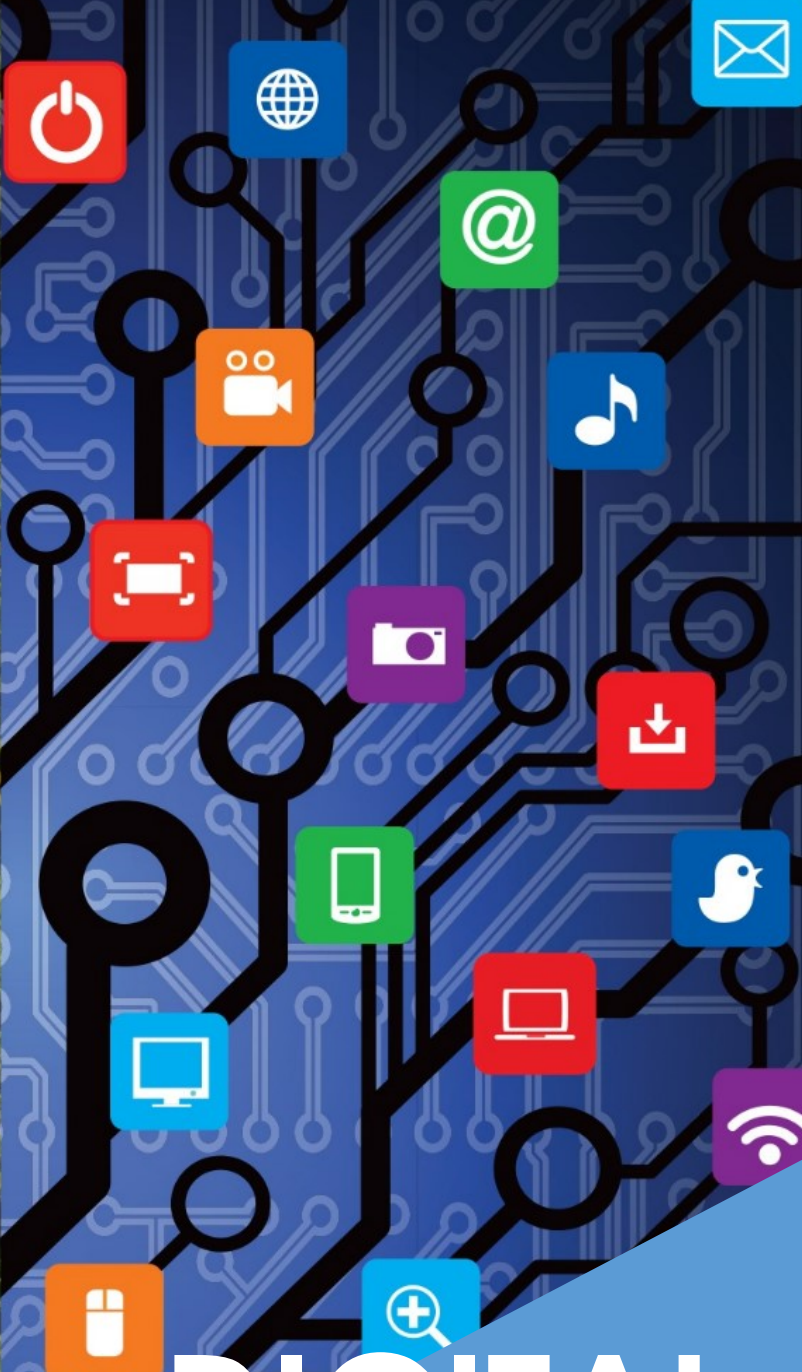




REPUBLIC OF SLOVENIA
MINISTRY OF PUBLIC ADMINISTRATION

SLOVENIA
a green reference country
in digital Europe



DIGITAL TRANSFORMATION OF SLOVENIA

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I. Digital transformation of Slovenia and its reference vision

Overall digitalisation of our business and everyday living environment, sharp increases in big data, the so-called Internet of Things, where a growing number of devices that surround us communicate among themselves, as well as change business models, present us with huge daily challenges which cannot be understood otherwise than as a **beginning of a new radical change** of all business and social systems.

In such an environment full of dynamic and fundamental changes in life and business, Slovenia can be presented as a **success story**, since it possesses some of the most important qualities essential for succeeding in the aforementioned conditions: its environment infrastructure is well organised, public services are efficient and stable, political situation focuses on development, there are a number of innovative individuals and businesses, the educational system is of high-quality, the research activity is diverse, and the non-governmental sector very active. As a right-sized country, Slovenia is in close contact with the

international environment; therefore, collaboration with several international institutions has been strengthened.

In recent time, Slovenia has unified its strengths into a common story, perfectly described by our slogan: **“Slovenia, a green reference country in digital Europe.”** This slogan underlines commitment towards the country's identity, respect of the environment, and social and other values which guarantee a high quality of life: commitment not only towards the discovery, but mostly towards the implementation of new technologies in social systems makes Slovenia a reference country – a model for other countries. At the same time, Slovenia insists on international collaboration policy with full understanding of the completely altered digital environment which has an impact on all aspects of our lives.

It has been stressed, in the basic understanding of **digital transformation**, that practically everything that happens in the “real world” carries some sort of a digital imprint.

The importance of everything that happens in a digital world is growing, as it influences our everyday lives and businesses. Understanding this presents digital transformation with utmost political importance, since we found that in the current socio-political arrangement “real systems” are being effectively handled. However, in managing the digital environment there are no comprehensive systemic solutions and Slovenia should gradually create them:

- we systematically **centralise the State's key information infrastructure**, which is the only way to effectively manage it;
- the technology has been updated through the implementation of **cloud computing**, thus making solutions accessible to a practically unlimited range of users;
- we are **opening up public data**, because we believe that data which do not impinge on the interests of an individual or a business entity should be considered as public good. This is increasingly called the “oil of the future”;
- we are **encouraging the reform of educational processes**, so that they would be more oriented into understanding modern technologies. Functional competences bare importance, because through them, new technologies would be easily implemented and used;
- we especially focus on **the use of business analytics and big data** which are essential in terms of understanding and smart management of complex social systems, as they can effectively prevent irrationalities, social distress, and disease. They also increase the management effectiveness of energy systems, public finances, economy, agriculture and many others.

Concrete presentations of our solutions in these areas and distinct plans have been received extremely well and with great interest. Many are recognising our innovative views that include all relevant aspects of society and offer

comprehensive real solutions of complex issues which all modern countries face.

„Slovenia,
a green reference country
in digital Europe“.

Based on numerous conformations, we are convinced that the activities, principles and results listed above **can place Slovenia in a completely new position in the international arena** and can effectively reflect the State's characteristics with which we wish to gain a stronger position in the international community. Nevertheless, in domestic environment, these efforts are already delivering positive results in the effective integration of politics, economy, science and non-governmental sector in finding solutions for shared prosperity, inclusive growth, and increased productivity.



II. Strategic documents of the Republic of Slovenia on information society

The Government of the Republic of Slovenia has adopted the following strategic documents relating to the development of information society to 2020:

- **Public Administration Development Strategy 2015 - 2020 (SJU 2020)**
- **Information Society Development Strategy to 2020 – DIGITAL SLOVENIA 2020**
- **Next-Generation Broadband Network Development Plan to 2020**
- **Cyber Security Strategy**



III. Public administration development strategy 2015-2020 (SJU 2020)

The basic objectives of the Public Administration Development Strategy 2015-2020 (SJU 2020) focus on the quality and efficiency, as well as transparency and responsibility of public administration. We are aware that efficient and effective public administration is the backbone for the development of the economy and social prosperity. By achieving the objectives set by this Strategy, improvements of the business environment for the development of the economy and boost of competitiveness are already visible. Consequently, Slovenia's international rankings are improving as well.

Strategy's objectives:

- rational organisation of public administration,
- program-oriented budget and reinforcement of internal control mechanisms for public finances,
- effective management of human resources,
- professional qualification of civil servants,
- transparent and efficient public procurement,
- regulated physical assets of the State,
- better regulations and effective administrative procedures,
- reinforcement of transparency and integrity,
- establishing a quality system in public administration,
- reformed inspections,
- digitalisation of public administration.



IV. Information society development strategy to 2020

According to the **Digital Economy and Society Index** (DESI 2017 – *Digital Economy and Society Index*), the Republic of Slovenia ranks 17th in the European Union, although it is the fastest growing digital country together with Slovakia. This presents a considerable challenge for the Government of the Republic of Slovenia, as it aims to rank significantly higher in the future. In accordance with the adopted strategies, the Government will accelerate the development activities and collaboration, and in the next period reduce the development gap to the most developed countries.

At the beginning of 2016, the Government of the Republic of Slovenia adopted a **long-term strategy on the development of information society**, the objectives of which are targeted at a secure digital future.

The detailed objectives of the strategy are:

- raising general awareness of the importance of information and communications technologies (ICT) and the Internet for the development of society;
- sustainable, systematic and targeted investment in the development of a digital society;

- general digitalisation according to the “Digital by Default” principle;
- competitive digital entrepreneurship and digital industry for digital growth;
- intensive and innovative use of ICT and the Internet in all segments of society;
- high speed access to open internet for all;
- inclusive digital society;
- secure cyberspace;
- trust and confidence in cyberspace and the protection of human rights;
- Slovenia – reference environment for the deployment of innovative approaches in the use of digital technologies.

The vision of the strategy is for Slovenia to, by **accelerated progress of the digital society**, take advantage of the development opportunities of ICT and the Internet, thus becoming an advanced digital society and reference environment for the deployment of innovative approaches in the use of digital technologies on a systemic level.

At the same time, **high level protection of personal data and communication privacy** in a digital society of ubiquitous internet would be ensured. This would create trust and confidence in digitalisation and cyberspace.

The Government of the Republic of Slovenia, therefore, favours investments in the digitalisation of entrepreneurship, innovative data-driven economy, and the development and use of the Internet, smart communities, cities and homes. Within these limits, it favours research and technology development of "the Internet of things", cloud computing, Big Data and mobile technologies. Because the Government of the Republic of Slovenia wishes to enable **equal integration into the single European digital market** for Slovenian stakeholders, it innovatively uses ICT and the Internet in all developmental areas. In the future, it will invest in education for the digital society.

In order to digitalise the economy and society, to raise greater general awareness on the developmental importance of ICT and the Internet, to improve digital literacy, for the economically active to develop better e-skills, and to create a larger number of skilled ICT professionals, we connect all stakeholders of Slovenia's digitalisation, not only the industry, but non-governmental organisations and other stakeholders as well. For this reason, **the Slovenian Digital Coalition** was established.

Digital transformation of the industry or the digitalisation of production and work processes is a controlled and lengthy process that provides companies with essential competitive advantages in the future and co-shaping of the business environment of the future. State incentives will be aimed at promoting partnerships in the implementation of research, development, innovation and pilot projects as part of the smart specialisation strategies, where digital

transformation is a priority. With the aim of strengthening the competitiveness of digital enterprise and digital industry for digital growth, these incentives will be aimed at new business models, introduction of e-commerce for SMEs, the establishment of an IT platform to support the forestry-wood chain, integration of digital content in free trade agreements and strengthening digital competencies in businesses.

New-age **collaborative platforms**, driven by digital technology, are thoroughly disrupting the current economic model and redesigning the opinions of younger generations on material goods. Last November, the Government of the Republic of Slovenia formed a **working group on collaborative economy** which includes representatives from several ministries. The Government wishes to establish a comprehensive regulatory model which would promote and regulate the development of various forms of collaborative economy.



V. Next-generation broadband network development plan to 2020

In a modern digital society, economic, as well as overall development is directly linked to the **high-quality broadband infrastructure**, which serves as the basis for the development and use of the Internet.

By co-financing, the Government of the Republic of Slovenia will provide inhabitants of rural areas with access to modern communication infrastructure and very fast internet access. This will also create conditions for the preservation of the countryside and for continuous balanced development of this kind of infrastructure in all regions of Slovenia.

In light of less developed broadband infrastructure in Slovenian countryside (according to DESI 2016), the Government of the Republic of Slovenia adopted the “**Next-Generation Broadband Network Development Plan to 2020**”. The objective of the Plan is to ensure equal standing of rural, urban and suburban population in Slovenia in this area.

The Plan establishes strategic guidelines for co-financing the construction of broadband infrastructure through public resources, especially in rural areas. The objective of the guidelines is, **by 2020**, to provide most households with **broadband internet access with at least 100Mb/s**.



VI. Cyber security strategy

Cyber Security Strategy sets up measures for the establishment of an integrated national system to **ensure cyber security on a higher level**. The Republic of Slovenia will provide an open, safe and secure cyberspace, which will serve as a basis for smooth functioning of the infrastructure relevant for the operation of state agencies and the economy, as well as the lives of all citizens.

On the one hand, more rapid development of information and communication technologies in modern society is beneficial; but on the other hand, it affects the emergence of new and technologically more sophisticated cyber threats. There is a growing trend in using ICT for political, economic and military predominance. **Cyber-attacks** are also **a major security threat** in the contemporary world. This has helped to ensure that cyber security, some time ago, became an important integral part of the countries' national security.

By 2020 Slovenia will have set up an effective system for ensuring cyber security in preventing and addressing the consequences of security incidents. To achieve this objective a set of measures will have been taken in the following areas:

- reinforcement and organisation of the regulatory framework of the national cyber security system;
- citizen security in cyberspace;
- cyber security in the economy;
- ensuring the functioning of critical infrastructure in the sector for information and communication support;
- ensuring cyber security in the field of public security and combating cybercrime;
- ensuring safe functioning and availability of key information and communication systems in the event of major natural and other disasters.

An essential objective of the strategy is the regulatory framework organisation at strategic level for ensuring cyber security. Therefore, the Government of the Republic of Slovenia assigned the role of the national authority for cyber security to the Government Office for the Protection of Classified Information. The authority will, at strategic level, coordinate activities and resources for ensuring development of cyber defence capabilities and reinforcement of national cyber security through international co-operation in the Republic of Slovenia.



VII. Digitalisation of public administration

Modernisation of public administration is one of the priorities of the Government of Slovenia. ICT will play a key role in achieving all planned strategic objectives. Therefore, the Government has developed and intensified the execution of several projects with the intention of improving efficiency of public administration and creating a favourable environment for the development of the economy.

PRESTIGIOUS INTERNATIONAL AWARDS FOR SLOVENIAN ICT PROJECTS

In the past six years, the Republic of Slovenia has received numerous prestigious international awards for projects in the field of information and communication services:

- 1) In 2016, the Ministry of Public Administration received the Cisco CMS Certificate award** for successful creation and provision of services of the State Computer Cloud as a quality standard in IT.
- 2) in 2015, the National Cloud Computing project received an award from the American company EMC** for the most innovative IT project in Central Europe, which represents the best reference solution in the region;
- 3) the Multipurpose Interoperability Component for Electronic Data Acquisition Project – Implementation for e-Social Security received a United Nations Public Service award** for the best project in Europe and North America in promoting comprehensive solutions for public administration in the information age;
- 4) in 2013, the Supervisor project received a United Nations Public Service Award** for the best project in Europe and North America in preventing and fighting against corruption in public administration;
- 5) in 2012, the IT-supported Procedure for Drafting Legislation (ITDL) project received a United Nations Public Service Award** for the best project in the field for improving participation in decision-making by using use of new technologies;
- 6) in 2009, the Slovenia Business Point project received a United Nations Public Service Award** for improving the delivery of services in the public sector.



VIII. Reference in specific projects

A. REORGANISATION OF IT IN PUBLIC ADMINISTRATION

In 2016 we successfully established and ensured the operation of a variety of new organisational, financial, personnel and technological solutions or processes at all levels of ICT. We have established:

- **a unified approach to management of ICT systems in public administration** through staff and ICT infrastructure consolidation for 2016 and operation of the Council for the Development of IT in Public Administration and **increased the level of trust (security)**;
- **new manner of joint planning of financial resources**, which contributed to the optimisation of financial resources planning processes and consequently lowering of public procurement costs and equipment standardisation;
- **new way of carrying out joint public procurements**, which resulted in the increase of positive effects of economies scale, equipment homogeneity, better control and more efficient use of hardware and software;
- **new manner of implementing the management support system with the Single Contact Centre** which quickly and efficiently monitors business processes. The communication with users improved, the time of solving problems shortened. At the same time the system effectively supervises the implementation of user needs.

B. »ONCE-ONLY« PRINCIPLE

SINGLE BUSINESS POINT, e-VEM, SLOVENIA BUSINESS POINT

Slovenia has recognised the importance and benefits of the **“Once-Only” principle**, whereby the citizens, organisations and businesses provide their information only once. **The Single Business Point** project provides business entities with all the necessary information through the **e-VEM Portal** in a simple and transparent manner.



In the context of this concept, the existing **e-VEM Portal** already efficiently functions as a business portal where companies and entrepreneurs can carry out electronic services when establishing a company, as well as several those most common and mandatory by law, which the business entity can carry out upon or after establishing a company. The process is swift, simple and free of charge.

The circle of users is expanding, as in addition to business entities, some e-VEM services (applying for compulsory social insurance, registration of insurance against accidents at work and occupational diseases and registration of job vacancy) are being used by public administration institutions.

The portal is designed as a user-friendly website, which - with **over 140 physical VEM points** across Slovenia - presents one of the best practices in business support. The e-VEM portal has 40.000 registered users and in 2016 over 862.000 applications were submitted using the portal.

The Slovenia Business Point was established at the end of 2016. The portal is mainly intended for foreign entrepreneurs from the EU, which along with information on business-making, also provides cross-border electronic procedures.



STOP THE BUREAUCRACY

A single set of measures for providing an improved legislative and business environment on the **STOP the Bureaucracy** Portal offers users an overview of all measures and control for realising measures for a better business environment, and a review of the savings in municipalities in Slovenia. The Government of the Republic of Slovenia is continuously verifying the progress of the



implementation of measures, and keeps the data in the Single Database up to date.

MOPED (Modular Framework for the Preparation of Electronic Documents) and SME Test

With the aim of improving the process for adopting regulations and assessment of the implications of this regulation in different areas in the developmental stage, the application **MOPED** (Modular Framework for the Preparation of

Electronic Documents) is already being prepared and will be in production in spring 2018. Under this application, **all documents in the legislative procedure** will be prepared, as its use will be mandatory for all departments/ministries.

Among other things, through the Application **SME Test** the impact of regulations on the economy is being assessed (SME Test – **Small and Medium-Sized Enterprises Test**) for each act being adopted by the ordinary or summary proceedings, except those adopted by urgent procedure. In the future, this application will be upgraded with RIA in other areas – citizens, environment... For the preparation of assessment of regulations on the economy – SME Test – more than 200 civil servants have been trained.

STATE PORTAL eUPRAVA

The State portal **eUprava** offers Slovenian citizens, per the life events concept, 250 most frequently used electronic services, which are connected to more than 30 databases. 321 content is available in Slovenian language, 170 in Italian and Hungarian. There are 110 e-Applications and 368 forms (Word and PDF). Along with electronic submission of applications, the portal provides its users insight into the status of the submitted application and their personal information stored in national data records. The



portal is adapted to **people with special needs** and those who prefer **mobile technology**.

Statistical data: 30.000 registered users, 30.300 applications submitted applications, 25.000 posts on the bulletin board, 15.000 publications of events

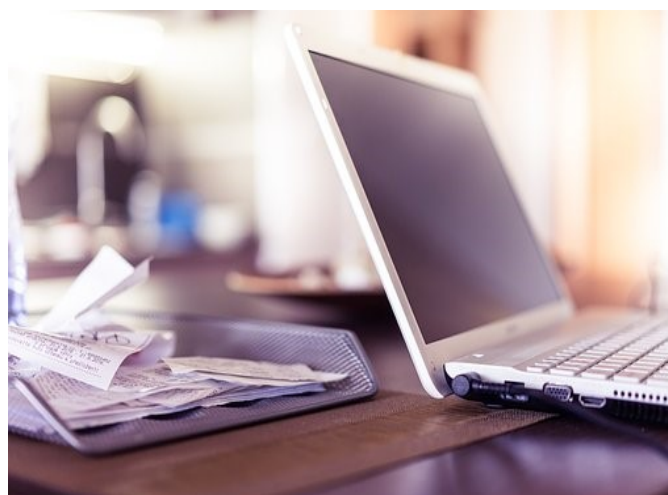
C. »DIGITAL BY DEFAULT« PRINCIPLE

ePUBLIC PROCUREMENT

It is one of the key projects of the “**Digital by Default**” principle. It enables greater transparency of public procurement procedures, and provides possibility for re-use and analysis of basic data. The Government of the Republic of Slovenia is planning a full transmission to **ePublic Procurement** for all users in January 2018, which will result in EUR 20 million savings per year.

The results of joint procurements are encouraging, especially in the health sector. For 2017, 10 such joint procurements are planned. With joint public procurements, the needs of the contractors are done via the e-Catalogue which facilitates and shortens the time needed for the preparation of a specific procurement.

In February 2016, **eAuctions and eReverse Auctions** became obligatory for all state authorities. Because of these two services, significant cost efficiency has already been achieved (7% savings). The



Government of the Republic of Slovenia is encouraging municipalities to use these two tools.

The **eCatalogue** tool allows transparent procurement of goods and services under prior contract. By 2018, the catalogue is planned to be used for 10.000 different products/items.

eINVOICING

eInvoicing has become obligatory since January 2015 and should be used when

dealing with public authorities. This service fully ensures electronic procedures for received invoices.

eHEALTH, ePRESCRIPTION, eREFERRAL, zVEM

With the **eHealth project**, modern IT solutions are being introduced in the Slovenian healthcare system and the local information systems are being interconnected in a functional healthcare information system.

As part of the e-Health project, the **ePrescription** has been active for 2 years. This year **the zVEM portal** for patients and the **eReferral** were launched.

The **ePrescription** solution enables electronic business-making for patients, which in certain cases allows for prescribing medication at a distance. In dispensing and prescribing medication, doctors and pharmacists can use a tool which **verifies interactions and contradictions of medications** taken by a patient. Within the ePrescription, the doctor prepares an electronic prescription and signs it with his or her own digital certificate. Information of the prescription is stored in the **ePrescription Central Repository** which can be accessed by pharmacists during the visit of a patient. All communication takes place in a safe and secure manner. The ePrescription system allows the possibility of consultation between the pharmacist and doctor. In 2017, **more than 85% medications** were prescribed electronically.

By introducing the **eReferral**, patients are able to electronically take an appointment with a healthcare provider. The process is also faster for those patients who do not wish to make an appointment electronically. For all first

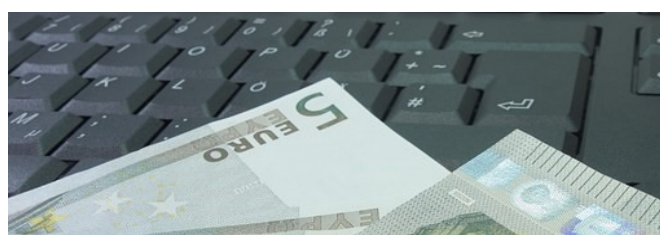
examinations and the majority of diagnostic tests, a new manner of making electronic appointments for patients is available through the **zVEM** portal. On this publicly available site, any user can review information on expected waiting times at different providers and their contact information and makes an appointment accordingly in three basic steps. In April 2017, in **more than 75%** cases the document was used in electronic form.



The **zVEM Portal** provides patients with an overview of all prescribed and dispensed medications with the ePrescription, review of issued referrals and agreed appointments for health care services, the possibility of termination of an appointment for healthcare services, and at the same time also an overview of patient documents in the **Central Repository of Patient Data**, including a user's own summary (almost 50% of the population of the Republic of Slovenia has in the Repository at least on clinical paper, and about 6% has a summary). Via the portal, the patient can submit an application to receive electronic notifications (reminders) prior to the expiry of his or her prescription and the approaching appointment with a specialist or hospital.

ePENSION

The Pension and Disability Insurance Institute of Slovenia provides the **ePension** (eZPIZ and BiZPIZ) portal for citizens and businesses. More than 35.000 users are registered with a qualified digital certificate, meaning they can digitally sign and submit claims and other digital documents, request electronic delivery of the digital



documents, and access their personal insurance and payments information.

eRECRUITMENT

eServices ZRSZ (ESS – Employment Service of Slovenia) – Portal for employers is intended for employers who cooperate with the ESS. The employer can carry out some services electronically and saves him or herself a trip to the Employment Service.

eServices ZRSZ (ESS – Employment Service of Slovenia) – portal PoiščiDelo.si is intended for all job seekers. Users receive notifications on current job vacancies, review job vacancies, present themselves to potential employers and communicate with them, create CVs, register in the

Institute's records, submit an application for compensation, order certificates from the Institute's records, make an agreement with the Institute to collaborate via the portal.



The e-Counselling portal is a tool for effective career planning and job search.

eJUSTICE

Slovenian e-Justice offers the following solutions: information systems for statistical monitoring of data in the operation of judicial authorities, videoconferencing system for carrying out remote

hearings, digitalisation of international contracts, e-Notary, e-Endorsements, e-Liabilities, and e-Dispatch.

eAGRICULTURE

eRKG is an online application which allows the heads of agricultural holdings to inspect their



data from the registry of agricultural holdings. The data is managed by Administrative Units and they include databases in the field of agriculture: register of agricultural holdings, register of graphic units of the use of land by the agricultural holding, register of common pastures, register of hops growers, olive growers, records of fruit growers in intense plantations, records of fruit growers in meadow orchards, and records of grape and wine growers.

eTAXES

The eTaxes portal allows filling out and submitting tax forms from the user's computer at home or in the office. Physical entities can submit tax returns, and legal entities can submit forms for VAT and VIES. Users can also electronically register taxpayers from e-commerce and exchange their information with the tax authorities of other EU Member States and verify tax



identification numbers of tax payers from other EU countries.

eCUSTOMS

The aim of **eCustoms** is to increase the efficiency of customs control to ensure the seamless flow of data. The Financial Administration of the Republic of Slovenia offers on the eCustoms portal the possibility for users to directly use certain applications free of charge: e-Export (the possibility of submitting export customs declaration, inspection of filled declarations, printing SIL, receiving conformation of exit of goods), TARIC3

(nomenclature, import/export, measuring, regulations, anti-dumping/countervailing duty, calculation-control module, trends of tariff quotas SKP), ETROD (applying excise person, submitting electronic excise returns, review of field accounts), EMCS (submission of electronic excise documents, conformation of electronic excise documents), e-Enforcement (sending proposals for enforcement), access into hedging instruments.

eMUNICIPALITY

eMunicipality is the inter-municipal portal for modern business-making with the municipality, e-commerce with the municipality, such as submitting electronic applications, online payment of fees, decisions.



D. SINGLE DIGITAL GATEWAY

GOV.SI

The Government of the Republic of Slovenia is developing a single digital gateway and a digital portal **GOV.SI** for citizens, foreigners, non-governmental organisations, business entities and public administrations. Gradually, **more than 270 already existing sites and portals of public authorities** will be included in the portal.

The structure of the content will be based on life events of the user, or areas identical to the user's needs. **Single standards and criteria** for performance on national webpages will be created. These will assess the meaningfulness of establishing each new public administration website as a separate entity.

SINGLE CONTACT CENTRE

The **Single Contact Centre** (EKC) of public administration is a service intended for all citizens and public administration employees. It is a **direct two-way communication** between users/customers and the State via the telephone and electronically (email, online forms). Through EKC, the public administration receives and solves problems of users, provides quality information on the organisation and operation of public authorities on administrative and other services, and offer technical support in using public administration electronic services.



EKC also accepts their remarks and suggestions for improving operation to which it provides feedback.

E. TRANSPARENCY AND OPEN DATA

PORTAL OPSI

The **National Open Data Portal (OPSI)** presents a single online point for publication of public sector data. The portal provides everyone/its users with the right to freely and easily reuse data published as "open data", i.e. in machine-readable form and under an open license, which allows the creation of new analyses, applications, visualisations, and the like. In addition, OPSI also contains the **catalogue of all records and databases of public authorities**. According to the latest EU Report on open data maturity 2017, Slovenia ranks 7th and is among leaders—trendsetters that have implemented an advanced open data policy with



extensive portal features and national coordination mechanism across domains.

Statistical data: 353 published descriptions of databases, 36 public sector institutions is publishing data, from the establishment of the portal in December 2016 by the end of February 2017, there were 4.902 visits, 2.022 downloads and 1.667 unique downloads.

ERAR, STATIST

The **Erar** online service provides public **insight into transactions** of public institutions, state-owned enterprises and municipalities. It also contains data on legal persons governed by private law, which facilitates transparency of the State and limits corruption risks.

Statist – the new web-based application – is available to the general public; it provides an integrated and updated publication of contracts (procurement) since 2013. By accessing Statist (contracts) and Erar (realised contracts) the user gains comprehensive and transparent insight into the **field of public procurement**.

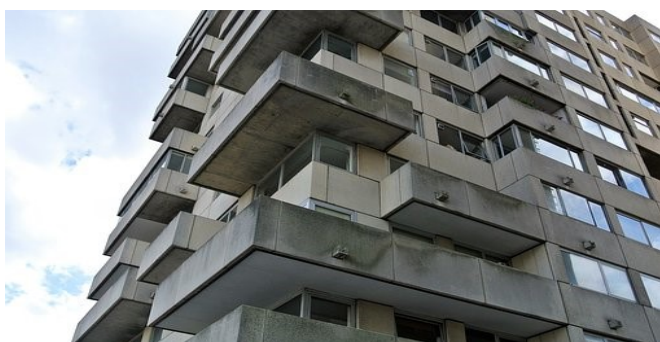
PUBLIC SECTOR SALARY PORTAL

The **Public Sector Salary Portal** provides the general public with **insight and data analysis** on masses of individual types and resources the budgetary users

account for the salaries of public sector employees. The portal draws information from the single system on public sector wages – ISPAP.

eSPACE PORTAL

This application enables **free access to graphical and descriptive information on users' properties** that are kept in geodetic records. With the last update,



the data on the cadastral income was added, the graphical presentation was refurbished and the generalized market values of real estates were published in the application Public Access.

The application module for issuing statutory certificates from geodetic records was fully renovated in the application Access to the information on real estate for registered users and the application Public access to the property sales register was newly created.

F. INTEROPERABILITY

NIO PORTAL

The National Interoperability Framework Portal – **NIO** is a website intended for the exchange of interoperable solutions and public sector assets. The purpose of the portal is to **publish information on experiences and good practices** and recommend the use of modern, user-friendly and interoperable public services, improve the systems' and organisations' interoperability and contribute to the efficiency and transparency of the public

sector. The portal is used by all public sector institutions as well as business subjects, physical entities and other interested parties.



CENTRAL BUILDING BLOCKS

The Ministry of Public Administration of the Republic of Slovenia provides common building blocks for the use in application solutions. One part

refers to the **trust services**, and the other to **electronic acquisition of data**.

1. CENTRAL BUILDING BLOCKS FOR TRUST SERVICES

The Central system for authentication of users **SI-CAS verifies electronic identification** in one place. The two larger systems already using this portal are the State portal eUprava and e-VEM portal. In the coming years, most public sector e-services will transition to this system, as it is important to clearly verify users' identity. Other building blocks for provision of trust services are also being developed. The most important of which is the system for central server eSignature and the central system for eDelivery.



2. MULTIPURPOSE BUILDING BLOCKS FOR ELECTRONIC DATA GATHERING

Multipurpose building blocks for electronic data gathering (Tray, IO-Module, Asynchronous Module, and Security Platform) and the SOVD building block for the exchange of big files are two examples of good practice.

These building blocks were **primarily developed for the needs of e-Social Security**; however, they are being used as common building blocks in other information systems which require their functions.

Building blocks are very stable, reliable and highly automated. In practice, for the use of e-Social Security, 10.000-30.000 financial situations from more than 50 sources in public administration and beyond (e.g. banks) are being acquired daily. Recently, the European Commission pointed out these building blocks as **one of the ten good practices of the new generation of Open Government Services**.

Today, numerous public institutions are already acquiring data with the help of building blocks (e.g. Ministry of Labour, Family, Social Affairs and Equal Opportunities, Ministry of Education, Science and

Sport, State Prosecutor's Office, State Attorney's Office, Ministry of Public Administration, Ministry of Agriculture, Forestry and Food etc.).

G. SLOVENIAN STATE CLOUD

The **Slovenian State Cloud (DRO)** establishes a computerised infrastructure for direct budget users and provides them with storage, development, business and other forms of services. This infrastructure provides services which deal with sensitive, personal and other data and information which the State does not wish to store outside its controlled environment.

By 2020, two more services will be developed: the hybrid cloud and the innovative-development cloud.

The Hybrid Cloud (HRO) will offer solutions to the public sector. A commercial provider will ensure this cloud; however, the data will not leave the country. As a rule, the users will have to pay to use the service (indirect budget users, municipalities, public institutes, agencies). Services or software used by public institutions **can be put into use in the broader public sector**.

The **Innovative-Development Cloud (IRO)** will serve as a **development platform** for educational establishments and start-ups. IRO will be accessible to the recipients of state subsidies and aids (RRI), as well as small and medium sized start-ups which will have to keep records of their results (products) all in one place. Developers will be motivated and trained under the concept of "universal solutions", which will be of use in the region and the EU. The model will be offered to the EU and in the region (roaming, platform).



H. BUSINESS ANALYTICS AND BIG DATA

The use of business analytics, especially big data presents a **new, simpler method of operation and data-driven decision-making at all levels** – not only operational and tactical, but strategic as well.

The DRO presents a platform for systemic and application solutions, where we, in 2016, successfully carried out the **first pilot project for the establishment of business analytics "Chest" (Skrinja)**. Based on the results of the pilot project, we are preparing a project of establishing business analytics and data warehouses in public administration which will be available as a horizontal service to public administration

authorities (mainly for joint applications).

In addition to the DRO infrastructure which represents one of the prerequisite conditionality for the establishment of the Big Data processing platform, we are developing concepts of the so-called **data map, data repository and data dictionary**. With these concepts, we simplify the introduction of the business intelligence concept and Big Data processing concept in an innovative way. The concepts will be adapted for use in a wide range of sectorial areas.

For the purposes of introducing data analytics, business intelligence, and Big Data tools, the **Administration Academy** has prepared a

comprehensive training programme, which also encompasses a motivational seminar and more modularly flexible courses and workshops.

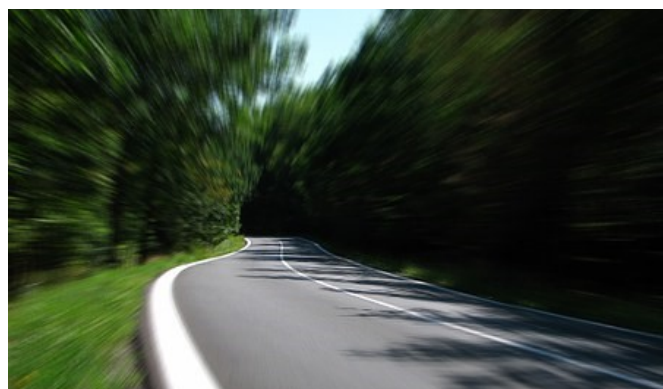
»JOZEF STEFAN« INSTITUTE

The Institute carries out world-class research and development of technologies, such as nanotechnology, new materials, biotechnology, technology and production management, communication technology, computer technology and technology skills, environmental technology and reactor technology.

A key project of the Institute is the **Event registry portal** where all world events (news), in both traditional and social media, are monitored in one place. Based on the received information, the portal establishes trends, predictions, what is happening in the world.... They are also active in the field of artificial intelligence – they collaborate with IMB – Watson.

I. CONNECTED AUTOMATED DRIVING

Slovenia supports connected automated driving (CAD) and has **started with preparatory activities** relating to cooperative systems. **C-Roads Slovenia** is a pilot project of introducing cooperative systems to transfer information in real time which is based on vehicle-to-vehicle, vehicle-to-infrastructure, and infrastructure-to vehicle. These systems **can significantly improve the efficiency of the transport system, the safety of all road users and comfort of mobility**.



In early October 2016 the **C-Roads** platform became operational. The platform integrates state institutions and road operators from 11 EU Member

States. The platform coordinates activities for the implementation of cooperative intelligent transport systems (C-ITS) in Europe.

J. HIGH PERFORMANCE COMPUTING

High-performance computing is **one of the strategic objectives of the Slovenian Digital Strategy 2020**. Slovenia is continuing development of the national supercomputing cluster for research institutions – the Slovenian Initiative for the National Grid (SLONG) is being coordinated by Arnes.

HPC can present an **important competitive advantage** in research and industrial areas for Slovenia. The knowledge in the field of HPC in Slovenia is united in a few knowledge centres (especially Arnes, Institute Jozef Stefan, Faculty of Computing and Information Technology, Faculty of Electrical Engineering).

K. DIGITAL SKILLS

The adaptation to the requirements of the new reality of a digital society demand adequate ICT skills. That is why **Slovenia encourages and pursues the objective of enhancing e-skills and knowledge** in order to empower its citizens, so they can fully integrate in the digital environment and be innovative and creative in the use of ICT, and will participate in the process of changing and creating new knowledge, ideas, solutions and ways to use technology.

The establishment of an **inclusive digital society** will facilitate and expedite the adjustment to the digitization of existing jobs and contribute to the development of new business models, work processes and jobs and thereby accelerate the integration of the so-called **fourth industrial revolution**.

In September 2017, the **UNESCO 2nd World Congress of Open Education Resources** was held.

L. 5G MOBILE NETWORK

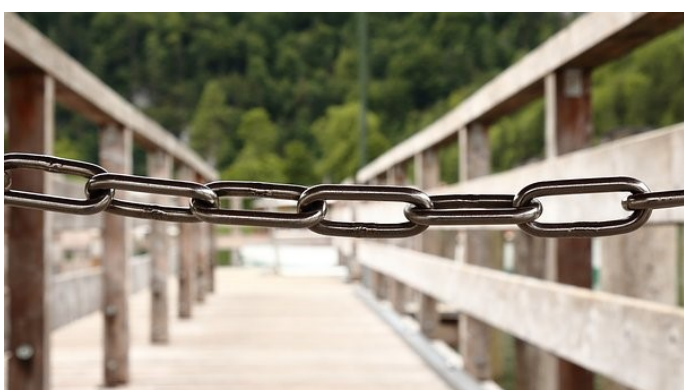
The Republic of Slovenia adopted an **ambitious strategic plan for the development of its broadband infrastructure by 2020 (100 Mb/s for all)** and is committed to its realization. Slovenia wishes to establish **a pilot project 5G for the entire country**.

For faster development and implementation of 5G mobile networks, Slovenia proposes the creation of **cross-border pilot projects** which will accelerate the utilization of the development potential of this technology to meet the needs of advanced innovative solutions in different application areas. We need to create good conditions which will encourage companies producing equipment and mobile operators to invest in new generation mobile technologies and networks. In December



2017, the Memorandum of Understanding on cross—border cooperation in the development and testing of the 5G public protection and disaster relief pilot project was signed between the Republic of Slovenia and Hungary.

M. BLOCKCHAIN TECHNOLOGY



Blockchain or technology of data blocking is groundbreaking in many respects, in addition to exceptional aspects of high security and transparency, it provides services which are performed in just a few minutes which would in the past take a year or more. Until recently, this technology was used primarily in the financial sector or in the field of crypto-currencies.

Slovenian companies have achieved exceptional and disproportionate success in this field – for example, one of the largest online crypto-currency exchanges was set up by Slovenes.

In recent years, **successful Slovenian companies in the use of blockchain technology are already among the leading developers of digital investment platforms in the world.**

Last year, we achieved great success of the **ICO (Initial Coin Offering) platform** which was developed by Slovenes. This platform enables young, potential internet start-ups to raise their core capital. Of course, further possibilities of using the platform are much greater than of those mentioned. On its own, it is an excellent basis for Slovenia to exploit its development potential and become the leading “blockchain start-up” destination in the world.

The true potential of the technology is reflected by the recent arrival and exceptional success of the **Ethereum** platform which allows, in addition to financial transactions, smart contracts which will bring significant savings to companies and simplify the implementation of most of mandatory processes. Given the development activities abroad, it is clear that we will experience a large disruption in this field, for which we will have to be prepared, from the point of view of both users and creators of new solutions. Slovenian start-ups are also exceptionally active in this area from projects such **as platforms for marketing of electrical energy and creation of other energy services to solutions in traditional industries** (e.g. in the forest-wood chain in Slovenia), which enable the stakeholders to connect in these branches.

As part of the stand of the Slovenian economy in the “**green, creative, and smart**”, Slovenia strives to become one of the leading countries in introducing blockchain technologies. Technologies online today enable only secure transfer of value, greater efficiency of services and can serve as a basis for the services of companies and the State, thereby contributing to greater competitiveness of the economy and welfare of the entire society.