registries (RoR) at legislative level. The RoR should contain information on all State information resources including the owners, master data, data of creation, current status, technical documentation on the specific registry, services for data exchange, etc.

Decree No. 55 on Some Issues of Administrative Activity Recording

On 1 January 2018, the Government adopted Decree No 55. on Some Issues of Administrative Activity Recording. It provided instructions on how to record administrative activities in an electronic format, and also on how to organise work with electronic documents in management processes as well as in electronic inter-agency exchange. The document identified procedures for the interaction among State entities in an electronic format.

Decree No. 60 on Data Format Requirements for the Electronic Documents Flow in State Entities

On 7 September 2018, the State Agency for eGovernance of Ukraine issued Decree No. 60 on Data Format Requirements for the Electronic Documents Flow in State Entities. This document determined data formats (according to ISO/IEC 21320-1:2015) used in electronic documents and in the electronic document flow operated by State entities. It provided metadata for electronic documents and instructions on verification procedures.

Law of Ukraine No. 1089-IX on Electronic Telecommunications

In September 2020, the *Verkhovna Rada* of Ukraine (Parliament of Ukraine) adopted Law No. 1089-IX On Electronic Telecommunications, which will regulate he telecommunications market, relations between citizens, the State and service

providers, and will bring Ukraine closer to European standards in the field of electronic communications. The law came into force on 1 January 2022.

The law was developed based on the EU Electronic Communications Code. The law is promoting healthy competition in the electronic communications market, access to high-speed internet, development of the domestic telecommunications market by means of removing unnecessary regulatory barriers, and protection of consumers' right.

4.2 Key enablers

4.2.1 Access to public information

Decree No. 972 on the Pilot Project for the Development of a Single Entry Point to Process Appeals from Citizens and Requests for Public information

On 27 November 2019, the Cabinet of Ministers of Ukraine adopted Decree No. 972 on the Pilot Project for the Development of a Single Entry Point to Process Appeals From Citizens and Requests for Public Information. The key objective of this pilot project was to implement a single electronic system to receive, register, process, transfer, review, analyse and monitor the appeals from citizens and requests for public information. The Government Contact Centre will be responsible for these activities.

Law on Access to Public Information

This law was adopted by the Ukrainian Parliament in 2011, with latest amendments made in 2015. The law determined the citizens' right of access to public information held by the State and other owners, as listed in the law.

The law contained important and progressive statements on the obligatory disclosure of information by central and local State authorities. It ensured the implementation of the international principle of access to public information: all the information stored by State authorities should be open unless when forbidden by law. The law adheres to the basic principles and practices established by the European Court of Human Rights, the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, the Recommendation of the Council of Europe No. R(81)19 on the access to the public information stored by the State authorities, and the Council of Europe Convention on Access to Official Documents.

4.2.2 eID and Trust Services

Decree No. 546 on Approval of the Provision on the eID integrated system

In June 2019, the Cabinet of Ministers of Ukraine adopted Decree No. 546 on the Approval of the Provision on the eID Integrated System. The decree defined the objective, the structure and the functioning of the integrated eID system. The objective of the system is to guarantee access to eServices provided by national and local public authorities. The decree sets the basis for the sustainable development of an eID infrastructure, to ensure interoperability of identification means, identification nodes and schemes of electronic identification, to develop a trust environment in the Ukrainian cyberspace, and to increase the protection of the data processed by the system.

Law on Electronic Trust Services

The Law on Electronic Trust Services came into force in November 2018. It implemented key principles of the eIDAS Regulation in Ukraine. The law established

identification tools such as the electronic digital signature, the Mobile ID, the electronic stamp, and the electronic timestamp.

The law increased the number of eServices available online. It also ensured the privacy and complete protection of personal data. Subject to the law, the electronic identification certificates will be mutually acknowledged between the EU countries and Ukraine.

Procedure of Compliance Assessment in the Sphere of Trust Electronic Services

Together with the law on Electronic Trust Services, on 18 December 2018, the government approved a decree on the Procedure of Compliance Assessment in the Sphere of Trust Electronic Services. It established the procedure for compliance assessment to authorised trust eServices providers. It determined interaction procedures between legal entities, private entrepreneurs intending to provide qualified trust eServices, authorised trust eServices providers, and entities responsible for compliance assessment, to receive documents on compliance.

Order on Electronic Identification Tools Requirements and their Use in eGovernance

On 27 November 2018, the State Agency for the eGovernance of Ukraine issued Order No. 86 on Electronic Identification Tools Requirements and their Use in eGovernance. It established the organisational, methodological and technical conditions of use for electronic identification tools in the eGovernance domain.

Procedure for the Use of Trust Electronic Services by State and Local Authorities and State-Owned Enterprises

The Procedure of Use of Trust Electronic Services by State and Local Authorities and State-Owned Enterprises was approved on 19 September 2018. It was developed in compliance with the law on Trust Electronic Services.

Its implementation assured the development of the eServices sphere with an electronic document flow. It established the validity of open key certificates and strengthened activities to increase the control on validity of identification processes, while also protecting the security of personal keys. In general, the decree increased the trust in electronic document verification by the qualified electronic signature State entity.

Decree No. 60 on the Procedure of Mutual Recognition of Ukrainian and Foreign Public Key Certificates

Decree No. 60 on the Procedure of Mutual Recognition of Ukrainian and Foreign Public Key Certificates defines the mechanism of mutual recognition of Ukrainian and foreign public key certificates, electronic signatures, and the use of information systems for the central certification body to recognise electronic trusted services and foreign public key certificates in Ukraine. The MDT will be responsible to ensure these activities via international agreements on mutual recognition.

4.2.3 Security aspects

Amendments to the Law on Protection of Information in Information Telecommunication Systems

Draft law No. 2043 amending the Law of Ukraine On Protection of Information in Information and Telecommunication Systems was adopted at first reading on 3 September 2019. It represents an essential step towards the harmonisation of Ukrainian law with European legislation.

Decree No. 518 on the Approval of the General Requirements for Cybersecurity in Critical Infrastructure

On 19 June 2019, the Cabinet of Ministers of Ukraine adopted Decree No. 518 on the Approval of the General Requirements for Cybersecurity in Critical Infrastructure. The decree provides the general requirements for the cybersecurity of critical infrastructure objects. This document was adopted according to the Law on Basic Principles of Cybersecurity in Ukraine. These requirements were developed on the basis of the best international practices laid down by the European Union and the USA and are harmonised with the international standards of the EU, NATO and NIST on cybersecurity matters. The implementation of cybersecurity standards allows organisations belonging to the critical infrastructure to ensure cybersecurity, prevent any breach of confidentiality, integrity and accessibility of their information resources and protect the sustainable functionality of critical infrastructure objects.

Law on the Basic Principles of Cybersecurity in Ukraine

On 8 July 2018, the Law on the Basic Principles of Cybersecurity in Ukraine came into force. This law determined the basis for the protection of national interests in the cyberspace; the key objectives, directions and principles of State policy in the sphere of cybersecurity; and the powers of State entities and their main coordination principles. Furthermore, this law anticipated the development of the State cybersecurity system and computer emergency response team CERT-UA. It launched a process of complex regulation of cybersecurity as a separate sphere. It determined the legislative framework of definitions dealing with cybersecurity, cyber-attack and cyber protection. It expanded the provisions of cyber security strategy already adopted in 2016.

Law No. 681-IX on Information Protection in Information and Telecommunications Systems

On 2 July 2020, the *Verkhovna Rada* of Ukraine (Parliament of Ukraine) adopted the amendments to the Law of Ukraine No. 681-IX on Information Protection in Information and Telecommunications Systems. These amendments were based on the EU requirements to information cybersecurity. Also, the draft law sets out the requirements to the standards of information security management systems (ISMS) to specific categories of information.

4.2.4 Interconnection of base registries

Law on Public Electronic Registries

Adopted in November 2021, the Law no 1907-IX on Public Electronic Registries resolves problems of duplicate information about citizens and imposes the electronic exchange of data between the registries. One of the articles in the draft law prohibits public authorities from requesting data from citizens if they already exist in the registries. After its implementation, citizens will not need to provide copies of their passports, ID numbers or else to obtain a public service. This means better quality and full automatization of public services delivery, which is the next step for going paperless in Ukraine. By law, all data interaction between the registries shall take place exclusively via the TREMBITA interoperability system. It also regulates the functioning of the Registry of Registries (i.e. the catalogue of public registries). The draft law also mandates the creation of the national eArchive for long-term data preservation. This law allows saving public money by optimizing the number of electronic registries. Currently, there are more than 350 registries in Ukraine that need hundreds of millions of UAH for annual maintenance. For instance, the 25 key public registries alone need 500 million UAH for their annual maintenance. Optimizing

the number of public registries and introducing data interaction between the existing ones will reduce their maintenance budget by up to 15%. The law regulates the self-efficiency of public registries and promotes the use of government data by businesses. The law suggests the financial model to financially support the system of public registries. From now on, businesses can purchase anonymised (i.e. open) data from public registries to develop the projects based on government data. The document establishes single technical rules for all state entities on how to create, maintain or delete registry files, which will increase the transparency in the sector and prevent illegal takeovers in public registries. The document allows citizens to have prompt access to up-to-date, government-held information about themselves (e.g., basic personal data, information on land ownership, real estate/property, aggregate income data). In case of any changes in personal information, the citizens will receive a notification about such changes, which will also facilitate the prevention of illegal takeovers in the registries.

4.2.5 eProcurement

Decree No. 985/2019 On the Pilot Project for the Implementation of Electronic Auctions to Sell the Tangible Assets of the State Material Reserve

On 4 December 2019, the Cabinet of Ministers of Ukraine adopted Decree No. 985 on the Pilot Project for the Implementation of Electronic Auctions to Sell the Tangible Assets of the State Material Reserve. The decree defined the procedure for conducting the pilot project. The pilot project foresees the implementation of electronic auctions for the sale of tangible State assets subject to the approval by legislative documents. According to the decree, the State-owned enterprise ProZorro.SALE, under the authority of the Ministry for Development of Economy, Trade and Agriculture of Ukraine, will be responsible for the implementation of the electronic trade system for the sale of tangible State assets.

Law on Public Procurement

The Law on Public Procurement was adopted by the *Verkhovna Rada* of Ukraine (the Ukrainian Parliament) in 2016 with final amendments made in 2018. The law stipulated legal and economic principles on goods and services procurement to satisfy the needs of the State and territorial communities. The aim of the law was to ensure effective and transparent procurement procedures at national level, and also to create a competitive environment in the sphere of public procurement, eliminate possible corruption risks, and foster healthy competitiveness.

On 19 September 2019, the Ukrainian Parliament approved a revised Public Procurement Law, aimed at making public procurement more efficient and aligning the national legislation with European Directives 2014/24 and 2014/25. More specifically, the new law introduced electronic catalogues for minor tenders that enable procuring entities to order goods through the online marketplace.

4.3 Domain-specific legislation

Decree No. 411 on Some Issues on the Electronic Healthcare System

On 9 April 2018, the government adopted Decree No. 411 on Some Issues on the Electronic Healthcare System. The document established operating procedures for the electronic healthcare system and the procedure for publishing electronic healthcare system records by the National Healthcare Service. The implementation of this legislative act allows patients to use eServices to fulfil their rights, subject to State guarantees of medical service.

Concept of eHealth development

In December 2020, the government approved Order No. 1671 on the Concept of eHealth development. The order establishes the necessary political, legal, organisational, technological and ideological conditions and principles for the development of a digital ecosystem that will allow patients to access and manage their medical data. These conditions also aim to improve the safety, quality and availability of medical services in Ukraine.

Law of Ukraine on a Single Electronic Court System

In April 2021, the Verkhovna Rada of Ukraine adopted the Law of Ukraine No. 1416-IX on a Single Electronic Court System. It stipulates that all courts of Ukraine shall accept procedural documents from citizens, government agencies and businesses online, through the e-court subsystem. The single Electronic Court System will allow for remote communication between the court and the participants in the trial by exchanging procedural documents in electronic format and will enable citizens to apply to the court and, in some circumstances, to participate in court cases online.

4.4 Emerging technologies

4.4.1 Artificial Intelligence (AI)

No legislation has been adopted in this field to date.

4.4.2 Distributed ledger technologies

Blockchain

The Board of the National Bank of Ukraine issued a Decision which details some recommendations to be implemented in the digital currency of the central bank of

Ukraine and the electronic payment systems. They are aimed at improving the payment system and solve issues with digital currencies of central banks and the blockchain payment system. They include taking into account the scale and technical component of the digital currency, research on the demand and consumer motivations, analysis on the impact of banking activities and their implications on the monetary policy and financial stability, and analysing and testing alternative models of digital currencies used in other central banks around the world.

Law on Virtual Assets

In September 2021, the Verkhovna Rada (Ukrainian Parliament) adopted the Law of Ukraine on Virtual Assets. The bill provides for a comprehensive settlement of legal relations arising in connection with the circulation of virtual assets in Ukraine, defines the rights and obligations of participants in the market of virtual assets and the principles of State policy.

The bill defines the concept of 'virtual asset', according to which, "virtual asset is an intangible asset that is an object of civil rights, has value and is expressed by a set of data in electronic form". The bill also defines the scope of its application, the legal regime of virtual assets, participants in the market of virtual assets, their rights and obligations, and services for the exchange of virtual assets. The bill establishes the general principles of State regulation of the turnover of virtual assets and bodies that carry out State regulation in the field.

4.4.3 Big data

No legislation has been adopted in this field to date.

4.4.4 Cloud computing

No legislation has been adopted in this field to date.

4.4.5 Internet of Things (IoT)

No legislation has been adopted in this field to date.

4.4.6 High-performance computing

No legislation has been adopted in this field to date.

4.4.7 High-speed broadband connectivity

Law on Regulation of Telecommunication

In December 2021, the Verkhovna Rada (Ukrainian Parliament) adopted Draft Law No. 6055, on the National Commission for State Regulation in the Sectors of Electronic Communications, Radio Frequency Spectrum and Provision of Postal Services in its second reading. The law ensures the sustainability of State regulatory activities as they relate to the provision of communications, radio frequency spectrum and the postal services. The National Commission will monitor the provision of internet services and monitor the quality of electronic communications services.

5

Digital Public Administration Governance

5 Digital Public Administration Governance

For more details on Ukraine's responsible bodies for digital policy and interoperability, its main actors, as well as relevant digital initiatives, please visit the NIFO collection on Joinup.

5.1 National

Ministry of Digital Transformation of Ukraine

Established in 2019, the Ministry of Digital Transformation (MDT) of Ukraine is the main body responsible for policy formulation and implementation in the sphere of digital public administration and information society.

The MDT oversees the digital transformation of Ukraine both at national and local level. This single State body formulates and implements State policies in the sphere of digital economy, digital innovation, eDemocracy, development of information society, development of digital skills and rights of citizens, open data, eCommerce and eBusiness, smart infrastructure of cities and communities, information protection, development of IT industry, etc.

The Vekhovna Rada Committee of Digital Transformation was created to advocate the legislative framework in the sphere of eGovernance and digitalisation. The priorities of the Committee include the development of a digital society, driving innovation for digital entrepreneurship, the development of eCommerce, the implementation of eDemocracy, digital identification, etc.

The Ministry of Digital Transformation of Ukraine is supported by international technical assistance projects focusing on the development of eServices, eGovernment and registries interoperability.

In addition, the Ministry of Digital Transformation of Ukraine is responsible for the interoperability of State registries and base registries coordination. The interaction of State registries provides an efficient means to achieve State optimisation by eliminating excessive bureaucracy, and also by providing convenient access to high-quality administrative services. Interaction of State registries is ensured via the TREMBITA system. These activities are regulated by the Decree of the Cabinet of Ministers of Ukraine No. 357 on Some Issues on theElectronic Interaction Between State Electronic Information Resources.

State Service of Ukraine on Special Communication and Information Protection

The State Service of Ukraine on Special Communication and Information Protection is the central executive body responsible for implementing State policy in the sphere of State information resources protection within data networks. It also maintains the national system ensuring confidential communication cryptography and the technical protection of information. It is regulated by the Law on the State Service of Ukraine on Special Communication and Information Protection.

5.2 Subnational (Federal, Regional and Local)

Chief Digital Transformation Officer

In 2020, the MDT introduced the new digital transformation management structure in Ukraine. This initiative brought to the appointment of a Chief Digital Transformation Officer position both at State and regional levels (in each central ministry and in each regional public administration and city with a population over 100,000 inhabitants,

respectively). CDTOs in regions will implement the State policy in the sphere of digitalisation, coordinate the processes of data digitalisation and establish interactions between the public registries to improve the quality of public services. Therefore, CDTOs at regional level are in charge of the digital transformation policy, its coordination and implementation, as well as registries and data coordination at subnational level.

6

Digital Public Administration Infrastructure

6 Digital Public Administration Infrastructure

6.1 Portals

6.1.1 National Portals

Single State eServices Portal Diia

With the creation of the MDT, Ukraine has begun a process targeted at standardising and unifying all eServices within a single, efficient, user-facing digital platform called Diia (State and Me) with its related User's eCabinet. The Diia State eServices portal with its User's eCabinet was introduced in April 2020. This is an entirely new approach to the eService delivery system. This platform contains both an eServices portal (onestop-shop platform) and an information system (middleware, or process engine). The platform provides citizens and businesses with comprehensive information on available State eServices and gives them the opportunity to obtain high-quality eServices based on a unique service design. As of March 2022, there are more than 50 eServices available on the Diia portal. Since its launch, the portal was visited by 8 million unique users. The main concept behind the creation of the User's eCabinet is to provide a single point of entry allowing citizens to access and retrieve information about themselves. The User's eCabinet will not store any personal data. Instead, it will display current information about the citizen from State registries and provide convenient access to other eCabinets and services without the need for additional authorisation. The User's eCabinet will be a component within the State eServices platform. The eCabinet will also track changes and automatically notify citizens if and when their personal information has been altered or deleted. In situations where unauthorised changes have been made to personal information, the user will be able to react in a timely manner and rectify the situation by petitioning the relevant government entity responsible for the data, or by appealing to a court against the unauthorised activity. As of March 2022, there are 14 public registries integrated into the User's eCabinet on the Diia portal and thus, inside the portal's eCabinet, registered users can find information about their vehicle ownership, land ownership, immovable property ownership and private entrepreneurship status, information about their debts (if any), voter information, employment records as well as users tax information.

State Mobile Application Diia

The Diia mobile application was introduced two months before the Portal, in February 2020. The first user-friendly eServices contained in the Diia mobile application are nine digital documents (i.e., electronic driver licence, electronic vehicle registration document (vehicle technical passport), Ukrainian ID (ID card), Ukrainian passports for traveling abroad, student ID, car insurance, individual tax number, birth certificate and internally displaced persons certificate), digital COVID-19 certificate and international COVID-19 certificate (which is mutually recognisable with all EU countries). Moreover, the Diia mobile application offers the following eServices: obtaining information about traffic violations tickets and paying for them, as well as information about the user's administrative debts and payment for them directly using the Diia mobile app. On 8 February 2022, the MDT unveiled new eServices on the Diia application: change of place of residence; criminal record certificate; sharing of a technical passport for a vehicle (done via QR code); financial assistance for internally displaced people (IDPs); and a polling function through which Ukrainians have the opportunity to express an opinion via polls organized by government authorities in Diia. In total, more than 14 million of Ukrainians use the Diia mobile application.

According to the research, the Diia mobile app is one of the most popular mobile applications in Ukraine. 54% of all Internet users if Ukraine have the Diia app.

Public Services Guide on the Diia Portal

On 27 August 2020, the MDT launched the Public Services Guide on the Diia eServices Portal. The guide is a registry of Administrative Services and one of the Diia portal's modules. It is a single database of administrative services designed to provide full and accurate information about public services. Previously, there was no clear understanding of the actual number of public services available or how to obtain them. Moreover, a single service could go by different names, and State authorities could demand different documents from citizens in order to provide the same service. This would create opportunities for petty corruption and waste citizens' time and resources. Each service in the registry is assigned a unique code that is used when users receive services through the Diia portal and in ASCs.

When necessary, the registry also allows administrators to insert or edit the service description, and the registry contains a search function based on classifiers (i.e. categories, State entities, documents, results, life events, grounds for refusal). Currently, the guide contains information on over 2,200 public services (including electronic and paper-based services). The data on these services is divided into 17 categories of business activities and is arranged among 36 life events (e.g. starting a business, changing your place of residence, having a baby, or buying a vehicle; you can find all the information about where to obtain these services, their price, terms, etc. in the guide). The guide provides citizens and businesses with easily searchable and credible information about the services as well as how to obtain them.

Diia.Business Platform

In February 2020, the MDT launched an online platform for entrepreneurs called Diia.Business. The Diia.Business website is a one-stop-shop — the only place where potential and active entrepreneurs can get all the information to develop their own business. The Diia.Business website has lots of functions and useful digital services for potential and existing entrepreneurs. Here you can find opportunities, over 200 services, online courses, cases and news, suggestions from partners, a map of business support infrastructure, and more. And above that, you can choose among 68 types of free online consultations, read a virtual encyclopaedia for entrepreneurs, and even get 100+ ideas to start your own business! This is an information platform for small and medium businesses in Ukraine. It contains:

- A catalogue of business ideas with convenient templates and a list of all the necessary legal documents to start a business;
- Information on services and support programs for businesses;
- Guides and handbooks for entrepreneurs;
- Success stories of people that have already started their business; and
- A consulting area. Users have the ability to consult with experts on how to run a business and overcome business difficulties.

Entrepreneurs are able to receive advice on systematisation of business processes, financial management, interaction with the State, business psychology, HR, marketing and sales.

Since its launch, more than 1,6 million unique visitors used the Diia.Business platform. The experts conducted 5,200 free consultations on how to open or conduct business.

National Open Data Portal

Launched on 7 September 2018, the Open Data Portal was designed to provide access to open data to business and citizens for such purposes as innovation, business projects, accountability, public oversight and research. For the latest version, a new platform using the Comprehensive Knowledge Archive Network (CKAN) was

developed. The CKAN replaced the previous DKAN platform for the Unified Open Data Portal. Currently, 36,233 datasets are available. Since its launch (on 1 September 2016), more than 4,1 million unique users have visited the portal. Starting from 15 October 2018, the European Open Data Portal began harvesting open data sets from the Ukrainian open data portal. The owner of the portal is the MDT.

In 2021, Ukraine came in at 6th place overall on the European Data Portal's (EDP's) Open Data Maturity Index (EODMI), an impressive jump from last year's EODMI which included Ukraine for the first time and in which the country placed 17th overall. This year, Ukraine is among the top performers including Ireland, Spain, Poland and, most notably, Estonia, a global leader in open data, which scored 5th place overall in 2020 and 2021. More information may be found <u>here</u> and <u>here</u>.

Diia.Open Data

As a virtual 'Centre for Improving Open Data Competency', Diia. Open Data is an online platform designed in 2020 to help open data users in Ukraine improve their open data literacy and to provide users with up-to-date information and a range of learning opportunities, such as training programs for four categories of users. Portal users will be able to determine their knowledge level and use the proposed development plan, which includes, in particular, online and offline learning to improve literacy. The Diia. Open Data platform includes the following: training programs for users adapted to their knowledge and skill levels; open data services grouped by need and sector to solve common issues; open data case studies that analyse the anti-corruption and social impact of open data for solving social needs in Ukraine; communication tools for the open data community and for gathering proposals from the public on designing national open data policy; as well as news and up-to-date information about open data in Ukraine.

Vzayemodiia National Platform

In 2021, the MDT, in cooperation with the Cabinet of Ministers of Ukraine, launched the National Platform for eDemocracy, called Vzayemodiia. This platform is designed for the interaction between executive bodies and citizens and civil society institutions. The platform gives vulnerable groups a greater chance to participate in politics, whereas they are now less able to influence public decisions. Moreover, users will be able to receive quality feedback from each individual tool.

Transportation eServices Portal

The Ministry of Infrastructure of Ukraine launched the Transportation eServices Portal. The portal contains the transportation eServices provided by the Ministry of Infrastructure of Ukraine. Operators can apply online for their transportation licenses and permits. The portal is periodically updated with new services.

State Construction ePortal (as a Part of a Single State Electronic System in Construction Sector)

The public eConstruction portal is one part of the Single Electronic System in the Construction Sector. The portal is an information platform which provides information and updates about developments within the construction sector as well as accurate statistics of the sector's rendered services, which are updated in live mode. Also, the portal contains a chatbot offering online consultations on the system's functionality. The Registry of Construction Activities (which is a core of the Single Electronic System in the Construction Sector) can also be viewed from the Portal. The Registry of Construction Activities provides an identifier for a given construction project. The identifier enables the tracking of all processes connected to a given building or complex from pre-construction activities to final commissioning. The automation of

processes and strict data validation mechanisms, including interactions with other registries, should significantly reduce corruption risks and increase procedural transparency. The registry generates, stores, processes, protects, and audits information about construction projects; it provides project documentation, technical specifications for utility connections and other networks, inventory, environmental certifications and construction participants (e.g. licensees, authorised persons, expert organisations, State construction oversight agencies); finally, it enables interactions among them, such as agreements, permit and declaration documents, licences and qualification certificates. Consequently, investors and developers know exactly which documents are required for their construction activities.

In addition, the ePortal contains analytics and dashboards that provide information about the public services in the construction sector provided during specific period of time.

eData

The official eData public finance portal is the service which publishes the information on the use of public funds and implements the idea of a transparent budget. The purpose of the project is to create an open resource, which will ensure the full transparency of public finances and allow citizens to have access to information.

The eData portal is an umbrella made up of two modules: Spending and Open Budget. The system owner is the Ministry of Finance of Ukraine.

Spending Portal

The first eData module is the Spending Portal.

The Spending Portal is a national portal providing information about spending from the public budget and hence implements the idea of a transparent budget. The project's objective is to create an open resource available to citizens that ensures complete transparency of public finances and the public's right for access to information.

Open Budget Portal

The second module of the open data portal is the Open Budget Portal.

The Open Budget Portal is an initiative of the Ministry of Finance of Ukraine that tracks spending from the State budget on central and local levels. As of now, data from 9,603 local budgets have been published on the portal. Currently, the portal is fully operational.

IFIs Projects Portal

The third eData module is the IFIs Projects Portal.

IFIs Projects portal is the official State portal for the registration of social and economic development projects in Ukraine, which are implemented with the assistance of international financial institutions. The portal provides information on projects and is a tool for statistical analysis. Moreover, it provides tools for analysing aggregated data on the financial composition of projects, project implementation areas, and responsible executives.

Inspections Portal

The Inspections Portal is an online service helping Ukrainian small and medium-size entrepreneurs navigate business inspection rules and procedures. It also serves as a risk-management tool that promotes and improves interaction between businesses and State inspection authorities, improving the enabling environment for real economic growth in Ukraine. The portal publicly shows the plans for inspections conducted by the controlling authorities regarding small and medium entrepreneurs. In 2020, 114,143 planned inspections were registered in the system. All inspections results are publicly available.

Electronic Petitions Portal

The Electronic Petition Portal allows the citizens of Ukraine to submit petitions to the Cabinet of Ministers of Ukraine, to the President of Ukraine, and to the *Verkhovna Rada* of Ukraine (the Ukrainian Parliament).

Public Finance Transparency

As part of the Public Financial Management reform and the budget transparency initiatives, the Ministry of Finance of Ukraine has developed and launched a business intelligence module on general secondary education public spending. The module provides an overview of the efficiency of public spending in secondary education with the data available down to single-school level.

The Ministry of Finance of Ukraine also publishes regular and detailed reports on State debt and State-guaranteed debt, domestic bonds and Eurobond procedures.

The Ministry also provides analytics and key performance indicators of State-owned banks, the implementation status of the 'Principles of Strategic Reform of the State Banking Sector' and NPL portfolio resolution efforts.

Computerised Transit System

On 5 December 2020, Ukraine launched a pilot project on its Computerised Transit System (NCTS), consistently with its obligations based on the EU-UA Association Agreement to ensure security and on-line access to customs-related information of 35 countries, as well as facilitate controlling procedures related to goods moved in transit customs regime through or within the customs territory of Ukraine. For these activities, the State Customs Service of Ukraine adopted Order No. 520 Pilot Project for Implementation of NCTS in Ukraine.

The NCTS is an IT tool, which is used by 35 countries who are parties to the Convention on a Common Transit Procedure. The access to the Convention on a Common Transit Procedure and the use of the NCTS allow businesses to move goods from one country to another based on the single transit customs declaration (the so-called T-1 customs declaration). This also allows customs authorities to facilitate and increase the efficiency of the controls performed with regard to transited goods.

6.1.2 Subnational Portals

Diia.Digital Community

In July 2021, the Ministry of Digital Transformation of Ukraine introduced Diia.Digital Community platform. The platform is designed for Chief Digital Transformation Officers in municipalities and communities. It is a knowledge management platform for the digitalisation officers in charge of the digitalisation of regions and municipalities. It contains detailed guidelines and instructions on the digitalisation in regions; information on digitisation models, as well as how to connect various digital tools and implement innovative projects in municipalities and communities; and tips for implementing innovative digital solutions in local government bodies, hospitals, schools etc.

6.2 Networks

National Telecommunications Network

As a part of its cyber security strategy implementation, the government of Ukraine is planning to develop a national telecommunication network and protected data centres for State entities. This network is a single telecommunication network protected from cyberattacks. The objective is to protect the processing and security of State

information resources. Protected data centres were first developed for security, defence, finance, energy and transport branches.

As mentioned above, on 2 July 2020, the *Verkhovna Rada* (Parliament) of Ukraine adopted the amendments to the Law of Ukraine No. 681-IX on Information Protection in Information and Telecommunications Systems. These amendments were based on the EU information cybersecurity requirements. Moreover, the draft law provides the standard requirements applicable to information security management systems (ISMS) for specific categories of information.

6.3 Data Exchange

Electronic Court

The Electronic Court is one of the services of the Single Court Information and Telecommunication System that exchanges electronic documents between participants engaged in the legal process. It provides them with the opportunity to electronically submit statements of claim and other procedural documents and receive court decisions. The registration and authentication for users is available via an electronic digital signature.

National Interaction system TREMBITA

In 2018, the National Interaction system TREMBITA was finalised. It was based on the Estonian interaction system X-Road and aimed at the exchange of data between State information resources, so as to ensure the highest quality level of eService delivery system. As of February 2022, 167 State authorities and organisations have joined the TREMBITA system and 67 State electronic information resources have been registered. The owner of the system is the MDT. This interaction system guarantees State authorities and service centres access to the information contained in national registries and thereby will enable fast and high-quality provision of public services. Since TREMBITA's launch, it has already processed one billion transactions between State registers.

Electronic Interoperability System for Public Agencies

The Electronic Interoperability System for Public Agencies (EISPA version 2) was designed to automate the processes of creating, sending, transferring, processing, using and storing electronic documents, and/or copies of paper-based documents electronically using the electronic digital signature and to track the execution of Cabinet of Ministers' orders, resolutions and other documents. The system's objectives are: to create a single information space to register, analyse and process the organisational documents of State authorities in the electronic format with the use of the electronic digital signature; to improve the quality and efficiency of management decisions; and to decrease the State budget spent to manage the transfer to electronic document. The owner of the system is the MDT. In February 2022, the system was implemented by 4,297 organisations. Every day, central government agencies send more than 7,000 documents electronically.

Single Window for Customs

The electronic system Single Window was launched for cross-border operations as part of the State Fiscal Service Reform. This electronic system allows:

- Customs and other government authorities to exchange information on goods moved across the State border of Ukraine; and
- Businesses to lodge documents only once at a single data point to obtain all necessary permits from various government authorities.

The results are contained in a single database.

In practical terms, the Single Window in customs aims to expedite and simplify information flows between trade operators and a number of government authorities while bringing meaningful gains to all parties involved in cross-border operations. The Ministry of Finance of Ukraine regularly monitors the Single Window functionality and improvements, so that it can be more accessible and useful for businesses.

6.4 eID and Trust Services

National Identification System

The National Identification System ensures the procedures of personal identification for users of different online services. It combines all electronic identification tools, i.e. electronic digital signature and bank ID. 26 providers of trusted services use the National Identification System. During 2021, Ukrainians used digital signatures and stamps 8.7 billion times.

6.5 eProcurement

ProZorro

ProZorro is an online public procurement platform and collaboration environment that ensures open access to public procurement (tenders). Fully implemented in 2016 as a hybrid system (containing both centralised public and decentralised private marketplaces), it has since been globally recognised as one of the most innovative public procurement systems delivering government services in a stakeholder-focused, transparent, effective, fair and low-cost way.

The system is managed by the Ministry for Development of Economy, Trade and Agriculture of Ukraine. According to the law on Public Procurement, the ProZorro portal is an open resource that has been providing access to database information on electronic tenders since July 2016. This system is obligatory for all State ordering customers. State organisations acting as ordering customers publish bid opportunities via the module of electronic auction, having registered themselves on authorised electronic platforms. This module ensures the transfer of information to the central database and simultaneously publishes it on the portal and other platforms. The portal database and the module of electronic auction create the single system of electronic public procurement ProZorro. Starting from the launch of the system, more than UAH 218 billion (around EUR 6.8 billion) of State budget were saved thanks to ProZorro.

DOZORRO

The monitoring platform DOZORRO is a national public procurement watchdog portal that allows users to provide feedback on any procurement procedure, tender, etc. In 2021, the Dozorro watchdog community analysed 10,001 red flag tenders. Each highrisk tender was brought to the attention of the public purchaser, their managing entity and their oversight authorities through formal letters. Following the analyses, 6,130 tenders were brought to the attention of oversight authorities, public purchasers and their managing entities through formal complaints. 1,430 high-risk tenders (23.39% of the total analysed) were fixed as a result.

The DOZORRO regional community published 101 guidelines on how to use procurement monitoring instruments (such as BI Prozorro and the DOZORRO portal) and how to best apply them in order to be able to extract value from open data. The DOZORRO risk indicator system has the option of filtering tenders according to specific risks or groups of risk indicators. The system includes 40 AI-powered risk indicators that can point out the likelihood of corruption in a particular tender.

ProZorro Sale

Prozorro Sale is a system designed for the transparent, fast and effective sales of State and communal property, as well as for fighting against corruption through equal access to data, public control and by increasing the number of potential buyers.

6.6 ePayment

No particular infrastructure in this field has been reported to date.

6.7 Knowledge Management

National Online Platform for Digital Literacy: Diia. Education

The National Online Platform for Digital Literacy has been developed with the aim of digitally educating at least 6 million Ukrainians. The key learning approach of the platform relies on educational series. The platform currently contains 73 educational series (i.e. basic digital literacy, digital literacy for teachers, series for parents and educational series for kids – namely online security –, specialised courses for entrepreneurs, lifestyle courses, courses on new digital professions, etc.). The platform has had 3.6 million unique visitors. While producing the series, the MDT experts used European standards of teaching and evaluation of digital competences. For instance, the basic digital literacy series was developed on the Digital Competence Framework for citizens DigComp. Moreover, the platform contains a free test tsyfrogram on general digital literacy that helps to find out one's level of digital literacy. 1.2 million users passed courses on the platform and got their certificates on digital literacy.

Knowledge Management Educational Portal for Civil Servants

The portal was launched to foster the professional development of civil servants at national and municipal levels. It is a web space for convenient communication between civil servants looking for professional development and the educational services providers. Via the portal, civil servants can find the educational programmes for their personal development in different categories such as European integration, anti-corruption, decentralisation etc. Currently, there are more than 300 educational programmes available on the portal.

Single State Electronic Database on Education

This database collects, registers, processes, stores and protects data related to education. According to the Law on Education, the database contains four registries: the registry of educational institutions, the registry of educational documents, the registry of independent external assessment certificates, and the registry of student ID cards. Hence, users can check the validity of their diplomas and academic credentials and the validity of their ID cards. Additionally, users can find information about their educational establishment and its licence. One more feature of the system is the opportunity for users to find information on admissions, including the ratings of those that submitted the documents to universities and were recommended for enrolment etc. In February 2022, 885 higher educational establishments and 1,253 vocational and technical institutions were registered in the system.

eHealth Information System

eHealth is an information system that allows patients to receive high-quality medical assistance from healthcare centres and monitor the efficiency of the State budget. Patients sign declarations with their doctors, and the doctors register them in the

system. The State pays doctors for each patient and ensures patients are guaranteed free-of-charge medical services.

In February 2022, more than 1,939 medical centres, 24,607 doctors, and almost 28 million patients were registered in the system.

6.8 Cross-border platforms

No particular infrastructure in this field has been reported to date.

6.9 Base registries

State Registry of Registries

In 2018, the State Agency for eGovernance of Ukraine (currently transformed into the MDT) developed and launched the State Registry of Registries (RoR). This information system was designed for the registration, accumulation, processing, analysis and storage of information about State registries and information systems. The RoR contains data on the composition, content, location and conditions to have access to these electronic information resources. The creation of such a system allows for the efficient and timely analysis of State registries, as well as the information systems in central ministries, their departments and subordinate agencies. Its capability helps to prevent an increasing duplication of data while improving the efficiency of how State information is used.

According to the draft law on Public Electronic Registries (please see above), the four basic registries include: the State demographic registry, the business registry, the State registry of immovable property rights, and the State land cadastre.

6.10 Emerging Technologies

6.10.1 Artificial Intelligence (AI)

No particular infrastructure in this field has been reported to date.

6.10.2 Distributed ledger technologies

No particular infrastructure in this field has been reported to date.

6.10.3 Big data

No particular infrastructure in this field has been reported to date.

6.10.4 Cloud computing

No particular infrastructure in this field has been reported to date.

6.10.5 Internet of Things (IoT)

No particular infrastructure in this field has been reported to date.

6.10.6 High-performance computing

No particular infrastructure in this field has been reported to date.

6.10.7 High-speed broadband connectivity

Dashboard on the Connection to Broadband Internet

According to the Cabinet of Ministers of Ukraine decree No. 452 on Providing a Subvention to Local Budgets to Implement High-Speed Broadband Connectivity in

Rural Areas, communities and municipalities can apply to get broadband connection in their areas. The MDT launched a dashboard that demonstrates the distribution of subventions among applicants, provides data on municipalities that already have high-speed connectivity and offers an estimate on how many people have access to broadband Internet.

Cross-border Digital Public Administration Services

7 Cross-border Digital Public Administration Services

Further to the information on national digital public services provided in the previous chapters, this final chapter presents an overview of the basic cross-border public services provided to citizens and businesses in other European countries. Your Europe is taken as reference, as it is the EU one-stop shop which aims to simplify the life of both citizens and businesses by avoiding unnecessary inconvenience and red tape in regard to 'life and travel', as well as 'doing business' abroad. In order to do so, Your Europe offers information on basic rights under EU law, but also on how these rights are implemented in each individual country (where information has been provided by the national authorities). Free email or telephone contact with EU assistance services, to get more personalised or detailed help and advice is also available.

Please note that, in most cases, the EU rights described in Your Europe apply to all EU member countries plus Iceland, Liechtenstein and Norway, and sometimes to Switzerland. Information on Your Europe is provided by the relevant departments of the European Commission and complemented by content provided by the authorities of every country it covers. As the website consists of two sections - one for citizens and one for businesses, both managed by DG Internal Market, Industry, Entrepreneurship and SMEs (DG GROW) - below the main groups of services for each section are listed.

7.1 Life and Travel

For citizens, the following groups of services can be found on the website:

- Travel (e.g. Documents needed for travelling in Europe);
- Work and retirement (e.g. Unemployment and Benefits);
- Vehicles (e.g. Registration);
- Residence formalities (e.g. Elections abroad);
- Education and youth (e.g. Researchers);
- Health (e.g. Medical Treatment abroad);
- Family (e.g. Couples);
- Consumers (e.g. Shopping).

7.2 Doing Business

Regarding businesses, the groups of services on the website concern:

- Running a business (e.g. Developing a business);
- Taxation (e.g. Business tax);
- Selling in the EU (e.g. Public contracts);
- Human Resources (e.g. Employment contracts):
- Product requirements (e.g. Standards);
- Financing and Funding (e.g. Accounting);
- Dealing with Customers (e.g. Data protection).

The Digital Public Administration Factsheets

The factsheets present an overview of the state and progress of Digital Public Administration and Interoperability within European countries.

The factsheets are published on the Joinup platform, which is a joint initiative by the Directorate General for Informatics (DG DIGIT) and the Directorate General for Communications Networks, Content & Technology (DG CONNECT). This factsheet received valuable contribution from Danylo Molchanov (State Agency for eGovernance).



The Digital Public Administration factsheets are prepared for the European Commission by Wavestone.

An action supported by Interoperable Europe

The ISA² Programme has evolved into Interoperable Europe - the initiative of the European Commission for a reinforced interoperability policy.

The work of the European Commission and its partners in public administrations across Europe to enhance interoperability continues at full speed despite the end of the ISA² programme. Indeed, enhanced interoperability will be necessary to unlock the potential of data use and reuse for improved public services, to enable cross-border collaboration, and to support the sector-specific policy goals set by the Commission for the future.

Interoperable Europe will lead the process of achieving these goals and creating a reinforced interoperability policy that will work for everyone. The initiative is supported by the Digital Europe Programme.

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