CROATIA
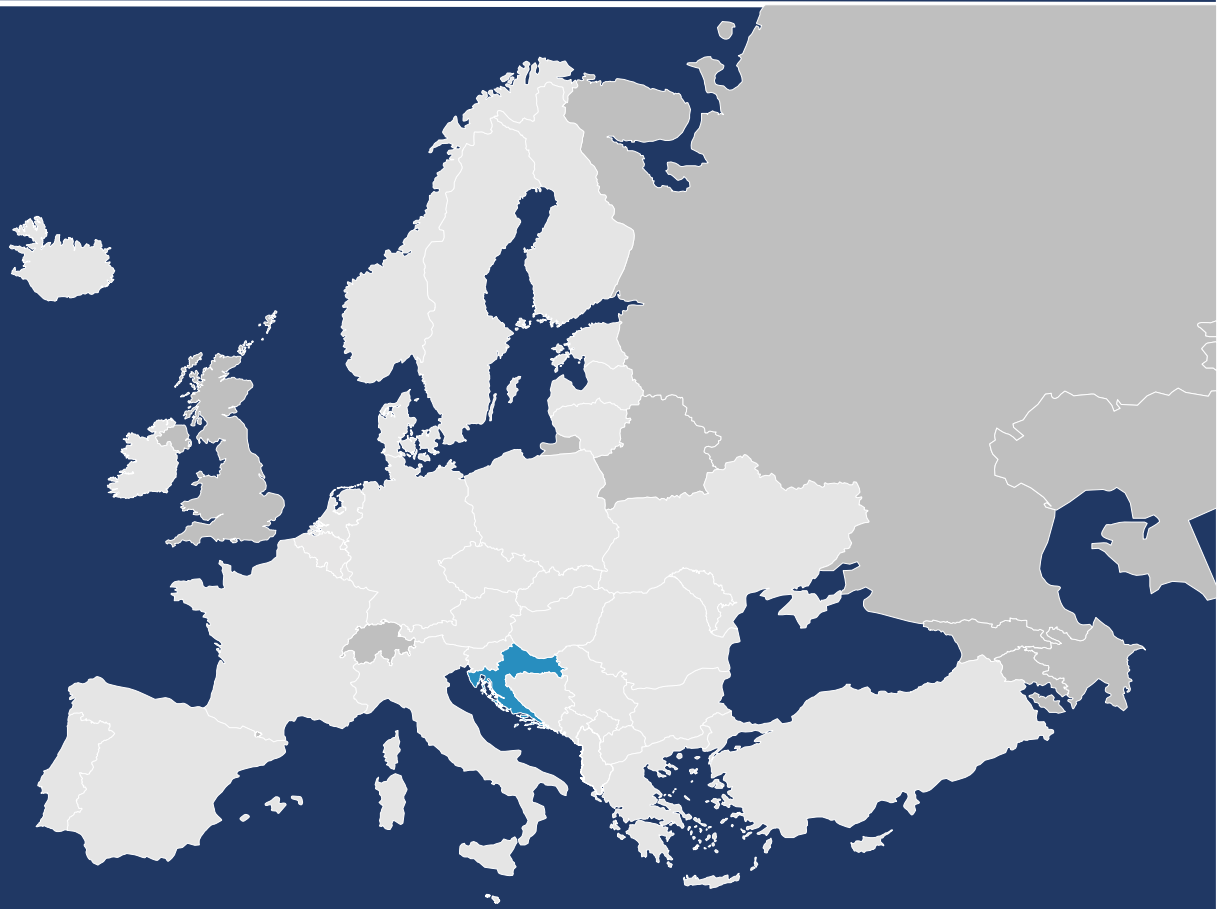
2024 Digital Public Administration Factsheet

Supporting document

Main developments in digital public administrations and interoperability

JULY 2024

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2030 DIGITAL DECADE

The **Digital Decade policy programme 2030** sets out digital ambitions for the next decade in the form of clear, concrete targets. The main goals can be summarised in 4 points:

1) a digitally skilled population and highly skilled digital professionals;
2) secure and sustainable digital infrastructures;
3) digital transformation of businesses;
4) digitalisation of public services.

Skills
20 million employed **ICT specialists**, more graduates + gender balance
80% of adults can **use tech** for everyday tasks

Government
Key Public Services – 100% online
Everyone can **access health records online**
Everyone can use **eID**

Infrastructure
Gigabit connectivity for everyone, **high-speed mobile coverage** (at least 5G) everywhere
EU produces 20% of world's **semiconductors**
10 000 **cloud edge nodes** = fast data access
EU **quantum computing** by 2025

Business
75% of companies using **Cloud, AI or Big Data**
Double the number of **unicorn startups**
90% of **SMEs taking up tech**

The production of the **Digital Public Administration factsheets and their supportive documents** support the objectives and targets of the Digital Decade programme. By referencing national initiatives on the digital transformation of public administrations and public services, as well as interoperability, they complement existing data and indicators included in the Digital Decade reports and related resources. They also highlight and promote key initiatives put in place or planned by EU countries to reach the Digital Decade's targets.

1. 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 divided in three pillars. The EIF Monitoring Mechanism (MM) was built on these pillars to evaluate the level of implementation of the framework within the Member States. Whereas during the previous, the MM relied upon three scoreboards, the 2022 edition includes an additional scoreboard on cross-border interoperability, assessing the level of implementation of 35 Recommendations. The mechanism is based on a set of 91 Key Performance Indicators (KPIs) clustered within the four scoreboards (Principles, Layers, Conceptual model and Cross-border interoperability), outlined below.

Starting from the 2022 edition, an additional scoreboard, Scoreboard 4, focusing on cross-border interoperability, has been incorporated. This scoreboard assesses the adherence to 35 Recommendations outlined in the EIF framework. Specifically, it encompasses Interoperability Principles 2, and 4 through 11 from Scoreboard 1, all recommendations pertaining to Interoperability Layers from Scoreboard 2, as well as Conceptual Model recommendations 36 to 43 and 46 to 47 from Scoreboard 3.

Scoreboard 1 Interoperability Principles	Recommendation(s) n°
Principle 1 - Subsidiarity and Proportionality	1
Principle 2 - Openness	2-4
Principle 3 - Transparency	5
Principle 4 - Reusability	6-7
Principle 5 - Technological neutrality and data portability	8-9
Principle 6 - User-centricity	10-13
Principle 7 - Inclusion and accessibility	14
Principle 8 - Security and privacy	15
Principle 9 - Multilingualism	16
Principle 10 - Administrative simplification	17
Principle 11 - Preservation of information	18
Principle 12 - Assessment of Effectiveness and Efficiency	19

Scoreboard 2 Interoperability Layers	Recommendation(s) n°
Interoperability Governance	20-24
Integrated Public Service Governance	25-26
Legal Interoperability	27
Organisational Interoperability	28-29
Semantic Interoperability	30-32
Technical Interoperability	33

Scoreboard 3 Conceptual Model	Recommendation(s) n°
Conceptual Model	34-35
Internal information sources and services	36
Basic Registries	37-40
Open Data	41-43
Catalogues	44
External information sources and services	45
Security and Privacy	46-47

Scoreboard 4 **Cross-border Interoperability**

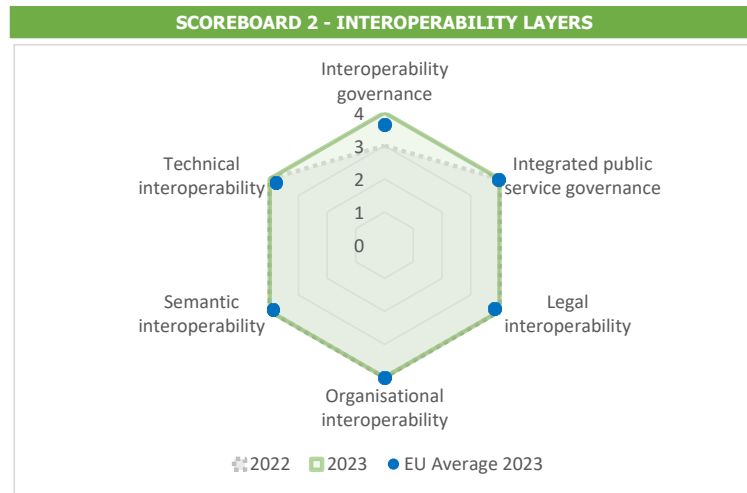Source: European Interoperability Framework Monitoring Mechanism 2023

Each scoreboard breaks down the results into thematic areas (i.e. principles). The thematic areas are evaluated on a scale from one to four, where one means a lower level of implementation and four means a higher level of implementation. The graphs below show the result of the EIF MM data collection exercise for Croatia in 2023, comparing it with the EU average as well as the performance of the country in 2022.
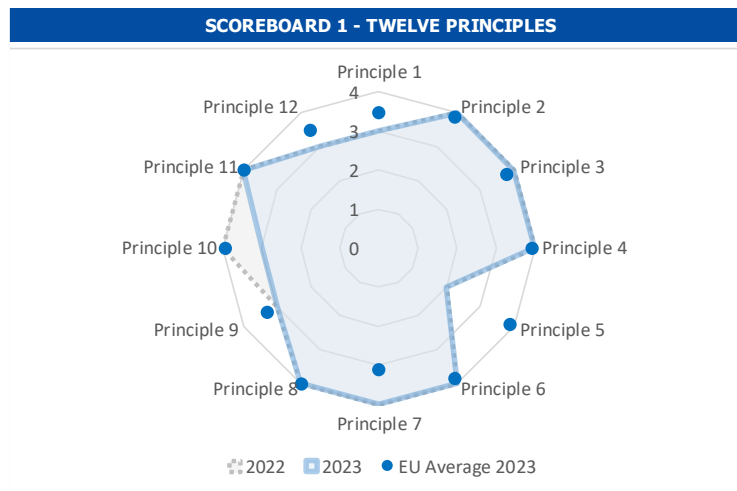
SCOREBOARD 1 - TWELVE PRINCIPLES

2022   2023   EU Average 2023

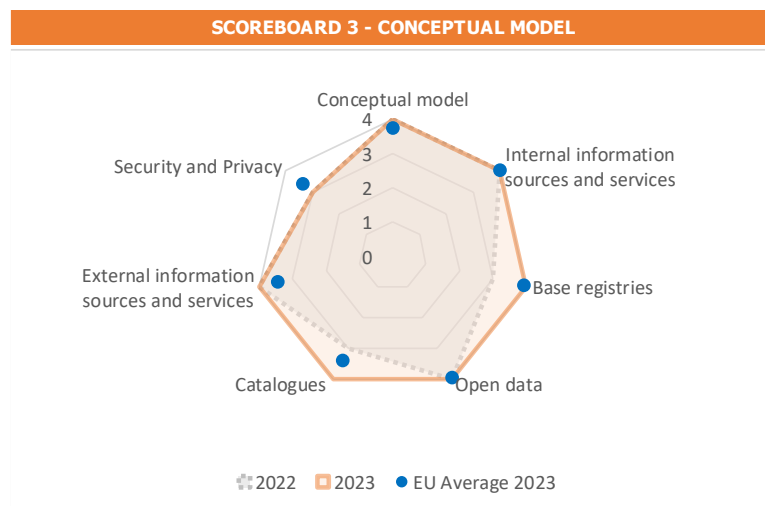Source: European Interoperability Framework Monitoring Mechanism 2023

The Croatian results in Scoreboard 1 stand for an overall good implementation of the EIF Principles, with the country performing above the European average in Principle 3 (Inclusion and Accessibility). In terms of areas for improvement, Croatia should refrain from imposing technological solutions that are technology-specific or disproportionate to the needs of citizens, businesses and other administrations, in order ensure functionality and reduce technological dependencies (Principle 5 – Recommendation 8). Furthermore, the country's score on Principle 10 dropped from 4 in 2022 to 3, given a low performance in KPI 36: Online Availability – Citizen cross-border mobility, and KPI 37: Online Availability: Business cross border mobility. Recommendation 17 on the simplification of processes and use of digital channels whenever appropriate for the delivery of European public services should be considered to bring the score related to Principle 5 back to last year's maximum levels.

SCOREBOARD 2 - INTEROPERABILITY LAYERS

Source: European Interoperability Framework Monitoring Mechanism 2023

Croatia's scores in Scoreboard 2 illustrate an excellent performance of the country in all interoperability layers. The country managed to maintain a score of 4 in the 5 layers for which it obtained these results in 2022, but also achieved to improve its performance in the Interoperability governance layer, bringing its score from 3 to 4. Results related to KPI 92 linked to Semantic interoperability may be further enhanced by perceiving data and information as a public asset that should be appropriately generated, collected, managed, shared, protected and preserved (Recommendation 30).

SCOREBOARD 3 - CONCEPTUAL MODEL

Source: European Interoperability Framework Monitoring Mechanism 2023

The Croatian results in relation to the Conceptual Model in Scoreboard 3 show a very good performance of the country. Croatia has a high performance in Catalogues, performing better than the European average in this area. To reach the maximum score in all areas, especially Security and Privacy, the country should try to use trust services according to the Regulation on

eID and Trust Services as mechanisms that ensure secure and protected data exchange in public services (Recommendation 47).
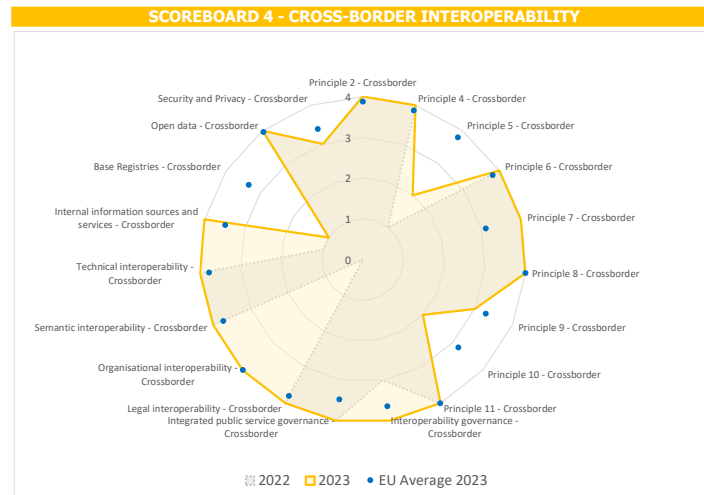
Source: European Interoperability Framework Monitoring Mechanism 2023

The results of Croatia on Cross-Border Interoperability in Scoreboard 4 show an overall good performance of the country. Particularly, Croatia has achieved several scores above the European average, such as in those linked to Principles 6 and 7 as well as Interoperability governance and Integrated public service governance, among others. However, the country still has room for improvement in cross-border interoperability regarding some principles, especially 5 and 10, where the score of 2 was registered. To improve its performance regarding cross-border interoperability of, for example, Base registries, Croatia should focus on creating and following data quality assurance plans for base registries and related master data (Recommendation 40).

Additional information on Croatia's results on the EIF Monitoring Mechanism is available online through interactive dashboards.

Curious about the state-of-play on digital public administrations in this country?

Please find here some relevant indicators and resources on this topic:
- Eurostat Information Society Indicators
- Digital Economy and Society Index (DESI)
- eGovernment Benchmark
- Repository of good practices on the EIF implementation

2. Digital Transformation of Public Administrations

Main Digital Strategies, Action Plans and Legislations

Berlin Declaration on Digital Society and Value-Based Digital Government

In December 2020, the Croatian government signed the Berlin Declaration on Digital Society and Value-Based Digital Government, thus re-affirming its commitment – together with other European Union (EU) Member States – to foster digital transformation in order to allow citizens and businesses to harness the benefits and opportunities offered by modern digital technologies. The Declaration aims to contribute to a value-based digital transformation by addressing and strengthening digital participation and digital inclusion in European societies.

The signatories agreed to work together on the digital transformation of governments, promote fundamental rights and democratic values in the digital sphere, enhance social participation and inclusion, foster digital empowerment and digital literacy, increase trust through security in the digital sphere, strengthen Europe's digital sovereignty and interoperability, create value-based and human-centred artificial intelligence (AI) systems for use in the public sector, and foster resilience and sustainability.

National Development Strategy 2030

The continuation of the digital transformation of the Croatian economy and society in the next ten years is also planned as part of the National Development Strategy 2030 (NDS). Namely, the transition to a sustainable and inclusive economic model based on the wider acceptance and use of digital and clean technologies is defined as a priority of public policies in the NDS. The NDS states that strategic digital capacities need to be strengthened and built by monitoring the development of digital services and digital transformation. Additionally, the further development of the State information infrastructure and the increased availability of interoperable digital public services to citizens and businesses are also seen as important. Finally, the development and construction of broadband infrastructure and electronic communication networks with large capacities enabling gigabit connectivity and capacity building, as well as the development of the digital competencies of employees in public administration and the judiciary are also priorities.

National Recovery and Resilience Plan 2021–2026

In 2021, the government adopted the National Recovery and Resilience Plan 2021–2026 (NRRP), which was then approved by the European Commission. The NRRP defines the following objectives, which are instrumental to implementing the digital transition of the Croatian society and economy:

- Increasing the efficiency and transparency of the work of public sector bodies;
- Establishing management and coordination structures to plan and implement the digital transformation of society and public administration; and
- Ensuring that public administration bodies have access to the tools and technologies needed to develop more economical and high-quality digital services in line with the needs of their users.

These goals are planned to be achieved through the implementation of reforms and related investments. The proposed reforms are based on the three main objectives of the EU's digital future strategy (Shaping Europe's Digital Future), which should ensure that Europe seizes the opportunity and gives its citizens, businesses and governments control over digital transformation: (i) technologies in the interest of citizens; (ii) a fair digital economy that fosters competition; and (iii) an open, democratic and sustainable society.

The Central State Office for the Development of the Digital Society (CSODDS) was responsible for implementing reform C2.3. 'Digital transformation of society and public administration' aimed at solving existing challenges in monitoring and coordinating the digitalisation process. Under this reform, measure C2.3.R4, aiming at strengthening connectivity as a basis for the digital transition and economy, was successfully completed on 30 June 2022.

Implementation Programme of the Central State Office for the Development of the Digital Society for the Period 2021–2024

The Implementation Programme of the CSODDS for the period 2021–2024 details activities aimed at the digitalisation of all parts of society, and promotes a balanced and inclusive development of the digital society for citizens, economic operators and the public administration. In the coming period, the focus will be on activities related to: (i) improving the security and coordination of the digital society; (ii) further developing public eServices; (iii) developing the State information infrastructure; (iv) improving the interoperability of information systems; (v) ensuring unique, permanent availability of public official documents and information of the Republic of Croatia; (vi) monitoring the implementation of the Law on Accessibility of Web Pages and Mobile Software Solutions of Public Sector Bodies; and (vii) promoting and improving the position of women in the information and communication technology (ICT) sector.

Strategy for Digital Croatia 2032

As part of the NRRP's reforms, measure C2.3.R1 'Strategy for Digital Croatia and strengthening of inter-institutional cooperation and coordination for a successful digital transition of society and economy' was adopted in December 2022.

An appropriate foundation, i.e. a comprehensive strategic framework, was needed to create the prerequisites for a coherent and efficient information system, and the provision of high-quality and economical electronic public administration services at the national and European level. The Strategy for Digital Croatia 2032 defines the vision of a country improved by digital transformation and positions Croatia as an economically competitive country on the digital map of Europe. It identifies key challenges, development needs and potentials, and singles out concrete priority areas through four strategic goals: (i) an innovative digital economy; (ii) a digitalised public administration; (iii) available and used large-capacity networks; and (iv) digital competencies for living and working in the digital age. The strategy was defined through a participatory method - a wide range of interested stakeholders, representatives of public authorities, civil sector organisations, representatives of the academic community and economic operators were involved in its development, with a total of 140 participants from more than 40 institutions.

Data collected from the relevant bodies on the implementation of the strategy during 2023 shows that it sets a clear framework for achieving digital transformation in all segments of society, which is then applied through a series of projects for the development of digital public administration aiming at improving capacity and organisation. In particular, the strategy is currently being implemented through several projects under the NRRP 2021–2026 and other funding sources. Considering that the implementation of projects/investments is planned in the next future, many have been prepared almost completely, and are essentially ready for contracting and implementation. These projects also represent a great potential for further reform in digital transformation.

National Public Administration Plan 2022–2027

The government of the Republic of Croatia adopted the National Public Administration Development Plan 2022–2027 in March 2022, together with the action plan for its implementation. The plan will enable the transformation of the Croatian public administration into a modern, highly professional, efficient and transparent public administration, adapted to the needs of society and citizens, introducing quality principles in all public administration bodies. Such public administration will be an integral part of a competitive business environment, a lever for social and economic development, and a stronghold of the democratic process.

To achieve satisfaction of users regarding public administration, encourage competitiveness and sustainable economic growth, and promote the progress of society as a whole, the National Public Administration Plan puts emphasis on the development of human resources in public administration, the improvement of processes in public administration and quality of public services, and the digital transformation of public administration. During the 7-year implementation of the National Public Administration Development Plan, the public administration must take advantage of digital transformation, improve its business processes and public services, reduce administrative burdens for citizens and businesses, and strengthen all public administration bodies and their employees.

Specific objective No. 2 is dedicated to the digital transformation of public administration and consists of the following priorities: (i) modernisation and further development of the State information infrastructure as a basis for safe and financially efficient interaction of public administration bodies; (ii) standardisation and networking, as well as achievement of complete interoperability of public administration, including the linking of core registers, with a greater

degree of inter-institutional cooperation and coordination; (iii) use of comprehensively designed solutions in the field of public eServices and eStandards, in particular those related to the life situations of citizens, and promotion of the involvement of stakeholders (users and service providers) in shaping public eServices; (iv) opening of public administration data for the development of digital services; (v) promotion of the use of public eServices, as well as of safety and trust of users in digital services solutions; and (v) education of officials on the provision of public eServices and users on their use.

National Roadmap for the Digital Decade Policy Programme 2030

The Digital Decade Policy Programme 2030 sets up a monitoring and cooperation mechanism to achieve the common objectives and targets for Europe's digital transformation up to 2030. Under the programme, all Member States were required to propose their national plans/roadmaps defining the contribution of each country to the twelve common digital targets of the programme.

Aligned with digital rights and principles, the Croatian roadmap consists of seven chapters, twelve digital goals and more than 30 measures with the related projects. It also sets out the financial framework to achieve the goals. The Roadmap is based on the valid State strategic documents and is the result of the teamwork of 40 members - Ministries, stakeholders from academic circles, private companies, as well as economy, business and craft associations. The roadmap also provides for multi-country projects (under the European Digital Infrastructure Consortium or EDIC).

The roadmap is designed as a living document to be revised every two years to make the necessary updates with a view to achieving the goals set up to 2030. The latest draft proposal was published on the eConsultation portal in February 2024, and the final version is available in the European Commission's website.

Digitalisation of Internal Processes

Law on the State Information Infrastructure

On 15 July 2014, the Croatian Parliament adopted the Law on the State Information Infrastructure. The act establishes a central government portal system as a single point of contact in the virtual world. It also introduces communication of public sector institutions with citizens via a State-issued mailbox, a national identification and authentication system, a system of basic and public registers, a public register for the coordination of projects established for the State information infrastructure (ProDII) and a metaregister with all information needed for their interconnection, thus creating the preconditions for the 'paperless government' project. The law also defines the body responsible for the development and implementation of ICT in the public sector, and the instruments for coordination.

Decree on Organisational and Technical Standards for Connecting to the State Information Infrastructure

In July 2017, the new Decree on Organisational and Technical Standards for Connecting to the State Information Infrastructure (OJ 60/17) was adopted. The decree lays down organisational and technical standards for connecting to the State Information Infrastructure, as well as the conditions and activities necessary for the launch, implementation, development and supervision of projects related to the State Information Infrastructure, its management, its development and other elements necessary for operating it.

Based on the legislative activity plan for 2023, the CSODDS worked on amendments to the Law on the State Information Infrastructure as well as to the corresponding Decree on Organisational and Technical Standards for Connecting to the State Information Infrastructure. The draft law proposal was published on the eConsultation portal in February 2024 and its adoption is expected during the second quarter of 2024.

Regulation on Office Management

The Regulation on Office Management (OJ 75/21) stipulates that (i) the office operation information system must enable complete office operation in electronic form; (ii) public bodies carry out official correspondence with each other, as well as with citizens and legal persons, primarily electronically; and (iii) all officials of a public legal body must have access to the office operation information system in accordance with the assigned powers based on the decision of

that body. Pursuant to the regulation, all public bodies had to have an office operation information system established in accordance with its provisions by 1 January 2023.

Investment in State Infrastructure Networks

The NRRP project 'Investments in State Information Infrastructure networks' is currently being implemented. To improve the operation of the network used by public bodies in Croatia, a new network architecture will be designed that will meet the needs emerging in the coming period, the existing equipment will be upgraded and the capacities of telecommunication links between network nodes will be increased. Furthermore, all bodies will be provided with broadband access to a high-capacity network (10 Gbps). The goals of this investment are:

- Establishing a secure network infrastructure at existing and new locations where institutions provide services to citizens and/or business entities;
- Ensuring network capacities appropriate to the needs of the modern information society; and
- Increasing the security of the entire State Information Infrastructure.

HITRONet and CARNET

HITRONet was established following the decision of the government of the Republic of Croatia on the establishment and provision of common services of computer and communication network for State administration bodies in 2007. Currently, 509 public bodies are connected through the HITRONet infrastructure and can thereby use 15 different services that the European Commission provides to Member States. The Shared Services Centre (SSC) is also connected to the HITRONet network at a speed of 40 Gbps. The network is regularly maintained and monitored based on its traffic load.

In addition to locations connected via HITRONet, some sites of public bodies are connected to the CARNET network. CARNET is under the responsibility of the Ministry of Science and Education. It is a private network of the Croatian academic and scientific research community, and institutions from the elementary and secondary education system. The CARNET facility owns part of the network infrastructure and mainly leases lines from a range of telecommunications providers. The CARNET network was connected to the internet through the project of the pan-European research network GÉANT (2x 40Gbps). The connection to other internet service providers in Croatia is facilitated through Croatia Internet eXchange (CIX), which operates at a speed of 20 Gbps.

eBulletin Board and Court Networking Project

The eBulletin Board and Court Networking Project was initiated to develop a single intranet and internet network for judicial bodies, which will create the prerequisites for the exchange of documents and information within the judiciary.

The eBulletin Board is a free and public service enabling the overview of electronic bulletin boards of courts and other competent authorities in the Republic of Croatia. The central search engine enables to look for published decisions and other documents of municipal, county, commercial and administrative courts in the Republic of Croatia, as well as the enforcement proceedings of the Financial Agency (FINA) and public notaries. All notifications by the competent authorities are published without delay and automatically removed upon expiry.

Hybrid Workplace Model

The Ministry of Justice and Public Administration is implementing Investment C2.2. R2-I2 'Introduction of a hybrid workplace model - Smartworking' under the NRRP. The investment is worth EUR 9.92 million and is accompanied by reforms aimed at improving the recruitment process in the civil service, and introducing a new pay and work model in civil and public services. Under this NRRP investment, the Ministry of Justice and Public Administration has already secured computer equipment worth over EUR 6.6 million.

The hybrid workplace model has a number of positive impacts, e.g. accelerating digitalisation as well as reducing traffic congestion, business and housing costs, and critical infrastructure load (kindergartens, schools, public transport, etc.). Therefore, it directly contributes to the EU policies for the green and digital transitions, and climate neutrality by 2050. Employees themselves also benefit from several advantages, such as increased flexibility and autonomy, better work-life balance and cutting back on commuting time.

Training on the hybrid workplace in government bodies is offered through four modules: (i) Module A - Introduction to hybrid work; (ii) Module B - Hybrid work for managers; (iii) Module C

– Hybrid work for human resources management units; and (iv) Module D - Strengthening digital literacy and information security in the hybrid work model.
A new Law on Civil Servants and a new Regulation on the Hybrid Workplace Model were also adopted to regulate the hybrid work model in the State administration.

Digitalisation Supporting the EU Green Deal

Digital, Innovation and Green Technology Project

In June 2023, the World Bank Board approved Croatia's Digital, Innovation and Green Technology (DIGIT) Project. Worth USD 116.4 million, the project aims to facilitate Croatia's digital transformation and the green transition of the economy, increase resources for applied research and experimental development, and support the efforts of the Croatian government to strengthen its institutional capacity to deliver research and innovation policies. The project has two components:

- Enabling institutional conditions for digital and green research and innovation, aiming to (i) provide technical assistance and financing to strengthen institutional capacities for research, development and innovation (RDI) support; (ii) address gaps in green and digital technology adoption and industry-free science collaboration; (iii) support the professionalisation of research centres; and (iv) improve the research and technology infrastructure; and
- Programmes for digital and green research and innovation, aiming to ensure sub-financing to cover the gaps in the programme mix, and to improve the targeting of research and innovation to support digital and green technology.

3. Interoperability and Data

Interoperability Framework

Development of a National Interoperability Framework

The Strategy for Digital Croatia 2032 envisages the further development of a national interoperability framework, including a complete connection of the basic registers of all departments with a greater degree of inter-institutional cooperation and coordination. It is mentioned that one of the key development prerequisites for further accelerated digitalisation of public administration is precisely the upgrade and connection of basic registers within the interoperability framework of the central system, as well as the implementation of a central data warehouse through a greater degree of inter-institutional cooperation and coordination.

National Recovery and Resilience Plan

The proposed reform aimed at improving the interoperability of information systems will focus on the further development of public services and the national information infrastructure, as well as on the establishment of a central interoperability system. This initiative will also contribute to the goal of the European Data Strategy of creating a single data market and to the smooth flow of data across various sectors at the EU level, but also at the Croatian, to the benefit of companies, researchers and public administration.

The goal is to establish the interoperability of public registers and information systems, and implement a central data warehouse and a platform for the exchange of Internet of Things (IoT) data. The introduction of a centralised IoT integration platform would enable the central collection and sharing of large amounts of data from various sensors, and make all necessary tools available to the public and private sectors. The platform would be able to host applications whose function is to process and share available data in real time.

Government Service Bus

The development of the Central Interoperability System is part of the establishment of the SSC. The Government Service Bus (GSB), as a main component of the Central Interoperability System, enables safe and secure data exchange among services and registers. SSC service users are able to announce the GSB interface in two ways: (i) putting an interface directly into the GSB network and announce the application programming interface (API) in the GSB API catalogue to enable that interface to be reused by other SSC platforms; and (ii) developing an interface on the GSB platform to enable further orchestration and data manipulation.

The process of integrating public registers in the GSB started with the development of a complex electronic registration and enrolment eService in educational institutions. This project envisages the integration of eight registers (veterans, birth, residence, etc.) through the GSB. The process includes the publication of the application service (API) on the GSB and the use of this application service in order to retrieve data from public registers.

The second eService that is important in this context is eRenovation, i.e. a digital system that enables the submission of requests for renovation attaching all necessary documentation, monitors the implementation of the renovation procedure, displays renewal data on the Geoportal and provides reports according to various criteria.

By the end of 2023, 17 institutions in total were integrated into the GSB presenting (exposing) 36 registers and records to the GSB to ensure secure data exchange between State bodies and institutions. In total, 180 bodies now obtain data through the GSB, almost double than in 2022. Also, a total of 80 webservices/APIs were integrated for data download in the same year. Finally, by the end of 2023, over 178 million inquiry messages and responses were sent through the GSB and delivered to institutions for the completion of business processes (production environment).

Data Access, Management and Reuse

Shared Services Center

According to the applicable decree, the SSC is an organisational business model for providing shared services to public sector bodies and other users, consisting of a normative

framework and a governance structure in accordance with the regulation and the acts adopted pursuant to the decree. The SSC provides common business solutions and common ICT services, and its establishment, extension, maintenance and management is within the competence of the central State administration body responsible for eCroatia affairs. It was launched on 25 November 2019.

The SSC aims to increase the use of ICT in communication between citizens and public administration through the establishment of an ICT coordination and software solution. The expected outcome is to increase the use of eGovernment services by citizens, which is assessed in terms of the frequency of use of eGovernment services by individuals, and to increase the number of residents communicating with public institutions. Specific results to be achieved include the functioning of the State cloud and the strengthening of the use of eServices in specific sectors defined in the Digital Croatia, i.e. the increase in the percentage of public institutions integrated in the cloud and the number of complex eServices provided to users.

In the NRRP, new functionalities of the SSC are planned to be further developed trough the project 'Further development of the Shared Services Centre'. A goal was set to expand the cloud with 450 new users (institutions) by 2026. In July 2023, five new functionalities/services envisaged in the project were established: (i) Platform as a Service (PaaS), for establishing the development/implementation environment; (ii) the Central Information Security Monitoring System (SIEM); (iii) a platform for the Contact Centre for the reporting of ICT tickets; (iv) a platform for biometric authentication; and (v) a platform for blockchain.

Data Lake

The NRRP project 'Establishment of a central data lake repository and business analytics system' is underway. The goal of establishing a central data lake repository is to introduce different data warehouses building an ecosystem that will enable extraction, filling, transformation, storage, analysis, visualisation and analytics, as well as to introduce an analytical organisational culture as a source of the reliable summary data necessary for the decision-making process.

As part of the investment, data facilities and data warehouses were established which, based on their openness and integrity, enable the collection of data in standardised formats (structured and unstructured data), easy access to data sources, advanced analytics and visualisation of collected data. The central data warehouse is planned to be connected to different systems and projects. For example, the health systems, various registers, and the financial and tax systems are the source of data that will be used to fill the data warehouse, and on which various analyses will be performed and different data warehouses will be created.

During 2023, all server and network equipment was installed, and the platform was put into production.

Open Data

Open Data Policy

On 19 July 2018, the government of the Republic of Croatia adopted the Open Data Policy. A new Open Data Policy and the related Action Plan 2024–2025 for its implementation are currently being drafted. They will define objectives, principles and measures for encouraging the opening and reuse of data of public authorities in the Republic of Croatia. Through the policy and the action plan, efforts will be made to increase the quantity and quality of open data, promote awareness of the potential of open data and the demand for open data, boost cooperation and partnership in the field of open data, and open high-value datasets.

The Policy Working Group is composed of representatives of 14 public authorities and is coordinated by the CSODDS. The adoption of the policy is expected in the second quarter of 2024.

Open Data Portal

In March 2015, the Open Data Portal was established. It provides access to data published by public authorities for reuse for commercial and non-commercial purposes. It was developed by the Ministry of Public Administration and since 2017 the CSODDS has been in charge of maintaining it. The Open Data Portal is linked to the eCitizen system and the national identification and authentication system (NIAS) is used to access the portal. In cooperation with the Information Commissioner, public authorities are being educated on the publication of open data. At the end of 2023, 2 625 datasets from 43 publishers were published on the portal, so that they are now completely free to use.

The EU project that upgraded the Open Data Portal was successfully completed at the end of 2023. The project enables the publication of datasets in machine-readable format, in addition to manual publication through APIs and the established centralised transformation service for the publication of open data. Also, an open data model was implemented for eight selected public institutions and 450 State, public and local servants were trained to publish open data on the portal.

The Open Data Policy of 2018 represents the strategic direction for further development of the public administration openness and transparency policy, whose implementation aims to create and foster a stimulating environment for opening up data held by public authorities, and reusing them to generate new social and economic value. A new Open Data Policy and the related Action Plan 2024–2025 for its implementation are currently being drafted (see above).

Base registries

Resolution on Determining Base Registers

On 22 February 2024, the Croatian government voted and decided on implementing the Resolution on Determining Base Registers. The Resolution is made of data and inputs gathered from the owners of the registers during 2023. The list contains 129 registers. Some of these registers are connected over the GSB, which enables data to travel from one body or institution to another via APIs. The other registers will be connected when possible, depending on the circumstances. The registers' data format varies from register to register. Regarding the master data management approach, the policy is not to duplicate original (authentic) data unnecessarily, which means that authentic data is usually found only within its original register. The GSB uses data only from these authentic sources, which are also catalogued on the Metaregister.

The following table lists some of the Croatian base registers:

National	
Business and Tax	▪ Court Register - Ministry of Justice and Public Administration: the basic records of all economic operators in the Republic of Croatia are kept by the Ministry of Justice and Public Administration in the form of the Court Register. ▪ Tax Register – Ministry of Finance: the Tax Register is kept by the Tax Administration and includes all taxable persons. ▪ Unique Register of Receipts – FINA: the Unique Register of Receipts contains transaction receipts for all business subjects, financial institutions, legal persons and citizens. ▪ Trade Register for Crafts – Ministry of Economy and Sustainable Development: the Trade Register includes registered and unregistered crafts recorded in the country. ▪ Register of Budgetary and Extra Budgetary Users – Ministry of Finance: the Register of Budgetary and Extra Budgetary Users holds records of all users of State, regional and local budgets. ▪ Business Register – Ministry of Economy and Sustainable Development: it serves as the official repository for information related to all business entities operating within the Republic of Croatia.
Transportation / vehicles	▪ Register of Vehicles – Ministry of Internal Affairs: the Register of Vehicles contains records of all registered vehicles. ▪ Register of Civilian Aircraft – Croatian Civil Aviation Agency: the Register of Civilian Aircraft allows to register a civilian airplane, edit data about already registered airplanes and delete it.
Land	▪ Cadastral Register – State Geodetic Administration, regional cadastral offices and the Zagreb City Office for Cadastre and Geodetic Works, together with the Ministry of Justice and Public Administration: the Cadastral Register includes records containing data on land parcels and buildings permanently present on the land or beneath its surface, as well as the special legal status on the land surface.

	▪ Register of Spatial Units – State Geodetic Administration: the official basic use of the Register of Spatial Units is collecting, recording, displaying, exchanging and connecting different types of spatial data.
Population	▪ Central Database Register on Personal Data - Ministry of Justice and Public Administration: the Register Offices in the country keep national records in the Register of Births, Marriages and Deaths. Data on the citizens' personal status is entered into local databases and replicated into the Central Database Register on Personal Data at the Ministry of Justice and Administration. ▪ Personal Identification Number (OIB/PIN) Register – Ministry of Finances: personal identification numbers are given to natural and legal persons. The Personal Identification Number (OIB/PIN) Register receives updates on natural persons from the Register of Births, Marriages and Deaths, and about legal persons from the (eight) registers of non-profit institutions as well as from the Court Register. The data exchanged gives a clear indication of changes in the life events and status of Croatia's citizens. This information is then shared (upon request or by submitting a notification) with other relevant registers, such as the Pension Register or the Tax Administration Register. All relevant government bodies involved in the implementation of the OIB/PIN project update their information systems whenever necessary to include processes related to the OIB/PIN. ▪ Record of the Unemployed and Other Job Seekers – Croatian Employment Service: the Record of the Unemployed and Other Job Seekers holds records of unemployed people by the following categories: age, sex, level of education, work experience and others. Through this register the unemployed can receive financial compensation. ▪ Register of Croatian Veterans – Ministry of Veterans: the Register of Croatian Veterans contains basic data regarding war veterans.
Other	▪ Central Register of State Property – CSODDS: the Central Register of State Property is a comprehensive and complete, methodologically standardised and updated record of State property. Its goal is to develop a system that will ensure quality record-keeping of State property, based on prescribed regulations and key documents of the Republic of Croatia. It will enable the establishment of complete and systematised records of all forms of property owned by the Republic of Croatia. ▪ eCrew Register – Ministry of Maritime Affairs, Transport and Infrastructure: the eCrew system enables all legal and natural entities who rent yachts and boats to register their crew and passengers via the internet, prior to putting out to sea, using smart cards with a digital certificate based on acquired user rights. The aim is to expedite business processes at the Ministry of Maritime Affairs, Transport and Infrastructure with business subjects (charter companies) relating to charter vessels, to secure a complete monitoring over the procedure of renting vessels by all authorised bodies of the State administration and, in that way, to prevent illegal chartering. ▪ Register of Cultural Goods – Ministry of Culture and Media: the Register of Cultural Goods contains data for movable, immovable and immaterial cultural goods. ▪ OPG Register – Paying Agency for Agriculture, Fisheries and Rural Development: the OPG Register is an official record holding information about the natural persons connected to agricultural holdings.
Sub-national	
Base Registries	

Metaregister

The Metaregister is a public register which is part of the Central Interoperability System and serves to provide the information needed to connect and manage public registers. It was established in March 2015 and is published on the website of the CSODDS. It contains detailed

information on public registers and the data they hold, and communicates this to users through a single point. In this way, it provides an overview of the structured public registers, the type of data that is collected and hosted, as well as how to connect with other systems.

At the beginning of 2021, the development of the technical specification for the new Metaregister platform began. The basic functionalities were taken from the existing versions of the Metaregister, and new functionalities were released to the test environment in April 2021. The new Metaregister platform aims to become a key component of the future Central Interoperability Portal.

Cadastral and Land Register Data Browser

Through the Ministry of Justice and the State Geodetic Administration, the Croatian government initiated in 2003 the Real Property Registration and Cadastre National Programme, abbreviated as 'Organized Land', under which the JIS OSS was developed. The establishment of the system has led to the creation of a unified register for the cadastral and land registers in which the systems are interlinked and exchange real property data. In simplified terms, a unified database and application bringing numerous benefits to the users have been established to keep and maintain the cadastral and land register data. Apart from the time needed to access the data and make a registration being significantly reduced, citizens are today able to see at one place the ownership structure of a real property and its location in space, as well as to use numerous other functionalities. The Cadastral and Land Register Data Browser provides insight into the central cadastral and land register database of Croatia, which incorporates all Cadastral and Land Register Offices.

The Croatian system of registering real properties and associated titles has several objectives. The most important include the introduction of security in real property legal transactions and the protection of titles registered in the registers. The system is based on the Cadastral Register.

Data Platforms and Portals

The following table lists the Croatian data platforms and portals:

Digital Chamber	The Digital Chamber, a communication platform for businesses, public administration and citizens, is the output of a project of the Croatian Chamber of Economy (CCE). It represents a unique eServices communication platform that is accessible to CCE members, the business community, public administration and citizens.
eCitizen Portal	The eCitizen system, launched in 2014, is a project of the Croatian government aimed to simplify and advance citizens' communication with the public administration, and to increase the transparency of the public sector. By using the system, citizens can request electronic copies of birth, marriage or life partnership certificates, and ask for electronic records of residence or owned vehicles and many other documents.
Information Catalogue	The Information Catalogue (eInformation) has been part of the eCitizen system since April 2021. It includes various information that State administration bodies provide to citizens, distributed through twelve topics, i.e. life situations that are further branched into a number of sub-topics.
eConsultation	The eConsultation Portal is the central State portal for public consultation, offering citizens an opportunity to directly comment on strategic documents, law proposals, regulations, etc., with the comments being directly visible to the public.
Patient Portal	The Patient Portal (or Health Portal) provides Croatian citizens access to part of their own healthcare information from the Central Health Information System of the Republic of Croatia (CEZIH). It is also an eService that can be used by parents on behalf of their minor children.
Central Catalogue of Official Documents of the Republic of Croatia	The CSODDS is responsible for managing the Central Catalogue of Official Documents of the Republic of Croatia, a tool available to the public providing permanent access to the documents published by the national administration. Such catalogue enables citizens to exercise their right of access to digital information.

Open City Platform	A number of cities (Dubrovnik, Bjelovar, Dugo Selo, Osijek, Zlatar, Pazin, Trogir, Vrgorac, Novalja and Crikvenica, among others) are using an Open City Platform, i.e. a web platform that provides citizens with a number of eServices related to information on or communication with city services, as well as insight into the functioning of the city. The platform is integrated into NIAS and, as a result, citizens can access it via the 27 credentials available on the NIAS.
Open Data Portal	The Open Data Portal of the Republic of Croatia serves for the collection, categorisation and distribution of open data of the public sector.

Cross-border Infrastructures

The following table lists the European cross-border infrastructures of which Croatia is part of:

EUCARIS	Croatia is a member of the European Car and Driving Licence Information System (EUCARIS), using it to provide vehicular information. The responsible Croatian authority is the Ministry of the Interior.
TESTA	The Trans European Services for Telematics between Administrations (TESTA) network is used for a number of cross-border use cases. Croatia is connected to the TESTA network via HITRONet.
EU Digital Wallet	Croatia is part of the EUDI Wallet Consortium.
European Blockchain Services Infrastructure (EBSI)	The European Blockchain Services Infrastructure (EBSI) aims to leverage the power of blockchain for the public good. EBSI is an initiative of the European Commission and the European Blockchain Partnership (EBP), of which Croatia is a member. Membership of the EBP is supervised by the Agency for Science and Higher Education.

Cooperation Network

The Republic of Croatia is one of the 15 Member States of the EU that have registered an electronic identity card (eOI) and a NIAS. The latter enables cross-border electronic identification (eID) when using public services in the EU and, as such, provides a tool for the recognition of electronic identities of Croatian citizens to access online cross-border public services in the EU. In this way, all the prerequisites for Croatian citizens to log in to public eServices in other Member States using the eOI are fulfilled. At the same time, some EU citizens (from countries which have completed the notification process) can access the eServices of the Croatian administration.

By 31 December 2023, the Republic of Croatia was fully connected with 24 Member States and had test-connected with three additional Member States. Depending on the status of the notifications of the above-mentioned countries, the mutual use of eServices by their and Croatian citizens will be initiated. Of course, it is up to each Member State to prepare its eServices for cross-border use.

EUROVOC Thesaurus

EuroVoc is a multilingual, multidisciplinary thesaurus covering the activities of the EU in general, and the European Parliament in particular. It contains over 6 600 structurally organised and controlled terms (descriptors) in 22 EU languages, including Croatian.

The Croatian equivalent (*CROVOC*) has been translated by the Digital Information Documentation Office for subject indexing of official documentation in the Republic of Croatia. The Digital Information Documentation Office and the Library of the Croatian Parliament have also developed a Croatian Addendum, which includes:
- A glossary of the names of Croatian government bodies, political parties and geographic terms, accompanied by the special designation *CROVOC* added at the end of the hierarchical structure of the thesaurus as a separate field; and
- Descriptors incorporated into the structure of the original, accompanied by the special designation *CROVOC*.

HRVOJKA

Hrvojka is a language platform that has been developed within the multi-country project 'National Languages Technology Platform – NLTP'. HRVOJKA, the Croatian NLTP, is primarily intended for public administration, and small and medium-sized enterprises (SMEs) with the aim of facilitating the translation of documents and official websites, but the platform is also available for public use.

HRVOJKA is of great importance in the context of the introduction of language technologies in public administration. A survey conducted in more than 250 public authorities has confirmed the interest in and need for language technologies in the day-to-day work of the public administration, enabling better accessibility of public services and content to the public, including people with disabilities and foreigners. In addition, HROVOJKA supports languages with fewer speakers by collecting language resources and contributes to the development of AI-based tools and services. It is also a step in the direction of standardising the language of public administration and centralising translation for public services that still depend on external suppliers. The platform is also a foundation that raised the importance of language technologies, as well as its further development and the collection and sharing of language resources.

The NLTP is installed on the State information infrastructure and currently offers a publicly available machine translation (MT) tool, a computer-assisted translation (CAT) tool and a website translation widget enabling instant translation of web pages at the user's request into all official languages of the EU. Currently, approximately 200 users are registered, with a weekly inflow of 1-3 new users (mainly for the use of the CAT tool but also for the installation of the website translator widget), who are also provided with user support if necessary. So far, the widget has been implemented on two public authorities' websites and institutions are interested in its further implementation.

The implementation of NIAS for the registration of users, enabling easier monitoring of users and their needs as well as of the quality and quantity of texts processed by Hrvojka, is expected in 2024. The upgrade of the platform with speech synthesis tools is also planned for the same year.

4. Digital Transformation of Public Services

Digital Public Services for Citizens

Regulation on Electronic Communications

In January 2020, the Regulation on Electronic Communications (OJ 05/20) was adopted, introducing eCommunication as an instrument for participants in court proceedings to present their submissions electronically, receive court documents in a safe electronic mailbox and have remote access to court cases.

eCitizen Portal

By setting up the eCitizen system, a major step was taken to modernise public services and bring public administration closer to citizens.

An integral component of the eCitizen Portal is NIAS, that serves as a secure and reliable identification and authentication mechanism for citizens who access public eServices through the appropriate credentials. Another integral part is the User Mailbox, where public institutions can send 125 kinds of personalised messages with various information and notifications, such as information about the expiration of personal documents, individual documents and the status of individual proceedings.

On 3 May 2021, the redesigned eCitizen Portal was released to the public. The redesign process was guided by an agile project management methodology, and the redesign itself was aimed at improving the portal user experience, as well as improving the interface clarity, simplicity and usability. All pages are equally usable regardless of the device through which the citizen accesses them (computer, laptop, tablet, smartphone, etc.). The redesign also introduced a new central component, the Navigation Bar, as part of a single user interface in all public eServices, whether for individuals or business users. The Navigation Bar allows users to easily and quickly select the entity on whose behalf they want to act and use the selected eService (business users for their businesses and parents for their children). The selection of the entity on whose behalf the user wants to act is retrieved automatically from public registers.

During 2023, the CSODDS continued to perform tasks related to the creation, management and maintenance of eServices in the eCitizen system and to support the work of the agile team which worked on its redesign and further improvement. The new eServices implemented in the eCitizen system during 2023 were:

- **eAdministrative procedure**, providing information about changes in administrative cases to parties and persons authorised to represent them in an administrative procedure;
- **eFees,** ensuring electronic secure payment of fees for citizen's actions in public law institutions. Several means of payment are available, including credit cards, payment slips, e/mBanking, and scan and pay;
- Procedure for the Recognition of Foreign Professional Qualifications in Sport**,** enabling the submission of requests for the recognition of foreign professional qualifications in the field of sports with the purpose of establishing a business and providing services of regulated professions in the field of sports on a temporary and occasional basis;
- **Foreign Diploma Recognition Croatia,** enabling to submit applications and find solutions for the recognition of foreign professional qualifications in the healthcare and education sectors;
- **Trademark and Industrial Design Registration,** enabling users to submit applications for the protection of trademarks and industrial designs as intellectual property, as well as other applications and documents in the procedures for the registration and maintenance of registered rights;
- **Patent and Utility Model Registration,** enabling the submission of applications for the protection of inventions by patent or utility model, as well as applications for the issuance of a certificate of additional protection for medicaments and plant protection products;
- **START Plus,** enabling the submission of requests for the issuance and acquisition of the permits necessary for the performance of activities in the field of climate change and protection of the ozone layer;

- **Regulated Professions under the Jurisdiction of the Directorate of Civil Protection,** enabling the submission of applications for regulated professions under the jurisdiction of the Directorate of Civil Protection, i.e. for the issuance of approvals / authorisations / permissions for detectives, guards and other activities; and
- **eTourism,** enabling users to submit a request for the registration of activities and the set-up of a business, as well as to apply for grants in the field of tourism and catering.

From the beginning of its operation to the end of December 2023, unique users of the eCitizen system amounted to 1.86 million and logins to the available eServices totalled as many as 167 147 977. By the end of 2023, 104 eServices were available to citizens on the eCitizen Portal. Importantly, the total number of eServices available on the eCitizen Portal in 2023 nominally decreased because of optimisation and consolidation of existing eServices into new portal eServices. In 2023, the implementation of the relevant investment under the NRRP continued according to project plans.

eStandards

The eStandards for the development of public eServices in the Republic of Croatia consist of a set of guidelines defining applicable policies for the development and management of eServices. Public sector bodies are obliged to ensure the use of these standards when developing new and upgrading existing eServices. The implementation of eStandards promotes a secure cloud infrastructure, interoperability, and the use of building blocks and a modular architecture, while respecting common principles.

The digitisation of eStandards ensures the conditions for the uniform and systematic development of eServices. In 2023, the information system supporting all processes defined within eStandards was developed, enabling all stakeholders to monitor the development status of individual eServices. During the digitisation of eStandards, for the purpose of testing the functionality with partners in this activity, three eServices, each important in its own segment, were developed and successfully implemented through the eStandards information system. Furthermore, the development of graphic guidelines as part of the digitisation project of eStandards offers clear instructions to government bodies on how to uniformly develop graphic interfaces and make the eService acceptable to the modern citizen, who is increasingly using smart devices. With regard to the latter, the focus has also been expanded to the mobile world as a prerequisite for future projects on the development of mobile applications.

eConsultation

The eConsultation Portal is the central State portal for public consultation enabling participation in open public consultations in the process of passing laws, as well as other regulations and acts. It was established in accordance with Article 11 of the Act on the Right to Access to Information. The act stipulates that State administration bodies responsible for drafting laws are obliged to publish draft regulations, general acts or other documents for public consultation on the central State internet portal for public consultation, i.e. eConsultation.

In 2021 a new project called 'eConsultations - Upgrading and improving the legislative process of public consultation' was started. It aimed at technological, process and functional improvement of the existing system, as well as capacity building and improvement of the work of the competent bodies of the eConsultation system. Long-term practice in using the existing system had pointed to the need for technical and functional improvement of the portal, including the expansion of the system to local and regional government bodies. The grant agreement from the European Social Fund for the project was signed in August 2021, for a project duration of 24 months. The total value of this project was HRK 3 749 983 (EUR 497 708.28), of which up to 85% was co-financed through the European Social Fund. The project partner in the implementation of this project was the Office for Legislation of the Government of the Republic of Croatia (UZZ).

By the end of 2023, the system had been improved and upgraded, and the project had been completed. All indicators were implemented through the project and eight workshops were held with 400 participants.

Law on Electronic Communication

In July 2022, the Law on Electronic Communications (OJ 76/22) entered into force, transposing Directive (EU) 2018/1972 of the European Parliament and the Council of 11 December 2018 on the European Electronic Communications Code (EECC). The EECC is significant because it marks an important step towards the consolidation of the legal framework of electronic communications, which is crucial in meeting the EU goal of establishing gigabit connectivity throughout the EU and 5G coverage in all populated areas by 2030.

eInvoicing

Law on Electronic Invoicing in Public Procurement

An eInvoice is an invoice issued, transmitted and received in a structured electronic format enabling to process it automatically. For eInvoices to be exchanged automatically, an appropriate system or application support for eInvoice exchange is required, which must be in accordance with the applicable standards and the law. FINA is defined by the Law on Electronic Invoicing in Public Procurement as a central information intermediary that receives and sends eInvoices and supporting documents following the European standard. According to these provisions, the other information intermediaries are obliged to connect to its central platform for exchanging eInvoices (see below). Based on a Public Key Infrastructure (PKI), the eInvoice uses digital certificates, and ensures that each user has a registered identity and that sensitive information is encrypted.

In the eInvoicing area, Croatia surpassed the EU average by 10.8 percentage points in 2021. This result is largely due to two developments. The first is the contactless way of doing business during the COVID-19 pandemic. The second is the application of the Law on Electronic Invoicing in Public Procurement (OJ 94/18), introducing the obligation to receive eInvoices in public procurement procedures from 1 December 2018 and to issue eInvoices in public procurement procedures from 1 July 2019. Although the law only introduces an explicit obligation towards public contracting authorities, it has also undoubtedly encouraged business entities to exchange eInvoices with each other. In addition, Decision No. 124/2015 mandates the reception and processing of eInvoices for all central contracting authorities and entities.

eInvoicing Platform and Management Solutions

The Central Platform for the Exchange of eInvoices is a national platform for eInvoice exchange to which all intermediaries are obliged to connect (modified three-corner model of eInvoices exchange). The central platform, called *Servis eRačun za državu*, is the access point that connects public contractors (directly), sectoral contractors (directly) and information intermediaries with their clients/users. This model allows:

- The connection of all participants using only one connection point (connection with the access point), which saves the significant resources needed for integrations;
- The standardisation of the exchange protocol because all participants make a single connection to the access point;
- A unique record of all participants (register) with easy switch of sectoral contractors from one information intermediary to another; and
- A record and a single statistical analysis of all received messages/invoices, regardless of which information intermediary a sectoral contractor has chosen, which is a powerful tool for overseeing irregularities.

No bilateral contractual relations or agreements need to be established between all parties in the system; a simple registration to *Servis eRačun za državu* is sufficient to exchange eInvoices with other registered users. The platform is operated by FINA, a State-owned service provider under the supervision of the Ministry of Economy, Entrepreneurship and Crafts.

Activities are currently ongoing under the NRRP project 'Implementation of a cashless payment system through eInvoice with integrated eArchive and active tax accounting' (C2.3. R3-I14). The main goal of the project is to implement a system for cashless payment via eInvoice with integrated eArchive and advanced online bookkeeping in the VAT system. Within the scope of the project, the following is planned: (i) establishment of a system for reporting non-cash accounts issued in the B2G segment to the Tax Administration; (ii) implementation of a cashless payment system via an electronic account (eAccount) in the B2B segment with an integrated eArchive, and active, unique and advanced online bookkeeping in the VAT system; and (iii) establishment of a free application for issuing eInvoices that will be made available to small taxpayers (for whom the costs of introduction would be disproportionate to its benefits). During 2023, all project activities were carried out according to plan, namely business analysis, preparation of a technical project plan and technical supervision of deliveries, and development and implementation of a system for cashless payment via eInvoice with an integrated eArchive and advanced online bookkeeping in the VAT system. The achievement of all milestones is expected according to the initial project plan, i.e. in the fourth quarter of 2024.

eHealth and Social Security

Law on Health and Data Information

The Law on Health Data and Information (OJ 14/19) provides the basis for a harmonised legal framework for the management of health data and information as well as for comprehensive and efficient use of IT within the framework of eHealth.

Patient Portal

The Ministry of Health put in place a Patient Portal (CEZIH), i.e. an electronic health record available to patients for managing and keeping track of their personal medical and health-related data. The CEZIH health information infrastructure system is intended for all stakeholders of the health system: hospitals, general practitioners, paediatricians, gynaecologists, dentists, school doctors, public health institutions, the Ministry of Health, the Croatian Institute for Health Insurance, pharmacies and laboratories. The system should be available 24 hours a day, 7 days a week. Since 2021/2022, access has been provided also through the Patient Portal mobile app, which is available for both Android and iOS platforms.

The Portal offers Croatian citizens access to the central eHealth records data and is among the top seven eCitizen services. It is accessible via authorised access using NIAS. The patients are able to see all prescribed and dispensed medications from primary care, laboratory results from biochemistry labs within the public primary care network, medical reports from visits to general practitioner (GP) practices, consultation notes and referrals from hospitals and outpatient facilities (noteworthy, however, the latter is not a fully comprehensive documentation set, nor does it include historical records prior to the system going live), and bookings done with specialised services in hospital care. The system is almost fully read-only, with interactive functions like messaging between patients and their GPs and selected dentists and gynaecologists, as well as requesting ePrescriptions for chronical conditions.

Importantly, the system allows for each individual to manage the access rights to their clinical data for other authorised users within primary care, using the Opt-In method. Through the settings dashboard, patients can grant access to their selected dentists, emergency services, specialists in the outpatient settings and pharmacists. They can also authorise the cross-border sharing of information with EU Member States, as part of the Patient Cross-Border Rights Directive (2011/24/EU).

In 2021, additional COVID-19-related functionalities were added to access and review patient data on all COVID-19 vaccinations and tests, and to allow scheduling the slot for vaccination (1st dose, 2nd dose, boosters) against COVID-19 by selecting the desired location and date of vaccination.

Activities are currently ongoing under the NRRP project 'Consolidation of the CEZIH health information infrastructure system'. This investment aims to achieve the following goals:

- Enabling continuous, reliable and secure operation of the central health information system;
- Establishing primary and secondary locations for infrastructure while meeting TIER 3 reliability and availability standards; and
- Securing data (backup) and monitoring the operation of the system.

During 2022 and 2023, the project 'Popularisation of EHR at the secondary and tertiary level of health care' was implemented. It allowed to make the next step in interoperability at the level of the CEZIH. In addition, data from the existing national electronic health records (EHR) were made available to hospitals, increasing the quality of healthcare provision in hospitals by using data collected in other healthcare institutions of the entire healthcare system. Another reason for starting the project was that the introduction of the CEZIH into the regular processes of hospitals and the use of EHR data facilitate regular hospital processes, both through savings in the collection of historical medical documentation and through their use in the treatment process. For example, the project allowed to achieve savings on the potential unnecessary repetition of health services (e.g. diagnostic procedures), which were previously performed in another health institution and whose results remain applicable in the current episode of treatment.

The Croatian Ministry of Health has also recognised the importance of an even stronger application of digital innovations in healthcare. This is the reason why it developed the large European Digital Innovation Hub (EDIH) project, along with the Ruđer Bošković Institute and other partners (institutions and companies gathered in the AI4Health.Cro consortium). The European

Commission highly rated the project and decided to co-finance it. The project then started in first quarter of 2023.

All these efforts are in line with the European vision for the establishment of the European Health Data Space (EHDS). Its main goals are to enable citizens to control and use their own health data nationally and on the territory of the EU, while building a single market for digital health services and establishing a reliable and efficient framework for health data usage for the purpose of research, innovation, policy framing and regulatory activities. In this framework, Croatia also joined the EUCAIM EDIC initiative.

Other Key Initiatives

Law on Amendments to the Labour Law

The Law on Amendments to the Labour Law (OJ 151/22) regulates work performed using digital work platforms, defines relevant terms, stipulates special rights and obligations arising between employer and employee, prescribes the minimum level of rights and working conditions when such work is performed by other natural persons, and establishes the rights and responsibilities of digital work platforms to ensure their transparent working.

eFee Project

The Ministry of Labour and the Pension System, acting as the Operational Programme manager for the 'Effective Human Resources' Operational Programme, announced the call for proposals for the eFee project, to be financed by a non-refundable direct contribution of the European Social Fund under priority axis 4 'Good Governance' (UP.04.1.1.14). The Ministry of Public Administration was one of the winners and signed the grant agreement in the amount of HRK 50 523 857.45 (EUR 6 705 668.25), of which up to 85% co-financed by the European Social Fund. The project beneficiary was the CSODDS. The project implementation period was from 26 September 2018 to 26 December 2022.

The successful implementation of this project established the central eFee System as a common shared service within the State information infrastructure for the electronic payment of fees and charges in procedures for which such payment is prescribed. The system enables non-cash card payment of administrative and other types of fees and charges for users of public eServices provided through the eCitizen system and the eBusiness platform. It also allows payment through a POS device at the point of service provision, i.e. at the counters of public bodies.

The project fully achieved the three KPIs, so that the SeP system includes more than 20 services/eServices, as well as six public bodies that provide such services, for which 600 employees were trained in using and connecting to the eFee system.

In 2021, the new Decree on the Tariff of Administrative Fees reduced the number of services for which fees are charged from 215 to 45. In any case, during the implementation of the project, all 215 services under the jurisdiction of ten State bodies were integrated in the eFee system.

Fully Electronic Service for Enrolling in Educational Institutions

One of the most complex eServices that was developed concerns the application to and enrolment in educational institutions. The full project name was 'Informatisation of the process and establishment of a complete electronic enrolment service in educational institutions'. It has digitalised the process of application to and enrolment in early and pre-school education institutions, primary and secondary schools, student dormitories and higher education institutions, as well as the registration in the State graduation register and the national adult education information system. The main goal was to enable the citizens of the Republic of Croatia to enrol in the desired institution easily and quickly without any additional administrative burden that can be avoided by using already existing data from the basic registers of different State administration bodies.

The total project value was EUR 5 316 236.25 and the project implementation period was from 12 March 2019 to 12 March 2023. As part of the project, activities to connect registers to the GSB and enable data retrieval through the GSB were carried out. During 2023, enrolments in four modules were carried out through this system (in early and pre-school education institutions, in primary schools from the Zadar County, in secondary schools and in student dormitories).

National Judicial System Development Plan

On 23 March 2022, the government of the Republic of Croatia passed the decisions on the adoption of the National Judicial System Development Plan for the period 2022–2027 and the Action Plan for its implementation for the period 2022–2024.

The National Judicial System Development Plan consists of short and medium-term strategic planning and implementing acts in the field of justice. Their implementation will enable further improvement of the efficiency and modernisation of the judicial system. It will also strengthen the State and judicial institutions.

The mid-term priorities relating to digital transformation are those of the third, fourth and fifth specific goals of the plan, i.e. (i) development of digital skills and competences for the digital transformation of the judiciary; (ii) modernisation of the judicial infrastructure and better technical equipment of the judiciary; (iii) digitalisation of court proceedings with the aim of speeding up and increasing accessibility to users; (iv) upgrade of the judicial ICT infrastructure and accompanying applications (modernisation of eFiles, ZIS (Collection of Information Systems) and the system for monitoring cases of the State attorney's office); (v) increase in the interoperability, security and availability of eDocuments and public registers of the judicial sector (Land register, Court Register, etc.) as well as of the registers of other State administration bodies displayed at the GSB; (vi) continuation of the establishment of digital archives; and (vii) modernisation and further digitalisation of the prison and probation business processes system, including interoperability, as well as improvement and extension of the usability of the ZPIS (Collection of Regulations and Standards) and other modern technologies.

National Plan for Work, Protection at Work and Employment 2021–2027

As part of the active employment policy, the National Plan for Work, Protection at Work and Employment 2021–2027 pays special attention to improving the position of women, young people, long-term unemployed, Croatian veterans and other vulnerable groups on the labour market. It also aims at improving the skills and knowledge of the working population with an emphasis on digital and green skills. Moreover, the capacities of institutions on the labour market are strengthened to ensure quality provision of services to users.

To achieve the strategic goal defined by the NDS, one of the main priorities of public policy is to harmonise education with the labour market, and to develop the skills and knowledge necessary for the digital and green transitions. Knowledge and skills must respond to the changing demands of the workplace, taking into account the transition towards a digitalised and green economy.

Furthermore, another priority of public policy is certainly the activation of inactive persons of working age, given that the activity rate in the Republic of Croatia is lower than the activity rate in the EU, amounting in 2022 to 69.9% and 74.5%, respectively.

The performance of work via digital platforms, as a relative novelty on the world labour market, including the Croatian, is not part of the aforementioned national plan. However, bearing in mind that such a specific way of working is rapidly expanding and growing, especially after the global health and economic crisis caused by the COVID-19 pandemic, promptly reacting and regulating relationships that are not at all or insufficiently regulated by national legislation is important, as lack of regulation can lead to new important imbalances and disturbances in the labour market. At the same time, regulation needs to make sure that innovative forms of work that have a positive effect on employment and activity of the workforce are not prevented.

Digital Public Services for Businesses

Law on Amendments to the Law on Commercial Companies

The Law on Amendments to the Law on Commercial Companies (OJ 40/19) introduces the possibility of registering a company online. Subordinate legislation that regulates this area is the Regulation on the Procedure for the Registration of a Company via the Internet (OJ 65/19). The procedure for establishing a company is carried out through an information system available on the Court Register's website or through a single information system established for starting a business in accordance with the Regulation on Determining Transactions.

Law on Electronic Commerce

The Law on Electronic Commerce regulates the provision of information society services and the liability of IT services providers, and lays down the rules concerning the conclusion of

contracts in electronic form. Its provisions do not apply to data protection, taxation, notarial activities, and the representation of clients and protection of their interests before the courts. The law was first adopted on 15 October 2003 (OJ 173/03) and then amended on 20 May 2008 (OJ 67/08). The latest version was voted on 13 March 2009 (OJ 36/09, OJ 130/11, OJ 30/14 and OJ 32/19).

eBusiness

In June 2018, the Decree on Launching the eBusiness Project (OJ 53/18) was adopted. It enables centralised access to information about public services for businesses, secure access to business data, and electronic communications between business entities and the public sector.

In November of the same year, the Decree on the Conditions, Methods and Terms for Establishing a System for Starting a Business (START) (OJ 103/18) was adopted.

The eBusiness Project aims at contributing to administrative relief for business entities through electronic communication with public administration. Its main goal is to achieve financial and time savings for businesses, and increase the availability of public services and efficiency of public administration while strengthening the capacity of officials and employees.

The components of the eBusiness project, which are also integral components of the State Information Infrastructure, are (i) the eCitizen Portal (Gov.hr) with public information and eServices for businesses; (ii) NIAS, with a new subsystem of eAuthorisation for a single login to eServices for business users; and (iii) the Navigation Bar, as part of a common user interface of eServices. The Navigation Bar enables users to choose the business entity on whose behalf they wish to act, and also contains the link to the User Mailbox for secure and reliable communication with individual business entities. Users authorised to represent legal entities are automatically retrieved trough the Navigation Bar from several connected registers, i.e. Court Register, the Registers of Non-profit Organisations (Register of Associations, Foundations, Political Parties and Religious Communities), the Trade Register for Crafts, the Register of Farmers and Family Farms, and the Register of Budgetary and Extra Budgetary Users. In addition, the persons authorised to represent may, through eAuthorisation and its ePower of Attorney form, grant the right of access to other persons within their business entity or in another business entity. This functionality provides all business users with the necessary flexibility while accessing to and using the public eServices available.

HITRO.HR Portal

The HITRO.HR Portal is a service provided by the government to facilitate rapid communication between citizens and businesses, and the State administration. This eService infrastructure serves as a one-stop shop, as it enables citizens and businesses to enjoy quicker and simpler access to information and services in one location. Furthermore, it aims to improve service levels by increasing the speed, efficiency, flexibility and transparency of the State administration. It enables citizens and businesses to perform most of the necessary actions for starting a company, opening a craft business and registering changes in the Register of Business Entities for existing companies. Through the use of smart cards and digital signatures, citizens have access to the following services: (i) 'How to start a limited liability company' and (ii) 'How to start a craft business', enabling entrepreneurs to carry out the process of business creation online; and (iii) Registration in the Register of Business Entities at the Croatian Bureau of Statistics.

START Platform

Since December 2019, entrepreneurs in Croatia can start their business in just a few days, through a new eService called START. Several existing processes and systems to start a business have been merged into a single process: registration of the company in the Court Register, registration of the craft business in the Trade Register for Crafts, entry in the Register of Business Entities, registration in the Register of Taxpayers and the VAT Register and/or assignment of a VAT number, submission of a bank account request, registration in the Croatian Pension Insurance Institute system, and electronic payment of fees and founding capital.

The NRRP, within measure C1.1.1.R1-I1 'Digitalisation of State and public administration services by business sector (G2B)', envisages activities for upgrading the accessibility of the START Platform and digitalising additional services. Activities are ongoing regarding the START Plus eService, designed as a digital platform which will provide applicants with the necessary information about the issuance of licenses needed in business. The START Plus eService also enables the submission of applications for the issuance of licenses to perform activities in certain areas and the receipt of issued licenses (decisions, certificates) in electronic form.

Public Procurement

Public Procurement Act

Croatia's legal basis for public procurement is the Public Procurement Act (OJ 120/16). As Croatia is an EU Member State, its public procurement system is fully aligned with the EU acquis. The Ministry of Economy and Sustainable Development is responsible for key aspects of the public procurement system, including coordination and oversight in cooperation with several other public bodies.

A new public procurement platform financed by the NRRP is now being implemented through measures C.2.9. ('Strengthening the procurement framework') and C.2.3.R3-I9 ('Establishment of a new portal for the Electronic Public Procurement Platform of the Republic of Croatia or EOJN'). In addition, the possibility of increasing efficiency and reducing costs by expanding the scope of central or joint procurement will be explored. For example, modern IT solutions such as eMarketplaces enable central procurement bodies and their contractors to productively keep up and rundown framework agreements, eliminate paperwork, improve transparency in public spending and increase standardisation.

Public procurement will be encouraged using advanced contracting mechanisms for ICT/digital projects in the public sector, in line with EU and domestic regulations, such as innovation partnerships, competitive dialogue and dynamic procurement systems. A relevant measure in this regard is specified under measure C2.9.R3 'Innovative public procurement'. Although the Public Procurement Act has already introduced a new 'Innovation Partnership' procurement procedure to allow contracting entities to carry out procurement procedures for innovative goods, services or works, its use should be encouraged by raising the level of knowledge of all stakeholders in public procurement. This is why the reform focuses on the use of public procurement for innovative solutions, encouraging the public sector to procure the latest technological solutions, strengthening the public procurement framework related to innovation, strengthening the capacities of procurement procedures, and raising awareness among interested public and private sector stakeholders about innovation procurement.

Efficient public procurement is also one of the main prerequisites for one of the priority areas of the new Strategy for Digital Croatia 2032, i.e. 'Achieving full interoperability of public administration while enabling access to open data for citizens and businesses'. Legal provisions will be harmonised to incorporate interoperability standards into public procurement procedures with a view to encouraging the procurement of interoperable IT solutions.

According to the amendments to the Law on Amendments to the Public Procurement Act (OJ 114/22) adopted in 2022, complaints are now submitted by electronic means of communication through the interconnected information systems of the State Commission and the EOJN of the Republic of Croatia.

In 2023 the Ordinance on Education in Public Procurement was adopted.

Electronic Public Procurement Classfields

The Electronic Public Procurement Classfields (EPPC) is the national eProcurement platform managed by the Official Journal (*Narodne Novine d.d.*). The EPPC of the Republic of Croatia (EOJN RH) was developed and implemented as part of the NRRP within component C2.3.R3-I9 'Establishment of a new portal for the Electronic Public Procurement Platform of the Republic of Croatia'.

The EPPC of the Republic of Croatia is a platform for conducting public procurement procedures. In accordance with the Public Procurement Act, contracting authorities publish public procurement procedures, while economic operators participate as bidders. From 1 January 2024 all contracting authorities use the new portal.

Digital Inclusion and Digital Skills

National Plan for the Development of the Education System 2027

The National Plan for the Development of the Education System 2027 defines in detail the implementation of the strategic goal and priority areas of public policies in the education sector as established in the NDS. The education system is increasingly part of the digital transformation. If used competently, fairly and effectively in teaching, digital technology can in every way enable high-quality and inclusive education and training, and be a stimulating tool for collaborative and

creative learning. Therefore, a special set of measures are aimed at supporting the green and digital transition in education and training.

In March 2020, the Ministry of Science and Education adopted and published on its website the Strategic Framework for the Digital Maturation of Schools and the School System in the Republic of Croatia by 2030. Digital technologies are at the very core of introducing innovations into the learning and teaching system. Due to their intensive development, they require continuous investment in equipment and people to maintain the required level. Although the digital maturity of schools is gradually being improved by eSchool projects, further investments are necessary for the long-term transformation of the system. These investments add to national projects focused on infrastructure, tools and professional training, as well as the application of new technological solutions (especially AI) as a prerequisite for future development and improvement of the quality and fairness of the education system. The strategic framework identifies four strategic areas which are important for the digital transformation of the education system: (i) digitally mature environment; (ii) digitally mature and confident teachers; (iii) support to learning and teaching using ICT; and (iv) managing and making decisions based on data.

The challenges in terms of the infrastructure necessary to ensure the improvement of the conditions for the application of digital technologies in the education system are visible in the new goals set by the EU for its Member States. For instance, one of the three strategic goals of the EU's Digital Single Market is achieving access in all schools in the EU at speeds of at least 1 Gbps until 2025. In addition, also the EU's projections in the Digital Data Strategy on the growth of the amount of data from 2018 to 2025 by 530% show that constant investments in school infrastructure are needed to support digital processes transformations.

Digital Accessibility

In the Republic of Croatia, the principles of digital accessibility are enshrined in the Act on Accessibility of Websites and Software Solutions of Public Sector Bodies for Mobile Devices (OJ 17/2019). Public sector bodies are obliged to adapt their digital content to create an inclusive society, giving everyone equal opportunities to receive, transmit and use information in the digital environment.

On 22 September 2023, the CSODDS, in cooperation with the Information Commissioner, the umbrella national organisations of persons with disabilities and the State School for Public Administration, organised the fourth online round table titled 'Digital accessibility from law to practice'. The aim was to present the results of the work of associations, public sector bodies, and bodies in charge of the implementation and monitoring of the Digital Accessibility Act, and to provide a platform for the exchange of experiences, opinions and proposals to enable greater inclusiveness of the Croatian society. 200 participants followed the round table.

Furthermore, in 2023, 268 public officials were trained in digital accessibility. In total, 1 727 public officials were trained from 2021 to 2023.

Finally, at the end of 2023, a series of workshops were held for members of the Association of Volunteers and Homeland War Veterans of the Republic of Croatia (DRC) on the eCitizen Portal, the accessibility of digital content, and the construction and use of eServices. 135 members of the Association participated in the workshops.

Digital Transformation of Higher Education

The 'Digital transformation of higher education' project (C.3.1.R2-I1) of the NRRP started in 2022. It aims at the digital transformation of higher education in the Republic of Croatia by improving the digital teaching infrastructure, introducing digital teaching tools and strengthening the digital competencies of teachers for teaching in a digital environment.

5. Trust and Cybersecurity

eID and Trust Services

Electronic Identification Croatia

A large number of eID means, provided by both public and private suppliers, can be used together with NIAS in order to access online public and private services. More in detail, Croatia has 27 eID means in use at national level. NIAS, the IT system used to identify and authenticate users when they attempt to access public services online, underlies the use of all these means. NIAS allows access to eGovernment services through the eCitizen Portal, which aggregates all of them. It was provided by the CSODDS and is today under the jurisdiction of the Ministry of Justice, Public administration and Digital Transformation.

The primary forms of eID means owned by the State or State agencies are:

- The Personal Identity Card (eOI), which is issued as the national identity card. The eOI has a level of assurance 'high', is included in NIAS and has been publicly available to access public services online since 2015. It was notified together with NIAS in 2018. The national eID card is managed by the Ministry of Internal Affairs;
- mToken, which is a State-owned application created by CARNet for smartphones. It is free for Croatian citizens and has a level of assurance 'substantial'. It is included in NIAS and has been publicly available to access public services online since 2014;
- ePass, which is a State-owned username/password means. It is free for Croatian citizens and has a level of assurance 'low'. It is included in NIAS and has been publicly available to access public services online since 2014;
- AAI@EduHr, which is a username/password means operated and coordinated by the University Computing Centre of the University of Zagreb (SRCE). It is free for Croatian citizens and has a level of assurance 'low'. It is included in NIAS and has been publicly available to access public services online since 2014.

Other forms of eID included in NIAS are those of Croatian Post, Croatian Telecom inc., some banks providing their customers with eID means (nine so far), and two State-owned agencies (including FINA). New eID means are continuously included in NIAS with a view to increasing the number of online public services available to citizens using eID.

EU/European Economic Area (EEA) citizens are able to access 21 Croatian public eServices. These eServices are published on the eCitizen Portal, under the Catalogue of Services.

Personal Identification Number System

The Personal Identification Number (OIB) System offers safe infrastructural and functional services to all central and public institutions in charge of natural and legal entity registration, to all institutions obliged to use the OIB for their official records, as well as to all citizens and legal entities that are able to use public web applications and SMS services to obtain information about their OIB.

eCitizen Portal

The eCitizen Portal was established in 2014 and now offers as many as 102 eServices to Croatian citizens.

In 2016 and 2017 the Ministry of Public Administration, with the support of FINA, implemented a project called 'Ensuring access to Croatian public eServices within the eCitizen Platform for EU/EEA citizens'. This project enabled cross-border authentication, established the europe.gov.hr platform as the central platform for Croatian public eServices for foreigners and enabled the use of the first ten public eServices for EU/EEA citizens.

In May 2018 the project 'ePIC - Electronic Public Identification Croatia' was started. Eight new eServices were upgraded to be available to EU/EEA citizens.

eID

Since 2014, the use of an eID has been encouraged as high-security credential enabling citizens to use all eCitizen services, as well as other Croatian eServices, regardless of the provider. The advantage of the eID is the ability to electronically identify the owner, and create an advanced eSignature through NIAS delivering a personal data set (Personal Identification Number or PIN,

name, last name, etc.) according to Regulation (EU) No. 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Council Directive 1999/93/EC (eIDAS Regulation).

For the purposes of the eIDAS Regulation, Croatia notified its eID scheme NIAS, together with the eOI. Croatia has chosen to build a proxy-based eID scheme, i.e. an eID scheme that provides cross-border authentication via an eIDAS Proxy Service. In addition, Croatia has chosen to implement one eIDAS Connector, thus to operate as a Centralised Member State. To successfully go through the notification process, Croatia had to pass the examination of the pre-notification documents it provided and of the findings of the Peer Review Report. It also had to demonstrate how the Croatian eID scheme meets the requirements of Article 7, Article 8(1)-(2) for assurance level 'high' and Article 12(1) of the eIDAS Regulation, as well as of Commission Implementing Regulation (EU) 2015/1502.

Croatia is focused on a coordinated approach towards a European Digital Identity Framework. The European Parliament adopted in 2024 a revision of the eIDAS Regulation. It proposes a European Digital Identity Framework to offer users self-determined personal digital wallets that would allow for a secure and easy access to different services, both public and private, under the users' full control. In addition, it creates a new qualified trust service for attestation of attributes concerning information related to identity, such as addresses, age, gender, civil status, family composition, nationality, educational and professional qualifications and titles, licenses, other permits, and payment data. This information can be offered, shared and exchanged across borders, in full security, in compliance with data protection and with legal effect across borders. The CSODDS actively participated in the revision activities of the eIDAS Regulation and in the work of the eIDAS Expert Group developing a toolbox for the implementation of the European Digital Identity Framework.

e/mSignature and e/mSeal

The e/mSignature and e/mSeal project established a platform providing eServices through which users can electronically sign and/or seal documents. To that end, the platform also supports the mechanisms needed for electronic signature and seal validation. A platform with eServices for the process of electronic and mobile signature, electronic and mobile sealing, and validation of electronic signatures or seals has thus been developed and established. The platform has been established as a shared public administration service and will be used in electronic public services. It contributes to increasing the efficiency of communication within the State and public administration systems, and improves the provision of eServices and the interaction with citizens and business entities that use those public services.

The project began on 20 November 2018 and ended in March 2023, with a total project value of EUR 2 981 737.52. All activities included in the project plan were carried out and all planned modules of the platform were delivered. After completion of the project, the platform has been continuously used and maintained. A total of 1 068 information systems of public law bodies were connected to the platform as of 31 December 2023.

Decree on the Provision and Use of Trust Services

The Decree on the Provision and Use of Trust Services (OJ 60/19) was published in June 2019 and lays down the measures, the procedures and the forms of protection concerning electronic trust services as well as other methods of identification that provide security equivalent to a physical presence in terms of reliability and by which a qualified trust service provider verifies the identity of signatories. The decree also establishes the preconditions and the rules for automated remote electronic signing and sealing, the general and specific operating conditions for trust service providers, the rules on the temporary suspension of certificates for eSignatures and eSeals in cases where the certificate temporarily loses its validity, and the mandatory assurance of trust service providers.

Electronic Signature Act

Croatia was one of the first countries to include digital signatures in its legislation. The Electronic Signature Act (OJ 10/02, amended by OJ 80/08 and OJ 30/14) was then supplemented by a series of ordinances and regulations, such as the Regulation on the Scope of Operations, Content and Responsible Authority for Operations of Electronic Signature Certification for State Administration Bodies (OJ 146/04).

The Electronic Signature Act had become outdated and was replaced by the Act on the Implementation of Regulation (EU) No. 910/2014 of the European Parliament and of the Council

of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC (OJ 62/17).

Cybersecurity

National Strategy on Cybersecurity

Recognising the importance of security of the cyberspace as a shared responsibility of all segments of society, in October 2015 the Croatian government adopted a National Strategy on Cybersecurity, accompanied by an action plan. Its purpose was a systematic and coordinated implementation of activities necessary to raise the capacity of the Republic of Croatia in the field of cybersecurity, with a view to building a safe society in the cyberspace. The general aim of this strategy was also to exploit the market potential of the information society, in particular of cybersecurity products and services. Since it was the first comprehensive strategy in the Republic of Croatia in the field of cybersecurity, the priority in this context was to identify organisational problems in its implementation and raise awareness in society about the importance of this issue. Following the adoption of the EU's Cybersecurity Strategy for the Digital Decade, the revision of the National Strategy on Cybersecurity and the accompanying Action Plan has begun. The revisions were expected to be completed in 2022. However, due to the delay in the adoption (in December 2022) of the EU Digital Decade Policy Programme 2030 and Directive (EU) 2022/2555 on measures for a high common level of cybersecurity across the Union (NIS2 Directive), which have a significant impact on all national strategies, the Republic of Croatia continued this work in 2023 and is expecting to adopt the new National Strategy on Cybersecurity by the end of 2024.

In 2017, the government of the Republic of Croatia renewed its National Security Strategy. Its strategic goals are: (i) achieving the highest level of population and critical infrastructure security and protection; (ii) establishing and developing a homeland security system; (iii) developing and maintaining a strong and active defence; (iv) developing a strong and sustainable economy, demographic renewal and revitalisation of the Croatian society; (v) developing a citizen-friendly public administration and strategic communication; (vi) protecting, strengthening and promoting the highest constitutional values and the Croatian national identity; and (vii) increasing the international reputation and influence of the Republic of Croatia. Also in this context, the Republic of Croatia will develop measures to strengthen the resilience of information and communication systems in cyberspace as well as to mitigate the negative consequences of any threats or disruptions thereto. The emphasis is on the key systems needed for the normal functioning of State institutions as well as the storage, transmission and exchange of citizens classified and personal data.

Act on Cybersecurity

The Act on Cybersecurity was completed in 2023 and enters into force in 2024, transposing the NIS2 Directive into national legislation. The contact point for the implementation of this act is the newly established National Cybersecurity Centre.

General Data Protection Regulation

The EU General Data Protection Regulation (Regulation (EU) 2016/679), known as the GDPR, entered into force in 2016, replacing the EU Data Protection Directive. In Croatia, the Act on the Implementation of the General Data Protection Regulation was enacted in April 2018 and came into force in May 2018. It replaced the prior Croatian data protection law.

Act on the Implementation of Cybersecurity Certification

The European Parliament and the Council adopted Regulation (EU) 2019/881 on ENISA (the European Union Agency for Cybersecurity) and on information and communications technology cybersecurity certification, also known as the Cybersecurity Act. The regulation establishes a unique certification system in the territory of the Union, and prescribes the classification of all ICT products, services and processes in three guarantee levels of cybersecurity with regard to the risk of threats. The establishment and implementation of the sanction regime are left to the Member States. In Croatia, the Cybersecurity Act was transposed through the Act on the Implementation of Regulation (EU) 2019/881, i.e. the Act on the Implementation of Cybersecurity Certification (OJ 63/22), also including the sanction regime.

National Coordination Centre for Developing Cybersecurity Competences

The National Coordination Centre (NCC) for Developing Cybersecurity Competences was established in 2023 according to Regulation (EU) 2021/887 of the European Parliament and of the Council, of 20 May 2021, establishing the European Cybersecurity Industrial, Technology and Research Competence Centre and the Network of National Coordination Centres. The Croatian NCC is CARNET.

6. Innovative Technologies

Artificial Intelligence

Statement on Cooperation for Artificial Intelligence

In July 2018, the Minister of the Economy, Entrepreneurship and Crafts signed a Statement on Cooperation in the field of Artificial Intelligence. In this way, the Republic of Croatia committed itself to cooperating on a comprehensive and integrated European approach to AI, and agreed to promote European technology and industrial capacity in AI, including better access to public sector information.

National Plan for the Development of Artificial Intelligence

The Ministry of Economy and Sustainable Development is considering enacting the National Plan for the Digital Transformation of the Economy and the National Plan for the Development of Artificial Intelligence by the end of 2026. The drafting and completion of these documents are envisioned within investment C.1.1.2.R3-I1 under the Croatian NRRP. This exercise will be carried out by resorting to the technical assistance provided by experienced international policy advisory organisations, in cooperation with identified relevant national stakeholders.

AI in healthcare has been identified as an underrepresented field, despite high activity in the ICT/data science/AI sector. To bridge that gap, an EDIH candidate, AI4HEALTH.Cro, specialising in offering services in the field of AI-based innovative solutions for the healthcare and medicine sectors, has been founded. Led by the largest Croatian scientific institute, namely the Ruđer Bošković Institute, the consortium involves partners from the public sector, healthcare, academia and industry.

The Ruđer Bošković Institute also collaborates with the University Hospital Centre Zagreb on organising a Special Issue on Trustworthy AI for Healthcare and Medicine, promoting and consolidating research activities in trustworthy aspects of AI for various healthcare applications and challenges from two AI research perspectives: (i) intelligence augmentation for diagnosis, clinical treatment and screening purposes; and (ii) intelligent infrastructures for smarter healthcare and medicine.

European Digital Innovation Hubs

Croatia has joined the EDIHs. Their goal is the development and provision of services to companies and the public sector in the field of innovation and digitisation of products, services and business, as well as the development of digital skills. The emphasis is on advanced technologies, i.e. AI, high-performance computers (HPC), cybersecurity, big data and the IoT. The activities of EDIHs will facilitate the digital transformation of companies, especially SMEs. 50% of the value of EDIH activities is financed by the European Commission, while the other half by the Ministry of Economy and Sustainable Development. The total value of the projects is EUR 10 842 265, of which the Ministry is providing EUR 5 133 299 until 2025. The EDIHs started their activities at the end of 2023.

Distributed Ledger Technologies

No particular initiatives have been adopted in this field to date.

Big Data

National Recovery and Resilience Plan

Activities are ongoing in the context of the project 'Establishment of a central data lake repository and business analytics system' within measure C2.3.R2 'Digital transformation of society and public administration' under the NRRP. The aim of the project is to introduce a data storage system together with its attributes and based on this data to design different data warehouses building an ecosystem that will enable an analytical organisational culture as a source of reliable summary data necessary for the decision-making process.

Cloud & Edge Computing

Croatian Scientific and Educational Cloud

The Croatian Scientific and Educational Cloud (HR-ZOO) project is ongoing, with the objective of building a distributed national eInfrastructure consisting of computing, storage and network resources for the purpose of building the RDI capacity of the Croatian scientific and academic community. The total value of the project is EUR 25 895 058 (with EU co-financing for EUR 22 010 799) over a timeframe spanning from July 2017 until the second quarter of 2023.

HR-ZOO is recognised as an important prerequisite for the development of the Croatian research and higher education area, as well as a common infrastructure for the needs of modern science and education, and internationally relevant research, but also as an instrument of integration into the European Research Area (ERA) and the European Higher Education Area (EHEA).

The SRCE coordinates the project. Other key institutions from the science and education sectors are also involved, such as the Josip Juraj Strossmayer University of Osijek, the University of Rijeka, the University of Split, the University of Zagreb, CARNET and the Ruđer Bošković Institute.

Internet-of-Things

Grants for Digitalisation

The call for proposals 'Grants for Digitalisation' was launched by the Ministry of Economy and Sustainable Development under the NRRP 2021–2026, within activities intended directly for entrepreneurs as part of component C1.1. 'Resilient, green and digital economy' and, more specifically, subcomponent C1.1.2. 'Grants aimed at innovation, and the development and application of new (digital) technologies'. The value of the call amounted to EUR 27.3 million. It was announced on 24 June 2022 and was opened from 1 July to 12 August 2022. 820 project proposals were received.

The objective of the call is to provide support to SMEs for the introduction of digital solutions through investments in digital tools and equipment with a view to adopting new ways of doing business, i.e. introducing new or significantly improved production procedures, service delivery methods or organisational practices, and strengthening digital skills, based on the digitisation plan for digital transformation.

The main eligible categories of costs within the call are (i) costs of procurement/production of standard and out-of-box software; (ii) costs of using various computer cloud services; (iii) costs of designing and purchasing equipment for the needs of advanced digitisation systems (e.g. the IoT, advanced network systems and processes for the Industry 4.0); and (iv) costs of implementing cybersecurity solutions.

So far over 480 financing decisions (of which 107 in 2023) worth EUR 27.3 million have been issued.

Quantum Computing

Quantum Communication Technologies

In 2019, the Republic of Croatia recognised the importance of the European Quantum Communication Infrastructure (EuroQCI) initiative, and signed the Declaration on the European Quantum Communication Infrastructure, committing to activities aimed at building a secure quantum communication infrastructure covering the entire EU.

As a first step on this path, the CroQCI Consortium was formed. The CroQCI Consortium consists of key research and scientific institutions, higher education establishments, public institutions, and public enterprises authorised by the Ministry of Science and Education to develop the national Quantum Communication Infrastructure (QCI) network, and prepare and implement the national project Croatian Quantum Communication Infrastructure – CroQCI. The project proposal was prepared and submitted in response to the call DIGITAL-2021-QCI-01-DEPLOY-NATIONAL, published under the Digital Europe Programme, and was approved for funding. The project is coordinated by CARNET.

Gigabit and Wireless High-Speed Networks

Development of the 5G Network

The National Plan for the Development of Broadband Internet Access 2021–2027 (OJ 26/2021) was adopted in March 2021 and has as one of the goals the introduction of 5G networks in accordance with the EECC, the 5G Action Plan of the European Commission and the European Commission Communication entitled 'Towards a European Gigabit Society'. This goal includes the introduction of 5G networks for urban areas and major land routes, as well as the introduction of 5G networks for rural areas.

Croatia is funding investments in 5G passive infrastructure in rural and sparsely populated areas under the NRRP. The feasibility study was completed in 2023, stating that investments are allowed and economically justified for 14 masts with associated passive infrastructure. Investments must comply with the applicable restrictions, i.e. public investments are not allowed in areas: (i) with more than 20 inhabitants/km2 (NRRP Croatia); (ii) where a 4G/5G network is present or planned to be introduced in the next three years (Commission Regulation (EU) No. 651/2014); (iii) which were allocated through the 5G frequency auction (Commission Regulation (EU) No. 651/2014); (iv) where publicly funded broadband access network projects are implemented (Commission Regulation (EU) No. 651/2014); and (v) which are not economically justified (Cost-benefit analysis guideline of the European Commission for broadband). The grant agreement was signed in October 2023 and completion is expected in June 2026.

In addition, within the second call for proposals co-financed under the Connecting Europe Facility (CEF Digital), two projects including Croatian partners have been selected for co-financing, i.e. the projects 'Inception study for 5G cross-border deployment between Slovenia and Croatia on the Mediterranean corridor' and 'Enhancing public services of Ploče Port Authority via implementing 5G connectivity'.

Draft of the Very High-Capacity Network

The NRRP, under measure C2.3.R4 'Strengthening connectivity as the basis of the digital transition of society and economy', sets the following objectives: (i) ensure timely and comprehensive implementation of the regulatory framework by enacting the Law on Electronic Communications transposing the provisions of Directive (EU) 2018/1972 on the European Code of Electronic Communications, as well as implementation of the objectives of the National Plan for the Development of Broadband Internet Access 2021–2027; (ii) make available very high-capacity networks (VHCNs) to households with user-bound (download) speed of at least 100 Mbps; (iii) enable the main social-economic drivers and the availability of VHCNs with symmetric speed of at least 1 Gbps; and (iv) encourage investment in setting up 5G networks in urban and rural areas, and along major land transport routes (5G corridors), including motorways, State roads and railways, within the Trans-European Transport Network (TEN-T). In this context, an analysis of the potential application of additional forms of financial assistance for the construction of VHCNs has been carried out. The purpose of this analysis is to determine the applicability of financial instruments as a model for financing the investment of operators in the construction of VHCNs in the Republic of Croatia.

In 2023, two main regulatory activities were carried out:

- Market analysis of markets M1 and M3b. The Croatian Regulatory Authority for Network Industries (HAKOM) issued its decisions on 27 July 2023, identifying a market segmentation on the low capacity market, including services provided over copper networks, and the high capacity market, including services provided over VHCN networks (cable and fiber optic); and
- Awarding of the spectrum in frequency bands 800 MHz, 900 MHz, 1800 MHz, 2100 MHz and 2600 MHz at national level. The aim is to encourage operators to extend overall network coverage, including 5G coverage, and improve Quality of Service (QoS). Coverage obligations were set up to 99.4% until 31 December 2029, based on the principle of technological neutrality. Spectrum in the 3600 MHz frequency band that was not awarded in the 2021 auction was re-auctioned at regional (county) level to create business opportunities for smaller, regional operators and to foster diversity of services introducing 5G technology, with the obligation to put into operation at least one base station until 31 December 2024.

Broadband Infrastructure

To achieve the full potential of digital transformation, the Republic of Croatia has provided significant resources for the promotion of broadband infrastructure. With the aim of removing the existing barriers to investing in the mobile network market and increasing the investment potential of public mobile network operators, the Republic of Croatia has abolished one-off fees for the use of the radio frequency spectrum for public mobile networks. Furthermore, the annual fee for the use of the radio frequency spectrum (1900 MHz–1920 MHz) has also been abolished, thus opening up the possibility of new market investments and competitiveness. Also, a mechanism has been introduced by virtue of which an equal annual fee for the use of the unused radio frequency spectrum will apply to all operators of public mobile networks in the Republic of Croatia.

Infrastructure is being built under two ongoing Programmes, the Framework National Programme for the Development of Broadband Infrastructure (ONP) and the National Programme for Backhaul Broadband Infrastructure Development (NP-BBI), co-financed with EU funds. Activities continued in 2023.

The ONP is being implemented within two calls for proposals. Under the first call, co-financed under the European Rural Development Fund (ERDF) 2014–2020, 21 grant agreements were signed. Significant progress was made in the completion of the projects in 2023. More specifically, one of the agreements was terminated in 2022 and the remaining 20 projects are in the final stage of completion (six are completely finished and most of the others should be completed in the first half of 2024). In total, nearly 83% of the total number of households in the scope of the projects and 81% of the total number of addresses were covered at the end of 2023. The target value for the additional number of households having access to the Next Generation Access (NGA) network with minimum 30 Mbps download speed (home passed) was reduced from 131 445 to 118 300 in October 2023. At the end of 2023, 128 876 households were covered, meaning that the target set in October had been reached. Under the NRRP, EUR 106.2 million have been allocated for the implementation of the ONP2. The aim is to secure broadband coverage (minimum 100 Mbps) for at least 100 000 additional households in rural and suburban areas. The Ministry of Maritime Affairs, Transport and Infrastructure launched the calls for proposals in 2023. The deadline for the submission of project proposals was 6 January 2024.

The implementation of the NP-BBI programme started within the Competitiveness and Cohesion Operational Programme 2014–2020, and will continue being financed under the Competitiveness and Cohesion Operational Programme 2021–2027, in the amount of EUR 50 million. Completion is expected by the fourth quarter of 2027.

GovTech

GovTech Lab

The initiative to set up the GovTech Lab is envisaged for financing under the VFO 2021–2027. The purpose is to increase the uptake of innovative digital solutions in the public sector by implementing a platform for start-ups, innovative tech companies and the public administration to collaborate and find solutions to the challenges the public sector faces.

7. Digital Public Administration Governance

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

National

National Council on Digital Transformation

On 23 February 2023, the government of the Republic of Croatia adopted a Decision to Establish a National Council for Digital Transformation (22/2023). The Council is composed of high-ranking representatives of State administration bodies and other relevant public institutions, representatives of local government and representatives of academia.

In addition to monitoring the implementation of the guidelines for the digital transformation of the Republic of Croatia in accordance with the Strategy for Digital Croatia 2032, the tasks of the Council are the following: (i) monitoring the implementation of the strategic goals of the Strategy for Digital Croatia 2032; (ii) proposing measures and activities to achieve the strategic goals of digital transformation; (iii) monitoring the effect of the implementation of digital transformation measures on the overall development of society; (iv) monitoring the measures and activities in the framework of digital policies at the level of the EU and in third countries; (v) making recommendations for harmonising digital policies and departmental priorities in the field of digitisation; (vi) encouraging interdepartmental cooperation, and cooperation with local and regional self-government units in the implementation of measures and activities; (vii) encouraging professional research in the field of digital transformation; (viii) providing recommendations for legal solutions for the implementation of digital transformation; and (ix) other tasks related to the improvement of digital transformation.

Furthermore, special tasks related to the State information infrastructure are: (i) providing recommendations for determining the criteria for data storage in data centres; (ii) approving the Annual Plan of Work, Development and Integration of Shared Services, and accepting the price list of services and the catalogue of services of the SSC; (iii) approving technical standards and the method of connection to the components of the central interoperability system; and (iv) giving an opinion for the approval of State information infrastructure projects.

The administrative and organisational tasks of the Council were performed by the Central State Office for the Development of the Digital Society (CSODDS) and are now performed by the Ministry of Justice, Public Administration and Digital Transformation. For the operational implementation of tasks, the Council establishes working groups.

Ministry of Justice, Public Administration and Digital Transformation

The Ministry of Justice and Public Administration performs tasks related to the digitalisation of the judiciary and public administration, together with judicial and penitentiary authorities. Regarding the responsibilities and institutional structures related to digitalisation, the Ministry has established a dedicated Digitalisation of Justice and Public Administration Sector, which performs tasks associated with the digital transformation of the judiciary and public administration – key priorities of the NDS. In addition, the Sector participates in broader initiatives and partnerships related to the digital transformation of the public administration and prepares relevant documents for the use of EU funds related to this area.

According to the Law on Amendments to the Law on the organization and competence of State Administration Bodies, the Central State Office for the Development of the Digital Society (CSODDS) ceases to operate on 16. June 2024., and the work, together with the officials and assets, continues in the Ministry of Justice, Public Administration and Digital Transformation.

The latter has taken over the responsibility to lead and steer the digital government agenda in Croatia: i) the development of the State administration information system; ii) the establishment of the technological and security information infrastructure in State administration bodies; iii) the connection of State administration information systems through a single information and communication network; iv) the monitoring and coordination of projects in the field of ICT in State administration bodies; and v) participation in the adoption and monitoring of the implementation

of laws and other regulations in the field of application of ICT in public administration and electronic administration systems.

Furthermore, the Ministry took over the following tasks of the CSODDS: (i) manages information and communication systems based on data interoperability, as well as exchange and sharing from basic and public registers, and ensures the preconditions for their interoperability; (ii) performs tasks to achieve the conditions for information, and reuse of documents and information; (iii) prepares the Central Catalogue of Official Documents of the Republic of Croatia in digital form on the basis of a special law governing access rights to information; and (iv) prepares information and content for the central State portal.

Finally, The Ministry (i) manages the digitalisation process of all State and public administration bodies; (ii) coordinates the policies and objectives of the digitalisation process with the competent authorities; and (iii) coordinates and participates in the preparation of strategically important objectives of the digitalisation process, while monitoring their implementation. Also, it (i) defines the guidelines and methodology for monitoring progress and assessing the impact of policies for the development of the digital society; (ii) develops and proposes to the government the adoption of the Digital Development Strategy; and (iii) provides professional and administrative support to the Council for the State Information Infrastructure.

Ministry of Regional Development and EU Funds

The Ministry of Regional Development and EU Funds aims at even development of all parts of Croatia, and its mission is to ensure quality public policies to improve working and living conditions in all parts of Croatia, especially in less developed areas. The importance of the Ministry for the digital transformation stems from its key role in overall strategic planning as well as coordination of the activities related to the management of EU programmes and funds.

Ministry of Finance

The body responsible for coordinating the monitoring of the implementation of the NRRP is an organisational unit at the sector level within the Ministry of Finance. It is in charge of the preparation of the Report on the implementation of the NRRP, based on submitted reports, communications and other available sources, and has the authority to carry out audits based on which it confirms that the key stages and target values established in the NRRP have been met.

Ministry of Maritime Affairs, Transports and Infrastructure

The Ministry of Maritime Affairs, Transport and Infrastructure performs administrative services and other professional actions related to the field of electronic communications representing the basic information-communication infrastructure.

Central State Office for Public Procurement

The Central State Office for Public Procurement performs administrative and professional tasks related to central public procurement for State administration bodies, the government of Croatia and its professional services, the Croatian Parliament and the Office of the President of the Republic of Croatia. This includes determining the total need for the procurement of goods and services of central public procurement entities, and the establishment of a database related to the requirements of central public procurement entities by procurement categories. It is also responsible for coordinating activities between the subjects of central public procurement, planning the implementation of procurement procedures and applying advanced technology in the implementation of public procurement procedures.

Agency for the Protection of Personal Data

The Croatian Agency for the Protection of Personal Data carries out administrative and professional tasks regarding personal data protection. More specifically, it supervises the implementation of personal data laws and regulations, detects alleged misuse of personal data, decides on the course of action to be taken in case of violation of personal data laws and centrally registers all the official personal data in Croatia. The Agency is also the central government body tasked with implementing the technical aspects of information security for government bodies. The technical areas covered include: (i) standards for information systems security; (ii) security accreditation of information systems; (iii) management of the cryptographic material used in the exchange of classified information; and (iv) prevention and response to computer threats.

Agency for Small Business, Innovation and Investment

As an independent institution under the supervision of the Ministry of Economy and Sustainable Development, the Agency for Small Business, Innovation and Investment (HAMAG-BICRO) supports SME development, and promotes investment and innovation. It promotes digital innovation procurement within the public sector and has pioneered the use of advanced procurement mechanisms suggested by the EU that may be applicable in the context of ICT/digital projects in the public sector.

Information Systems Security Bureau

The Information Systems Security (ISS) Bureau is the central State authority responsible for the technical areas of information security of State bodies of the Republic of Croatia, which include information security standards, security accreditation, management of cryptographic material used in the exchange of classified information, and coordination of prevention of and response to computer threats to information systems' security.

Croatian Bureau of Statistics

The Croatian Bureau of Statistics (CBS) provides statistical data on economic, demographic, social, health and ecological conditions, activities and events. In addition, it fulfils the international commitments of Croatia related to the production and dissemination of official statistics.

Information Systems and Information Technology Support Agency

In the establishment of the information environment in the Republic of Croatia, the role of the Information Systems and Information Technology Support Agency (APIS IT LLC) is to (i) develop and monitor the implementation of eGovernment directives, laws and policies; (ii) support the public administration in developing its own IT strategies; (iii) develop and support a common ICT infrastructure; and (iv) promote best practices for the development of information systems, including protection of personal data, use of shared services and access to the information resources of the government administration with corresponding authorisation and authentication. Since 2019, the APIS IT LLC has been participating as a partner to the CSODDS in the establishment of the SSC, as a strategic EU project of the Croatian public administration aimed at consolidating the State's information infrastructure and creating a private public administration cloud.

Financial Agency

The Financial Agency (FINA) is a government-owned company and provider of financial and electronic services. It streamlines the information-communication infrastructure, and supports the State and public finances systems, as well as the registers and information services of the administrative, regional and local self-government bodies. FINA has also been entrusted with the development of an IT network to communicate with State administration bodies (HITRO.HR).
FINA operates through four regional operational centres (Zagreb, Split, Rijeka and Osijek) and through a network of branches and outposts, enabling nationwide access to services.

CARNET

The Croatian Academic and Research Network (CARNET) is a public institution that operates under the Ministry of Science and Education in the field of ICT and their application to education, ranging from network and internet infrastructure, through eServices, to security and user support. CARNET also provides shared services according to the Decree on Organisational and Technical Standards for Connecting to the State Information Infrastructure.

Subnational (Federal, Regional and Local)

The CSODDS, and now the Ministry of Justice, Public Administration and Digital Transformation also deal with digitalisation and interoperability matters at the sub-national level.

8. Cross border Digital Public Administration Services for Citizens and Businesses

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.

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).

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 Digital Services (DG DIGIT) and the Directorate General for Communications Networks, Content & Technology (DG CONNECT).

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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