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| ***EU-UKRAINE******CIVIL SOCIETY PLATFORM*** |  | ***ПЛАТФОРМА ГРОМАДЯНСЬКОГО СУСПІЛЬСТВА УКРАЇНА-ЄС*** |

**Integration of Ukraine into the European Union’s Single Digital Market: challenges, possibilities and barriers**

**Report by the Ukrainian side of the EU-Ukraine civil society dialogue**

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# **LIST OF ABBREVIATIONS**

**EN**

EECC – European Electronic Communications Code

E-IRG – E-Infrastructure Reflection Group

EIT – European Institute of Innovation and Technology

EOSC – European Open Science Cloud

ERA - European Research Area

ERAC – European Research Area and Innovation Committee

ERIC – European Research Infrastructure Consortium

ESFRI – European Strategy Forum on Research Infrastructures

DIHs – Digital innovation hubs

GDPR – General Data Protection Regulation (Regulation (EU) 2016/679)

JRC – Joint Research Centre

ВРУ – Verkhovna Rada [*Parliament*] of Ukraine

Horizon 2020 - EU programme "Horizon 2020 - framework programme for research and innovation" (2014‑2020)

EC – European Commission

EU – European Union

DSM – Digital Single Market

ICT – Information and communication technology

CMU – Cabinet of Ministers of Ukraine
MEDT – Ministry of economic development, trade and agriculture of Ukraine
MES – Ministry of education and science of Ukraine

NRCD – National regulatory committee for digitalisation

WG6 – Working group 6 ‘Science and technology, information society, education, training, culture and sport’ UkrS CSP Ukraine-EU

JC - Joint Committee Ukraine - EU for science and technology cooperation

EastP - Eastern Partnership

AA - EU-Ukraine Association Agreement

STCA - Science and Technology Cooperation Agreement between Ukraine and the EU

UkrS CSP Ukraine-EU - Ukrainian side of the Ukraine-EU Civil Society Platform

CEB - central executive body

BBA - broadband access

# **INTRODUCTION**

***Relevance of the report***

On 8 July 2019, the 21st Ukraine-EU summit was held in Kyiv with the President of Ukraine V. Zelenskyy, the President of the European Council D. Tusk and the President of the European Commission J.‑C. Juncker in attendance. The Commission welcomed Ukraine’s desire for further legislative convergence with EU law in the field of the digital economy. Ukraine and the EU expressed hopes for further regulatory cooperation, in particular for the ongoing two-step evaluation of Ukraine’s legislative convergence by the EU.

In autumn 2018, the government prepared the Strategy for Ukraine’s integration into the EU SDM (‘roadmap’) and an action plan for its implementation 2018-2023, taking into account new EU legislation. On 4 October 2019, the Verkhovna Rada approved the Action Plan of the Cabinet of Ministers of Ukraine, which counted among its targets joining the EU digital space and meeting the criteria for EU membership. There are plans at the national level for the total digitalisation of administrative processes and information exchanges.

In July 2019, the EU expert mission began work in Ukraine to evaluate legislative and regulatory convergence and the institutional capacity of the Ukrainian digital market. The main focus of the mission’s activity is the field of telecommunications. The national legislation in force regarding electronic communications, e‑commerce, radio spectra and e-identification is being analysed, as are new draft laws to be tabled during the coming parliamentary term and the institutional capacities of the telecommunications regulator. These components are the technical basis for the EU Single Digital Market.

The new Ukrainian government which took office on 29 August 2019 includes a new Ministry of Digital Transformation, headed by Mykhailo Fedorov who is also a deputy prime minister. The new Ukrainian government has ambitious plans for the implementation of the ‘State in a smartphone’ idea, and the Rada has formed a new committee for matters regarding digital transformation. Nevertheless, the state budget for 2020 does not include[[1]](#footnote-1) financing for digital transformation projects and programmes, whether new ones such as ‘Country in a smartphone’ or measures to implement the Concept for development of digital economy and society, which was approved by the previous government. Only UAH 30.8 million are to be allocated to supporting existing e‑governance systems, and the total state expenditure for the National Digitalisation Programme will be UAH 73.6 million[[2]](#footnote-2).

The online portal for monitoring the steps taken to implement the Agreement ‘Puls Uhody’ [*Pulse of the Agreement*][[3]](#footnote-3) estimates the progress made in 2019 towards implementing goals in the field of ‘Digital society’ at 30% of what was planned. Most goals are in the risk zone.

All this presents challenges, and this Report will cover the main aspects of the implementation of the AA in the fields of information society and the digital market. We will also analyse the main priorities in the development of digital technologies under the extended EU-Ukraine cooperation within the framework of bilateral cooperation and the Eastern Partnership. Ukraine shows insufficient progress in harmonising digital markets in such a way as to reach the goals proposed by the EU for Eastern Partnership countries in the Joint Working Document ‘Eastern Partnership - 20 results expected by 2020’. In this context, moving to practical and effective action in all areas of digital harmonisation in Ukraine would require the development of a set of synchronised strategic documents supported by thorough analysis[[4]](#footnote-4).

***Short summary of the report***

The report presents an analysis of the implementation of the AA and perspectives for further EU-Ukraine cooperation according to the three parts of the EU SDM strategy:

* Improving consumer and business access to digital goods and services throughout Europe.
* Creating the necessary conditions for the development of digital networks and services.
* Maximising the growth potential of the digital economy.

In the first part of the Report, we present the links between the main requirements of the EU SDM and the articles of the AA regarding information society and digital technologies.

In the second, third and fourth parts we present the main components of the three parts of the EU SDM strategy and conduct an analysis of the challenges and possibilities for implementing these components in Ukraine while respecting the requirements of the AA, the processes for deepening bilateral Ukraine-EU dialogue in the field of the digital economy, the development of cooperation through the Eastern Partnership and a vision of the internal reform process in Ukraine regarding information society and digital technologies.

In the fifth part, we make recommendations to different stakeholders. Based on these recommendations, we formulate a proposal for a joint declaration for the meeting of the Platform planned on 3 December 2019.

**Proposals for the Ukraine-EU joint SCP meeting**

* The Parties recognise the strategic and organisational steps taken by the new Ukrainian government towards the development of a digital economy and society, the implementation of the AA in the field of improving access to ICT and the development of the information society and the implementation of 20 achievements of the Eastern Partnership within the framework of the HDM panel.
* The Parties welcome the intention of the new Ukrainian government to deepen cooperation in the field of information society and integration into the EU SDM and progress in the Ukraine-EU bilateral dialogue regarding the digital economy, notably with regard to granting an internal market regime in the field of telecommunications.
* The Parties call for progress in bilateral consultations, legislative work on the Ukrainian side and, most importantly, creating the necessary resources and coordination mechanisms at governmental level to attain the goals fixed. The Ministry of Digital Transformation must play an active role in this process, in coordination with the Government coordination office for European and Euro-Atlantic integration.
* The Parties express their support for further involvement of civil society and experts in the process of developing the digital market and integration into the SDM. This approach has shown its effectiveness, both at the stage of developing Ukraine’s digital agenda and in the strategy for integration into the EU SDM.
* The parties recognise the necessity of strengthening the independence of the regulatory organ for electronic communications by introducing and adopting legislation to this end.
* The Parties point out the necessity of beginning permanent dialogue about pressing questions of the digital agenda of Ukraine and the EU. For example, it is currently necessary to discuss the question of reducing roaming tariffs between Ukraine and the EU and support for the Ukrainian proposal for creating a single roaming area between the Eastern Partnership countries and the EU.
* The Parties welcome the development of the Ukrainian national broadband development plan, and also recognise the importance of developing a corresponding infrastructure map and providing the electronic communications regulator with the prerogatives needed to obtain the required information from telecommunications service providers so as to allow further analysis and entering new data into the infrastructure map.
* The Parties underline that several obligations regarding the development of the data economy are not apparent in the current structure and strategy of the new government. This could complicate Ukraine’s potential participation in the SDM, which rests on the parallel development of all three interdependent aspects of the digital market. The new goals in the field of developing the data economy which appear in the SDM strategy require particular attention from the Ukrainian government to allow the adoption of strategic documents at national level and corresponding support for scientific and educational development. At the same time, it is necessary to take into account the requirements of cross-border access and progressive opening of access to state, private sector, research and scientific information and harmonisation with the European cloud initiative.
* The Parties recommend that the Ukrainian government take effective measures to support cutting-edge ICT research and innovation, the access of Ukrainian scientists and companies to national and European digital infrastructure, and notably ensuring Ukrainian participation in the European Open Science Cloud (EOSC), the Euro HPC Joint Undertaking, and the EU Coordinated Plan on AI.

# **1. EU Single Digital Market and EU-Ukraine Association Agreement**

Creating a single digital market[[5]](#footnote-5) for the EU is a key goal of the European Digital Agenda, one of the seven flagship initiatives of the Europe 2020 strategy adopted in 2010. However, it was only in 2015, after the AA was signed, that the EU moved to the active phase of developing the SDM and adopted a strategy to this effect which aimed to improve access do digital goods and services in Europe, to create the conditions or developing digital networks and services and to use the growth potential of the digital economy.

In May 2017, the European Commission published an interim report in the SDM strategy[[6]](#footnote-6) evaluating progress in implementing the 2015 Strategy and setting out further steps. In order to ensure a fair, open and safe digital space, a certain number of EU policy areas important to the data economy and the management of the digital transformation of the economy and society were set out, namely: cybersecurity, digital competences, digitalisation of industry (digital innovation hubs, digital industrial platforms) and services (FinTech, Blockchain), digital infrastructures (European Data Infrastructure, European Open Science Cloud, highly productive calculations, artificial intelligence), modernisation of public services and e-governance (single digital gateway, digital‑by‑default, once-only), health and care. These orientations were included in the ‘Digital Europe’ programme[[7]](#footnote-7) (Digital Europe programme for the period 2021-2027) which the EU intends to finance in the 2021‑2027 long-term budget period with EUR 9.2 billion.

The structure of the Association Agreement sets out the subject of the digital market as follows:

* Title IV Chapter 6 Part 5 Subsection 3 - liberalisation of trade in computer services;
* Title IV Chapter 6 Part 5 Subsection 5 and Annex XVII - integration of Ukraine in the EU internal telecommunications market;
* Title IV Chapter 6 Part 6 - cooperation in developing electronic trade;
* Title V chapter 14 - cooperation in the field of information society;
* Title V Chapter 15 and Annex XXXVII - convergence of policies in the audio-visual field.

Cooperation between Ukraine and the EU in the development of information society (Part V Chapter 14 AA) has as its aims the implementation of national digital society strategies, the development of an all‑encompassing legislative and regulatory basis for electronic communications and the improvement of Ukraine’s participation in EU research programmes in ICT.

The AA’s main focus is on the availability and safety of ICT use and broad digitalisation of the economy and society, with emphasis on e-business, e-government, e-healthcare and e-learning (Articles 389, 390, 391a, 394). To reach compatibility of telecommunications infrastructure and the rules for its use and access to the market for electronic communications, particular and specific policy coordination and cooperation is called for between communications regulators (Articles 389, 390, 391b, c, 392, 393, and 394).

Very similar orientations for cooperation were chosen as priorities for cooperation between Ukraine, the EU and countries participating in the Eastern Partnership (hereinafter ‘EastP’) as part of the HDM Panel[[8]](#footnote-8):

1. Rules for the provision of telecommunications services and infrastructure;

2. Trust and safety in the digital economy;

3. Electronic trade (eCommerce, eCustoms and eLogistics);

4. Digital skills;

5. Ecosystems for ICT innovations and start-ups;

6. e-health

In the EastP Joint Declaration at the November 2017 Summit, the participants agreed to cooperate in these areas to improve the benefit of the EU SDM for partner countries. The corresponding Priority 7 was included in the 20 achievements of the EastP expected for 2020.

Ukraine’s integration into the EU SDM is a logical step which follows from the provisions of the AA and the priorities for Eastern Partnership cooperation. The AA provides for the possibility of an internal market for telecommunications services. Considering that ‘Rules for providing telecommunications services and infrastructure’ are listed as a priority for the EU4DIGITAL project, the relevant tasks are also the object of expert working groups of the Network of regulatory bodies for electronic communications of Eastern Partnership countries (EaPeReg) and the EU4DIGITAL expert group.

For Ukraine, an SDM with the EU could mean **new possibilities for access to online markets and e‑services of EU countries**, and in particular the simplification of legislative and administrative barriers, participation in harmonised rules for free cross-border provision of online services and content, online payments, simplification of the procedure for digital contracts, licencing, taxing and invoking authors’ rights, on the condition that a system of personal data protection and cybersecurity is adopted in Ukraine.

**The development of a data economy in cooperation with the EU** will give impetus to the development in Ukraine of contemporary digital infrastructure, research and technologies such as artificial intelligence, internet of things, cloud platforms and services, highly productive calculations and big data.

The state’s information sphere heavily influences other spheres and conditions its economic and innovative potential, its competitiveness in the international arena and the quality of life of its citizens. The economic condition for accession to the EU under the Copenhagen criteria is **the functioning of a market economy and the capacity to cope with competition and market forces**.

 The pressing tasks facing Ukraine in this area are therefore on one hand to implement its own digital agenda and on the other hand to join European strategic initiatives and to converge with EU legislation and standards. The new objectives for development of the data economy which result from the SDM strategy require particular attention from the Ukrainian government to approve corresponding strategic documents and to increase participation in the European Cloud Initiative, ICT research and the corresponding development of education and research.

**Recommendations for the integration of Ukraine into the European Union Single Digital Market**

* *Speed up the implementation process of the AA and the integration of Ukraine into the European Union Single Digital Market. Ensure the implementation of the Strategy for integration into the European Union Single Digital Market (roadmap) which should become a bilateral document providing for the implementation of mutual commitments;*
* *The new objectives for development of the data economy which result from the SDM strategy require particular attention from the Ukrainian government to approve corresponding strategic documents and to increase participation in the European Cloud Initiative, ICT research and the corresponding development of education and research.*
* *Publish the results of the work of the EU Expert Mission in Ukraine and hold consultations with civil society experts, in particular with the Ukrainian side of the Civil Society Platform (under the AA) and the Ukrainian national platform of the Eastern Partnership Civil Society Forum, regarding comprehensive evaluation of the market, infrastructure, current situation and need for updated legislation and regulatory capacity to integrate Ukraine into the EU Single Digital Market;*
* *In order to move to practical regulatory action in all areas of digital harmonisation with the EU, Ukraine needs to develop a pool of synchronised strategic documents supported by clear plans for implementation. Otherwise, decision makers would not be able to coordinate their actions to the extent required and react to the challenges of the rapid development and globalisation of information, communication and digital technologies. Provide for an interactive database of legislation (Ukrainian equivalent of EurLEX);*
* *Ensure the Ukrainian authorities make good use of the opportunities provided by the initiative-project ‘EU4Digital: supporting the digital economy and society in the Eastern Partnership’; More active use of the expert potential of civil society.*

# **2. Improving consumer and business access to digital goods and services**

This priority of the EU SDM strategy calls for removing barriers to cross-border e-commerce with EU countries, which requires the following objectives to be met:

1. ***Common rules for e-commerce:*** Simplifying trading arrangements and protecting contractual obligations, protecting consumer rights (functioning Europe-wide platform for online dispute resolution).
2. ***Inexpensive high-quality cross-border delivery of goods:*** High prices and inefficiency of goods transport should not be a barrier to cross-border online trade.
3. ***Avoiding unjustified geoblocking:*** Legislative work to avoid geoblocking.
4. ***Better access to digital content***- a contemporary European system for protecting authors’ rights: Removing barriers to cross-border access to services protected by authors’ rights (in particular videos) and their portability, in particular for audio-visual programmes.

It should be pointed out that the National Intellectual Property Office and the Ministry of Economy have developed a draft National intellectual property strategy for 2020-2030 which includes authors’ rights and the digital economy.

***Reducing barriers connected to VAT for cross-border sales: introducing*** an electronic system for registering and paying (single declaration) and an action plan for a new approach to corporate tax in the single market based on profit being taxed in the jurisdiction where added value is created, including in the digital economy.

At the present time, Ukraine does not have a national roadmap for creating a harmonised system of electronic commerce or for electronic logistics with the Eastern Partnership countries and the EU. As a result, questions remain open as to the harmonisation of legislation in the field of e-commerce, customs declarations and e-logistics with EU legislation, the timely implementation of pilot systems such as a cross-border e-commerce system and a system for a digital logistic corridor between the Baltic and the Black Sea.

In 2015 Ukraine adopted the Law on Electronic Commerce which however ***left unregulated a certain number of questions of harmonisation with EU law***[[9]](#footnote-9). Instruments of state policy should be aimed at removing current obstacles and problems, including the unanswered questions of electronic payment, the activity of e‑commerce operators and their use of electronic identification and the regulation and protection of the rights and personal data of e-commerce consumers.

**Recommendations for improving the access of Ukrainian consumers and businesses to digital goods and services**

*Develop a national roadmap for the development of e-commerce in Ukraine and harmonised systems of e‑commerce with Eastern Partnership countries and the EU in accordance with EU SDM requirements. Amend the Ukrainian Law on electronic commerce to harmonise with EU law*.

# **3. Creating the necessary conditions for the development of digital networks and services.**

The Single Digital Market should be based on reliable, high-speed, accessible networks and services which protect consumers’ fundamental rights to confidentiality and the protection of personal data while at the same time encouraging innovation. Harmonisation of the regulation of digital networks and services in EU Member States involves the revision of legislation in the field of **content distribution, telecommunications, audio-visual services, the protection of personal data, the development of public-private partnerships in the field of cybersecurity and ensuring the general availability if information and communication technology**.

***Coherent adaptations to EU telecommunications rules*** in conjunction with the application of EU competition law have great importance in ensuring the competitiveness of markets, which ensures low prices and better quality of services for consumers and business. Adopting a regulatory package for the single telecommunications market will ensure clear and harmonised rules on net neutrality and will enact the definitive abolition of additional payment for international roaming services, including for data roaming.

In the field of telecommunications services, the AA provides a perspective for a mutual single market regime. In accordance with Article 4(3) of Annex XVII to the AA, this regime means that, in this sector, there would be no barriers to the freedom of Ukrainian legal persons to provide services in the EU and vice versa. This regime can be obtained on the condition that the EU give a positive evaluation of Ukraine’s convergence with EU legislation.

In the Association Agreement, Annex XVII sets out Ukraine’s obligation to progressively bring its current and future telecommunications legislation in line with the EU acquis[[10]](#footnote-10). However, new EU legislation and the development of Ukraine-EU bilateral dialogue in the field of digital economy have created new challenges and tasks in accelerating European integration processes in this area. For this reason, **discussions are ongoing in Ukraine about proposals related to the new legislation on electronic communications and radio frequencies**, which would take into account the changes to EU legislation in this field with the adoption on 11 December 2018 of the new EECC - European Electronic Communications Code[[11]](#footnote-11). This position fully corresponds to the conclusions of the Ukrainian side of the CSP expressed repeatedly in analytical materials[[12]](#footnote-12) and events of the grant component of the ‘civic synergy’ project[[13]](#footnote-13).

At present, three draft laws on this subject are being discussed in the Committee working group on digital transformation - on the development of infrastructure for the digital transformation of the economy and society (2320 dated 28.10.2019), on electronic communications (2264 dated 15.10.2019) and on radio frequencies of Ukraine (1086 dated 29.08.2019). The discussions are focused among other things on the question of the regulator and corresponding constitutional amendments[[14]](#footnote-14) which need to be implemented. The deadline for the implementation of the EECC in the EU is 20 December 2020. Since EU directives are indirect legislation, each EU Member State must elaborate and adopt its own legislation containing the main provisions of the EECC by this date.

The EECC calls for the regulation of three categories of electronic communication - interpersonal communication, internet access and services providing signals. Implementing the EECC in Ukraine will resolve the question of developing the internal market by ensuring fair competition, the development of infrastructure, regulatory predictability, the protection of consumer rights and the accessibility and security of networks and services. For example, Ukraine must decide how exactly it will protect consumers’ right to complain about the action of an operator or service provider.

The main body in Ukraine that sets this agenda is the National commission for State regulation in the field of communications and digitalisation (NRCD). The regulation of special communications and the protection of state information and telecommunications systems and resources is the responsibility of the State Service for special communications and the protection of information.

On behalf of Ukraine, the NRCD is presiding the Network of electronic communications regulators of the Eastern Partnership countries. In accordance with the Joint Working Document ‘Eastern Partnership - 20 results expected by 2020’[[15]](#footnote-15), partner countries are required to coordinate national strategies and policies on the use of frequencies with each other and the EU. The network of electronic communications regulators of the Eastern Partnership countries has initiated a process to harmonise price determination and the reduction of roaming tariffs between partner countries. This process is also progressing with the support of the EU4DIGITAL initiative.

At the same time, Ukraine still lacks a **strategy for ensuring access to fast Internet** (broadband access) and also lacks information about the state of digital infrastructure. With the support of the World Bank, a national working group was set up in July 2019 for questions concerning the development of broadband in Ukraine, which includes renowned experts on the telecommunications market, civic organisations and members of the Coordination Council for the development of the digital economy. It is necessary to accelerate the preparation of a national broadband access strategy.

One important aspect of the success of this process is the preparation of an infrastructure map and providing the regulator for electronic communications (NRCD) with the necessary competence and obtaining the required reports and information from operators - not only telecommunications operators, but also infrastructure operators - to allow further analysis and entry onto the infrastructure map.

The solution to the problem of monitoring the status of broadband, statistics on internet penetration in Ukraine and other indicators of the development of the information society is for Ukraine to implement transparent reporting, including at regional level, as well as implementing new methods of obtaining and processing reports (creating an equivalent to the European DESI indices). It is absolutely critical to begin monitoring the state of digital infrastructure (including analysing the state of competition between all telecommunications services providers in Ukraine and analysing and monitoring the compatibility of Ukrainian and EU legislation).

The **audio-visual landscape** of the SDM is influenced by rapid technological change and the development of new business models for publishing content. Viewers access audio-visual online content by various means, and the use of portable devices such as smartphones changes the viewing schema. Implementing the EECC would provide a solution to the exceptionally complicated task of regulating the price and quality of telecommunication operators’ TV and radio services in Ukraine. At present, these tariffs are not regulated by law and are fixed unilaterally by operators, and no conditions are set as to the quality of service and the means for ensuring compliance. To implement European legislation on audio-visual services in Ukraine, it is necessary to harmonise Ukrainian civil and economic law with European terminology. **The revised Directive on audio-visual media services in the EU[[16]](#footnote-16)** contains a number of new rules for all market participants, which are being transposed into the law of EU Member States, notably provisions on the promotion of European works, rules for the protection of minors and rules on advertising.

The EU SDM pays significant attention to **the regulatory climate for online platforms and internet intermediaries**. Ukraine needs to revisit the Commission Communication[[17]](#footnote-17) containing recommendations for policy and regulatory approaches for flexible reaction to the challenges resulting from the growing influence of online platforms which generate, collect and control a great quantity of data on their users and use algorithms to convert this into information of value to business. Some online platforms have become players which compete in various branches of the economy, and their use of their market position requires further analysis beyond the application of competition law in individual cases. A comprehensive analysis of the role of platforms and online intermediaries, including in the shared use economy, would include the following:

* Transparency, for example in search results (including payment for messages and/or advertising),
* Use by the platform of information it collects,
* Relations between platforms and providers,
* Restrictions on the possibility for consumers and businesses to transfer from one platform to another,
* Analysis of the methods for fighting illegal online content.

***Reinforcing trust and security in digital services and the processing of personal data***: The GDPR has increased confidence in digital services. Legislative work is ongoing to apply the GDPR in Ukraine, while simultaneously amending legislation on access to public information and the movement of non-personal data. It is essential to develop cybersecurity instruments to protect networks and critical infrastructure and effective reactions to cyber threats. In early 2016, the Cybersecurity strategy of Ukraine was approved, and in May 2018 the Law on the main principles of cybersecurity in Ukraine entered into force. A draft law on critical digital infrastructure is in preparation. Legislation and the implementation plan for the cybersecurity strategy should also be amended to meet the requirements of the NIS (Network and Information Systems Security) Directive and the new act regulating cybersecurity in the EU, which will, among other things, introduce a new system of certification for cybersecurity. Ukraine has not fully ratified the Council of Europe Convention on cybercrime; it has not for example agreed to apply the part of the Convention on digital proof. For this reason, law enforcement bodies often exclude equipment from material evidence (notably in piracy cases), arguing that Ukrainian law does not provide for the possibility of using copies. This limits the growth potential of IT business.

The best implementation of the AA is in the **field of identification services**. In November 2018, the Law on electronic identification entered into force. This law amended the legislation on electronic identification (e‑signature) in line with the eIDAS Regulation 910/2014. In January 2019, the Ukrainian Cabinet of Ministers adopted a decision approving the Rules for mutual recognition of Ukrainian and foreign open key certificates, electronic signature and the use of information and telecommunication systems of the central certification body to ensure the recognition in Ukraine of electronic identification services and foreign open key certificates used when providing electronic services with legal effect between persons in different countries.

Ukraine has evaluated the state of harmonisation of national legislation on electronic identification and certification, and presented the results to the Association Committee in the trade constellation on 19.11.2019. Ukraine has also requested an agreement with the EU on the mutual recognition of identification services on the basis of Article 14 of the EIDAS Regulation. This is a major step towards preparing an Agreement of mutual recognition of electronic identification services between Ukraine and the EU, which would allow recognition of the electronic identification of physical and legal persons from both sides.

**Recommendations for creating the necessary conditions in Ukraine for the development of digital networks and services**

* *When developing legislation in the field of the digital economy and society, take into account EU law, EastP priorities and international goals for the digital development of knowledge societies. To this end, begin systematising and codifying Ukrainian legislation in this field;*
* *Develop and adopt a law on electronic communications, taking into account the provisions of the European Electronic Communications Code;*
* *Increase the independence (including financial and institutional independence) and regulatory capacity of the national regulator in accordance with the new European Electronic Communications Code;*
* *Develop and adopt the agreed strategy for promoting broadband development in accordance with corresponding strategies in EU Member States (national broadband development plan);*
* *Introduce in Ukraine transparent reporting on the status of broadband, internet penetration in Ukraine, the status of digital infrastructure (including analysis of competition between all telecommunications providers in Ukraine, analysis and monitoring of Ukrainian legislative compatibility with EU standards) and other indicators of the development of information society, and also the implementation in Ukraine of an equivalent to the DESI indexes;*
* *Implement EU legislative standards in the field of audio-visual services in Ukraine, notably the amended Audio-visual Media Directive;*
* *Fully ratify the Council of Europe convention on cybercrime. Amend cybersecurity legislation in line with the recommendations of the NIS Directive and new EU regulatory acts;*
* *Take into account EU recommendations for political and regulatory steps for flexible reaction to the challenges posed by the growing influence of online platforms.*

# **4. Orientations for the development of the digital economy**

The economic development of countries depends on digital ecosystems integrating digital infrastructure, hardware and software availability and data. For integration into the EU SDM, Ukraine should include in its digital agenda the **main goals for the growth of the digital economy set out in the EU SDM strategy:**

1. ***Building the data economy***

To make full use of the potential of digital technologies for transmitting and using data, it is necessary to remove barriers such as those linked to the location of the data, which oblige service providers to set up costly local infrastructure (data processing centres) in every region or country. In addition to regulating the movement and protection of personal data, the SDM also regulates the free movement of non-personal data.[[18]](#footnote-18) Free cross‑border access to data from the public and private sector and scientific information is seen as a catalyst for economic growth, innovation and digitalisation in all sectors of the economy, especially for SMEs and start-ups, as well as for society as a whole.

The European Cloud Initiative involves three main orientations for development: the European Open Science Cloud, High Performance Computing and European Data Infrastructure. Big data, cloud services and the Internet of things are fundamental for developing the EU’s competitiveness.

In December 2018, during the application of the European artificial intelligence strategy,[[19]](#footnote-19), the Commission presented a coordinated plan[[20]](#footnote-20) to support the development and use of AI in Europe, proposing joint action for closer and more effective cooperation in four key areas: increasing investment, accessibility of more data, activating talents and ensuring trust.

Thanks to its human capacity, Ukraine has every possibility to become one of the European countries capable of being leaders in developing digital technology. However, due to economic problems and the drastic cuts in research and innovation funding since the AA was signed, the development of the data economy has also slowed down. Ukraine has a developed programming industry which provides high-quality products and services to the whole world, yet the outdated digital infrastructure, low level of digitalisation of economic sectors, and the lack of access of citizens, scientists, industry and SMEs to cutting-edge knowledge, digital technology and infrastructure lead to a digital and technological gap with other countries.

The concept for the development of the digital economy and society has given a significant boost to the processes of digital transformation of economic sectors and society, but there are significant problems in its implementation caused on one hand by the absence of public funding for digitalisation and innovation at national level while on the other hand leading IT companies continue to produce high-quality products and services for export while ignoring internal digitalisation processes. Structured ICT innovation networks are developing slowly. These networks are the framework in which ICT innovation systems should form, which should serve on one hand as laboratories for the creation of new research and development in ICT and on the other hand as networks for their implementation in different sectors through branch and regional roadmaps for digital transformation to increase management effectiveness and to create innovative products and services.

Several steps to develop the digital economy in Ukraine and to harmonise it with the corresponding EU initiatives are provided for in the Convention for the development of the information economy and society in Ukraine and the Roadmap for the integration of Ukraine into the SDM, however the majority of these steps are not currently being implemented due to a lack of budget financing and of appropriate support from donors. The working group of the Coordination Council for the development of the digital economy and society ‘Digitalisation of science - National open science cloud’, together with the Ministries of Education and of Economic Development, has drawn up a draft Concept for the development of Ukrainian e-infrastructure by 2022, which has not yet been approved by the government.

Ukraine needs to activate its participation in European research and electronic infrastructure and the ERA groups (ESFRI, WG ERAC OS&I and e-IRG) dealing with these questions. It is also necessary to ensure support for cutting-edge ICT research and innovation and the use of contemporary digital infrastructure, notably by ensuring Ukraine’s participation in the EOSC and the Euro HPC Joint Undertaking.

1. ***Increasing competitiveness through interoperability and standardisation*:**

Between Member States, there is a shared understanding of the main requirements for cooperation and compatibility derived from the ***European Interoperability Framework*** proposed by the Commission in 2010 and updated in 2017. Ukraine must join in the implementation of an integrated standardisation plan to set key priorities for standardisation, with emphasis on technologies and areas considered essential to the SDM, including important branch-level compatibility and standards in areas such as healthcare (telemedicine, e-health), transport (trip planning, electronic luggage), the environment and energy.

1. ***Inclusive electronic society*:**

The EU aims to support an **inclusive** SDM in which citizens and businesses have the necessary skills and can make use of interconnected multilingual electronic services: e-government, e-justice, e-health, ‘smart’ electricity provision and transport,

The Ministry of Digital Transformation has set as its priorities for action improving citizens’ access to high-speed internet, the quality and quantity of online services and citizens’ digital skills. There are plans to optimise registers (Draft Law on public electronic registers, adopted in first reading[[21]](#footnote-21)), the creation of a single service portal, and the development of contemporary electronic means of identification (such as SMART ID). However, it should be noted that the structure, functions and priorities of the Ministry do not cover the whole field of digital development set out in the Convention for the development of the information economy and society in Ukraine and the SDM strategy. They currently lack a vision of the development of the data economy in Ukraine and integration into the EU’s data infrastructure, notably with regard to the opening of data and reuse of public information[[22]](#footnote-22).

1. ***Digital skills and expertise***

Changes are needed to adapt education and training to the digital revolution. These changes can be supported by EU-level initiatives such as ‘Grand Coalition for digital jobs’, ‘EU Code Week’ and ‘Opening up Education’). The need to support the process of developing digital skills is also connected to changes on the job market resulting from digitalisation.

The responsibility for preparing the necessary number of appropriately qualified specialists and for training programmes falls to the Member States, which must act quickly to remedy the lack of key digital skills.

Today Ukraine faces a **series of** **priority tasks**, which must be carried out to ensure an appropriate system for the development of digital skills and competences. *From the point of view of creating institutional preconditions:*

* Synchronising the work of executive government bodies to set up a system for the development of digital skills and competences;
* Supporting civic initiatives to develop digital skills and competences, including through lifelong learning;
* Including Ukraine in European digital skills development initiatives.

*From the point of view of forming a strategic vision, it is necessary to:*

* Create a methodology for measuring the level of digital skills in the country;
* Develop a complex national strategy in the field of digital skills and competences;
* Create a list/standards of digital skills and competences for the target audience of specific branches in Ukraine on the basis of corresponding European frameworks.
1. ***E-governance and e-democracy***

Ukraine has made great strides in the field of e-governance, e-democracy and open data. In December 2018, an Administrative agreement was signed with the EU on cooperation in developing e-governance. In particular, Ukraine gained access to the EU’s ISA² programme, which concerns joint standards for electronic services. A series of civic digital initiatives and coalitions have been formed for these questions, such as the ‘Electronic State’ coalition, the Electronic Democracy Coalition and the Digital Transformation Coalition.

The Digital Transformation Coalition, which brings together representatives of various groups interested in developing the digitalisation of the country (NGOs, business and educational institutions), has set as its priority the creation and development of the appropriate infrastructure to attain and improve digital skills in society to increase the employment rate and the effective use of digital opportunities. To implement this task, the Coalition has set up a working group.

Ukraine should take note of the EU e-governance action plan 2016-2020, which includes:

* Attaining cross-border compatibility and facilitating easy cooperation with citizens.
* Online public services are of key importance in increasing the efficiency and quality of services to citizens and companies.
* One example of increasing efficiency is the ‘just once’ principle - re-using existing information about citizens or companies so as not to have to request it again.
* A reform package for tenders, including a transfer to fully electronic tendering.
* Use of e-documents to reduce the cost and administrative burden on business and individuals.

**Recommendations for the development of the digital economy**

* *Provide for state budget funding for the Convention for the development of the information economy and society in Ukraine 2018-2020 and approve a government decision to launch the Digital Transformation Fund.*
* *Examine methods for supporting initiatives for European integration and the digital market with budgetary funds.*
* *Implement measures for digital transformation at political and strategic level based on targeted state programmes and corresponding measures in branch development strategies, notably in the action plan for implementing the Innovative Development Strategy.*
* *Clearly define coordination and oversight mechanisms for digital transformation measures and projects by various central government bodies, and ensure early notification of important international measures and projects.*
* *Develop a Strategy for the development of the information society of knowledge and the data economy, including a national AI strategy.*
* *Develop a complex national strategy in the field of digital skills and competences with the involvement of civil society experts. The strategy should provide for the development of a methodology for measuring and predicting the level of digital skills and for a framework for digital competences for SMEs and microbusinesses.*
* *Support the creation of cross-border information flow with EU and Eastern Partnership countries, while ensuring the confidentiality, availability, quality and protection of data. In particular, joining the European framework for the free exchange of non-personal data with the EU and the conditions for progressive opening of data in Directive EU 2019/1024. Introduce access to high-value datasets and open up research data obtained with public funds, while taking into account at national level the Commission Recommendation on the access to and storage of scientific information.*
* *Develop legislation to implement the GDPR in Ukraine at the same time as amending legislation in the field of access to public information and the flow of non-personal data.*
* *Develop a national roadmap for the harmonisation of e-health systems among Eastern Partnership countries in accordance with EU legislation in four areas: regional e-health networks; policy and governance; interoperability and standards; electronic services for patients and data protection standards.*
* *Ukraine needs to activate its participation in European research and electronic infrastructure and the relevant ERA groups (ESFRI, WG ERAC OS&I and e-IRG) and ensure support at national level for cutting-edge ICT research and innovation.*
* *The Cabinet of Ministers should take steps to develop national digital infrastructure and access to European digital infrastructure, and in particular approve the Concept for the development of Ukrainian e‑infrastructure by 2022.*
* *Ensure a state regulatory mechanism for the process of harmonisation with the European Cloud Initiative, notably by Ukraine participating in creating the European Open Science Cloud and forming national initiatives.*
* *Joining the Euro HPC Joint Undertaking to ensure the access of Ukrainian scientists and SMEs to supercomputer calculation infrastructure and its use for society and the economy.*
* *Joining the coordinated plan for supporting the development and use of AI in the EU.*
* *Developing a national roadmap to stimulate the development of ICT innovation ecosystems, setting out the roles of all stakeholders in digital transformation. Ensuring support for cutting-edge ICT research and innovation and the use of contemporary digital infrastructure. Creating regional and branch open innovative ecosystems based on ICT solutions and online platforms.*
* *Launching and developing digital ecosystems in various sectors of industry on the basis of open and interoperable digital solutions, developing and using open standards and platforms for new products and services.*
* *Digitalisation of industry, development of industry 4.0: approve the 4.0 strategy and support projects implementing it; production of high-tech products on the basis of the best ICT solutions in cooperation with scientists, creation of DIHs.*
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2. <https://ua.interfax.com.ua/news/economic/622907.html> [↑](#footnote-ref-2)
3. <http://pulse.eu-ua.org/ua/streams/science-technology-and-innovations> [↑](#footnote-ref-3)
4. <https://cid.center/3456787654345-2/> [↑](#footnote-ref-4)
5. <https://ec.europa.eu/commission/priorities/digital-single-market_en> [↑](#footnote-ref-5)
6. <https://europa.eu/rapid/press-release_IP-17-1232_en.htm> [↑](#footnote-ref-6)
7. [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A434%3AFIN](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2018:434:FIN) [↑](#footnote-ref-7)
8. <https://eufordigital.eu/> [↑](#footnote-ref-8)
9. <https://www.civic-synergy.org.ua/wp-content/uploads/2018/04/web_E-commerce__civic_synergy_ua_2018.pdf> [↑](#footnote-ref-9)
10. <https://www.kmu.gov.ua/storage/app/media/ugoda-pro-asociaciyu/17_Annexes.pdf> [↑](#footnote-ref-10)
11. [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L\_.2018.321.01.0036.01.ENG](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.321.01.0036.01.ENG) [↑](#footnote-ref-11)
12. https://www.civic-synergy.org.ua/en/analytics/integration-within-association-dynamics-of-the-eu-ukraine-agreement-implementation/ [↑](#footnote-ref-12)
13. <http://eump.org/round-table-2019-06-07-uk/> [↑](#footnote-ref-13)
14. <http://www.ccu.gov.ua/sites/default/files/docs/5_p_2019.pdf> [↑](#footnote-ref-14)
15. <http://eap-csf.org.ua/klyuchovi-prioriteti-shidnogo-partnerstva-na-2017-2020-rr/> [↑](#footnote-ref-15)
16. <https://eur-lex.europa.eu/eli/dir/2018/1808/oj> [↑](#footnote-ref-16)
17. [COM(2016) 288 final](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0288) [↑](#footnote-ref-17)
18. Regulation (EU) 2018/1807 of the European Parliament and of the Council of 14 November 2018 on a framework for the free flow of non-personal data in the European Union [↑](#footnote-ref-18)
19. COM(2018) 237 [↑](#footnote-ref-19)
20. COM(2018) 795 final [↑](#footnote-ref-20)
21. <https://thedigital.gov.ua/news/zakonoproekt-pro-publichni-elektronni-reiestri-priynyato-v-pershomu-chitanni> [↑](#footnote-ref-21)
22. <https://eur-lex.europa.eu/eli/dir/2019/1024/oj> [↑](#footnote-ref-22)