DigitAgenda 2016

Premise

The digital economy is a whole lot more than the mere digitalization of commerce.

It is our commitment to the comprehensive transformation of businesses, processes and the productivity of the individual, as well as client relations, through the application of existing and innovative information and communications technologies.

Mission

Digital is not parallel, it is supersession!

2025 Objective

Engender the rapid growth and development of Slovenia's digital economy and accomplish its transition to the upper quartile of the European Commission's Digital Economy and Society Index (DESI), which summarises relevant indicators of digital performance and tracks the evolving digital competitiveness of EU member states. The objective is for Slovenia to rise from the current 18th position to 10th place by 2025 (i.e. up one place per year).

For digitalization to create 10,000 new jobs and engender a 3 % annual rise in Slovenia's economic productivity by 2025.

A necessity

"Without the resources afforded by digitalization, it would be hardly possible for us to be competitive on such a demanding market. The trends are what they are; you simply have to adjust to them else you will eventually disappear."

Kovis

Without delay

"Attaining responsiveness and flexibility of delivery, without any delay on the part of suppliers is one of the major accomplishments of digitalization. We manage an increased number of clients and achieve three-times the sales with the same number of employees as we did ten years ago."

KLS Ljubno

THE OBJECTIVES OF DIGITALIZATION

The Third Industrial Revolution

The Economist, April 2012

Digitalization will bring production closer to the consumer

"Offshore production is increasingly moving back to rich countries not because Chinese wages are rising, but because companies now want to be closer to their customers so that they can respond more quickly to changes in demand."

New challenges for the state

"Consumers will have little difficulty adapting to the new age of better products, swiftly delivered. Governments, however, may find it harder. … they will have to provide better schools for a skilled workforce, clear rules and a level playing field for enterprises of all kinds."

Manufacturing's Next Act

(Mc Kinsey, June 2015)

Coming to terms

"These changes and many others like them are sure to be far reaching, affecting every corner of the factory and the supply chain. ... The executives surveyed estimate that 40 to 50 percent of today's machines will need upgrading or replacement."

The bigger picture

"To get the most out of Industry 4.0, companies will have to prepare for a digital transformation. Manufacturers should begin today to join the hunt for the best digital talent, and think about how to structure their digital organisation."

The Four Things It Takes To Succeed In The Digital Economy

(Harvard Business Review, March 2016)

"A focus on customer expectations, product enhancements, collaborative innovations, and organizational forms are all necessary to achieve success in the digital economy."

Organizational Leadership

"The companies that are most successfully adapting are making a cultural shift from "Mad Men" to "Math Men," where decision making is increasingly based on data rather than on the frequently wrong opinions of senior executives. These companies are adding data scientists to enhance organizational learning."

Wikipedia

Digitization: the conversion of analog information into digital form ... a process by which technology lowers the costs of storing, sharing, and analysing data. The digital transformation has changed how consumers behave, how industrial activity is organized, and how governments operate, and thus necessitates the development of new economic models.

Digitalization: the processes of technologically-induced change within industry ... enabled by such phenomena as the Internet of Things, Industrial Internet, Industry 4.0, Big data, M2M and linked to holistic views on business & social change, horizontal organizational and business development, as well as IT.

TRENDS IN DIGITALIZATION

Currently, Slovenia is median ranked in the global scale and ranking of digital development (28th according to the Digital Evolution Index developed by the Fletcher School of Tufts University in the USA). Based on the rate of progress of its digital development (38th of 50 countries surveyed in the Fletcher School's DEI), Slovenia ranks among the countries in relative regression.

The most recent Digital Excellence Study undertaken by the global management consultants A.T. Kearney provides evidence that companies still fail to perceive digitalization as a means of increasing sales.

According to the views of some 450 global managers, fifty percent of consumer sales shall be accomplished via digital platforms by 2020. Hence, as a factor which is drastically changing business models, digitization is both an opportunity as well as a threat. Fifty percent of the managers expect that digitization will exert a large if not transformational effect on their operations.

Slovenian managers tend to agree, but they lag behind their regional competition:

- **Only 32% of Slovenian enterprises express a wish to speed up their digital transition in relation to business with the external partners, which is substantially less than the 78% average recorded in relation to the developed countries of Europe, the Middle East and Africa (EMEA).**
- **85%** have digitalisation on their list of priorities (while **88%** of managers in developed EMEA countries rank digitalisation as a priority).
- **60%** of Slovenian managers expect their sales to decline by between 5 and 15%, indicating they perceive digitization as a threat.
- **50%** estimate that existing value chains and thereby power relations shall alter considerably over the coming years (**60%** in developed EMEA markets). More than 30 percent of companies are already allocating in excess of ten percent of their budgets to the development of digital channels.
- **25%** of Slovenian enterprises have adopted a digitalization strategy (**45%** in developed EMEA markets).
- **50%** estimate that digital abilities are very important in recruitment and sales activities; **88%** of surveyed Slovene enterprises believe that employees will have to adapt their skills accordingly.

Slovenian companies place their hopes in big data analytics, that they anticipate will provide them with new knowledge and patterns, and consequently a foundation upon which they can develop innovative services. The remaining key areas that are anticipated to lead to larger

24-7 and beyond

"Digitalization is here. It has brought about the complete transformation of a traditional industry which remains successful due to the implementation of new models. Through digitalization, the analogue era challenges of the five-to-midnight orders have been replaced by the five-minutes-past ones, something which poses new challenges to us all."

Štore Steel

Following the guidelines of Industry 4.0

"Kolektor's SinaproMES production management system integrates the latest guidelines of Industry 4.0. Such systems are fundamental for lean business, they enable monitoring and control of everything from raw materials to end products, as well as rapid decision-making on the basis of credible real-time data."

Koncern Kolektor

changes, are the Internet of things, the application of algorithms, together with artificial intelligence and advanced robotics.

The reasons why digitalization fails to deliver sufficient results in companies is an insufficient understanding of the subject and its principles, the lack of objectives, a poor understanding of the abilities of personnel, and, from the top downwards, an excessive focus on metrics.

DigitAgenda

Text Colour Coding:

Recommendations to the STATE

Recommendations to COMPANIES

Recommendations to both the STATE and COMPANIES

www.gzs.si/digitagenda

General Recommendations

Key Objective:
Rising three places on the European Commission's Digital Economy and Society Index (DESI) and achieving at least the average rate of growth in three of the four areas by 2018.

1. Creating a substantial and effective national digital coalition

The formation of a Slovenian digital coalition which will connect public administration and research and development providers with the economy. As stakeholders in the development of the digital economy this coalition shall be charged with the following principal tasks:

- adopting a strategy and action plan for digitalization, including the establishment of a broad-band network as a priority by mid-2017;
- adopting measures in order to increase general awareness as to the significance of digitalization in terms of development;
- establishing a partnership between the state and enterprise in relation to information and communication technologies in order to instigate projects that will develop demonstrative reference digital products that may subsequently be marketed globally.

Objective: To gain three places on the economic complexity index (ECI) in relation to exports, achieved by way of increasing the export of goods with higher value added.

2. State support in digital development

In conjunction with key stakeholders, the state should support R&D investments in digitalization in a manner that:

- provides guidelines for tax relief and grants in relation to R&D endeavours that shall facilitate the broadest possible support to digitalization.
- provides guidelines for public procurement in relation to information and communications technologies. Such shall differentiate between maintenance and development procurements, and, in relation to development technologies, shall preclude selection solely on the basis of low price.
- stems the Slovenian brain-drain and the outflow of professionals abroad.

Objective: Increase state expenditure on digitalisation R&D by 50 million euros over the coming year.

3. Modernisation of school curricula

Implementing a national strategy for innovating education in state schools. This should encompass:

- consideration as to the requirements of the economy, the adoption of syllabuses facilitating the acquisition of IT skills, including an increased proportion of practical training for students in real business environments;
- introduction of computation and informatics in elementary schools by the 2018/19 academic year.
- integration of pupils and students in the processes of conceiving notions as to the digitalization of the economy: a call for applications for innovative ideas, inter-faculty competition in digitalization concepts.

Objective: Acquisition of at least 5,000 informatics and digitalization professionals by 2020.

4. Attracting foreign professionals to Slovenia

The state should create conditions and provide various stimuli to attract foreign professionals and enterprises to Slovenia; such should also encompass more favourable conditions in relation to obtaining Slovenian citizenship, as well as amendments to personal income tax legislation.

Objective: To increase the number of foreign citizens active within Slovene enterprise from the current 5.2% of total to 7%. Focus should be made on soliciting the interest of foreign experts in digitalization.

5. Digital strategies for enterprise

There exists a need to enhance and enrich corporate strategies with digital strategies. Companies should elaborate their digital strategy, while the systematic training of employees in digitalization and informatics has to become a key component of such strategies.

Objective: To increase of the number of Slovene companies with a digital strategy from the current 25% to 45% by 2018.

Recommendations Of The Infrastructure Working Group

Key Objective:
Slovenia needs to establish infrastructure in the fields of communications, human resources and standards, with the objective of speeding up the digitalization of the Slovenian economy in compliance with the objectives of the EU's Digital Agenda 2020. This should encompass an upturn in ICT infrastructure (hardware and software) investment at least to the OECD average of 2.7% (currently 1.8% of GDP in Slovenia)

Source: OECD Digital Economy Outlook 2015.

Digital supply chain

"Thanks to digitalization, we have reduced our procurement department to just two people; we have also reduced inventories, gained overviews of order confirmations, facilitated prompt control of agreed prices, as well as automated the flow of information between applications, as well as between us and our suppliers."

AJM

Digital evolution

"GoOpti embarked on a digital transformation three years ago through implementation of the digital market model, which has gradually evolved into a platform supported by intelligent algorithms for cloud computing."

GoOpti

1. IT highway
In addition to the provision of classical infrastructure, uninterrupted operation also requires universal broadband access embracing both fibre optic as well as 5G wireless networks. At present the IT super-highway is not accessible in all parts of the country.
Objective: Attaining full broadband coverage of Slovenia, with connections to enterprises with fewer than fifty employees.

2. Standards for digital connection and operation
Provision of platforms and adoption of standards for the digital interconnection of enterprises by 2018, to be organised by the CCIS. This project shall also involve the preparation and adoption of digital standards in national and international logistics as well as related service provision (digital waybill, etc.).
Objective: The more efficient development of inter-connections and cost-effective operation of companies.

3. Introduction of the single window
The logistics single window is an initiative which aims to implement a national information and transaction platform that integrates all import, export and transit operations, with the aim of facilitating international trade. It shall necessarily encompass all those involved in the logistics chain, namely, importers and exporters, hauliers and shippers, freight forwarders and customs agents.
Objective: To increase the value of Slovenia's goods exports by at least 100 million euros by 2018.

4. Public communications network
Facilitation of commercial application by April 2017. This requires legal determination as to the type and volume of critical infrastructure as well as the tasks of critical infrastructure providers and consider these in the context of sharing public infrastructure.
Objective: To increase the value added generated by ICT from the current 4.3% to 5.5% by 2018.

5. Open internet on public transport systems
Selecting and establishing economically viable wireless communications across public transport networks, including train-to-ground systems, by the end of 2017.
Objective: Increased user benefit with the aim of increasing passenger numbers using the rail network by at least 5% by 2018.

6. Road traffic monitoring system
Establishing a highway monitoring system with the aim of improving traffic regulation and flow, thus achieving optimisation of Slovenia's road network by the end of 2018.
Objective: an overall reduction of 10% in freight transport times by 2018, achieved through the implementation of a system of optimisation and prevention.

7. E-business
Companies should make the e-business transition considerably more rapidly as well as implement business and logistics standards.
Objective: an increase in e-business of up to 10% by 2018.

Recommendations Of The Digitalization Of Industry Working Group

Key Objective:
Achieve a 7% increase in value added from manufacturing by 2018.

1. Virtualisation of operations – virtual factory
In order to control all processes and eventuality, companies should model their operations through virtualisation.
Objective: To optimise operational management and increase Slovenia's overall corporate operating profit (EBITDA margin) by one percentage point by 2020.

2. Establishment of value added chains via a digital platform
The digital modelling of value added chains shall also enable automatic ordering, scheduling and supply.
Objective: Optimisation of operational management in industry and increase EBITDA margin by one percentage point by 2020.

3. Connecting with Germany's Industrie 4.0
With the objective of following the standards implemented by Germany within its Industrie 4.0 project, which aims to achieve connectivity between different IT systems in manufacturing, it is reasonable that the CCIS acts as an intermediary in the provision of information to Slovene enterprises wishing to develop commercial relations with German firms and customers.
Objective: More rapid integration of Slovenian companies into international value chains.

4. Establishment of the patent box
The establishment of a patent box would provide tax relief in intellectual property revenues deriving from digital innovation. Deadline: 2018, i.e. within the next package of tax legislation.
Objective: to increase private sector investment in ICT R&D from the current 0.2% of GDP to 0.38% of GDP (the OECD average).

5. Digital single entry point
The establishment of a digital single entry point through the provision of uniform interfaces (data entry format). In addition to facilitating the one-stop submission of information required by the state, this shall also allow automatic data processing. Deadline: by the end of 2017.
Objective: A 10% reduction in the time companies spend reporting, by 2020.

6. Digital training in industry
All employees need to be additionally trained or retrained in order to prepare them for the challenges of the digital future. This will reduce potential layoffs due to lack of competence and consequently lessen the social issues consequent to unemployment.
Objective: To increase the percentage of ICT professionals in the Slovenian economy from 4.7% of total today, to 6% by 2018.

Digital tsunami will soon hit Slovenia

"The digital tsunami, which comes in waves from both west and east is washing the shores of Europe, and will sweep away much before it. These are turbulent times. This said, however, Slovenes have made something of a tradition of putting together great coalitions that have allowed us to weather such storms."

Špica International

Fewer mistakes

"Data in relation to material characteristics is obtained through modern testing machinery, which transfers data in a digital form to a simulation programme. This contributes to better quality results and simulations, whilst simultaneously providing more reliable development solutions."

Gorenje Orodjarna

Recommendations Of The Digitalization Of Services Working Group

Key Objective:
Increase Slovenia's ICT service exports from the current 145 to 180 million euros by 2018, as well as for the country to rank among the top ten digitally mature EU economies by 2025. Currently, Slovenia lies in 18th position among the EU 28 according to the Digital European Society Index.

1. Provision of a central digital scoreboard and implementation of a digital maturity index

The digital scoreboard shall monitor and evaluate Slovenia's achievements through the assessment of key performance indicators. At the same time the state would encourage and underwrite investments in digitalization,
Objective: Accelerated digitalization across all branches of the economy.

2. 3,000 new start-ups by 2020

By 2019, it is anticipated that 1,000 companies in Slovenia should invest risk capital in up to three new start-ups or other micro and small companies, as well as provide them with incubation and mentorship.
Objective: The creation of 1,000 new job opportunities for young people by 2018.

3. DiSi – the Digital Slovenia platform

Creation of a virtual platform in order to promote the digital upgrade of products and services, as well as foster the improvement of processes in the light of disruptive innovations of existing business models (4.0 industries, e-commerce, the sharing economy, fin-tech, new forms of mobility, etc…).
Objective: Increase the percentage of companies using cloud services to at least the OECD average (22%) by 2018; currently only 15% of Slovenian companies use such e-services.

4. Innovation centre hub

Establishment of a central hub of Slovene innovation centres - Digital Innovation Hub - by 2017. Virtual connection of development centres and incubators in a central hub will facilitate the realisation of ideas through the implementation of pilot projects.
Objective: Increase ICT patents in Slovenia (currently 16% of total patents) to 25% of total by 2020 (the OECD average is 37%).

Recommendations Of The Digital Regulation Working Group

Key Objective:
Regaining the five places Slovenia has lost on the World Economic Forum's networked readiness index by 2018. Based on this index of digitalization, Europe lags behind Japan, the USA and South Korea. Slovenia is currently ranked 18th among EU countries.

1. Adoption of key digital legislation

Slovenia's adoption of a new electronic communications infrastructure legislation by April 2017 shall facilitate and reduce the costs of procedures in relation to the joint construction and co-use of infrastructure as well as the acquisition of easement.
Objective: A ten-day reduction in the length of procedures - as determined by construction legislation - by 2018.

2. Digital test – consolidation of analogue legislation

Legislative procedures should anticipate assessments as to the effect of amendments on digital-economy-related legislation, similar to environmental impact assessments or managed service provision metrics (software supporting assessment as to the effects of anticipated regulations on the economy, in particular in relation to micro, small and medium-sized enterprises). Existing legislation should also be consolidated to facilitate the digitalization of the economy.
Objective: More user-friendly legislation; elimination of confusion and problems in implementation.

3. More rapid and improved accreditation and certification in accordance with eIDAS (electronic identification and trust services for electronic transactions in Europe's internal market)

Not later than autumn 2017, preparation of the necessary documentation for the accreditation of eIDAS auditors, together with certification of electronic services and software to be used in cross-border business.
Objective: Achieve a 50% increase in B2B electronic cross-border payments by 2018.

4. The least possible number of paper invoices (required by inspectors)

FARS (Financial Administration RS) should support reduction of paper business documentation whereas FARS personnel is expected to be familiar with the requirements regarding legal validity and probative value of electronic documents, in particular those transformed from paper to digital form. FARS and the officials of their inspectorates cannot require the storage of paper documentation which was transformed into digital form, digitally signed, which is equivalent to hand signature, and time-stamped (time stamp is used to prolong the validity of stored e-documents).
Effect: Reduction in the cost of invoice storage; ten years of paper archive is a billion invoices, and a massive, costly and unnecessary storage challenge.

5. Separation of business and archive material

Business documentation cannot be regulated by the same legislation as archived material and documents, which is currently the case. This issue is of national importance.
Objective: Simplification of business documentation processing and storage.

6. Cogent security

Conditions for the legal validity and probative value of electronic business documentation - for example standard contracts, invoices, delivery notes and order forms - merely necessitates advanced digital certification and not digital certification of the highest level of security

Almost paperlessa

"Internal analysis revealed a considerable cost saving in the issue and receipt of e-invoices in relation to paper ones. Our goal over the next year is to increase the percentage of e-invoices and continue to roll out the digitalization project across all other business documentation and related work-flows. The ultimate objective is paperless operation."

Intereuropa

No development without digitalization

"The growth of the company has necessitated the electronic management of metrics; indeed we've implemented 53,000 metrological inspections by the end of this October. Further development, expansion into foreign markets together with the management of operations and the issue of certificates is unimaginable without digitalization."

Lotrič Meroslovje

(such as may be prescribed through the provision of cards or USB drives). Moreover, legal validity and probative value cannot be conditioned solely through the application of remotely qualified digital certification (electronic identity providers).
Objective: Achieving an appropriate balance between the level of security and legal validity in relation to electronic documentation.

7. Instigation of an official electronic system to verify the identity and communications of legal entities and natural persons
A system supporting the traceable and verifiable exchange and delivery of e-documents should be rendered possible. This shall require the legally regulated establishment of e-identities and e-addresses with the characteristics of official physical addresses
Objective: Embracing 50% of e-documents by 2020.

8. Digital regulation – de-bureaucratisation
The harmonisation of Slovenian legislation with that of the EU should take into consideration Slovenian specifics and interests, whereas all eventual legal obstacles should be minimised to those which are binding.
Objective: Achieve a 10% reduction in the number of companies suffering problems consequent to unnecessary bureaucracy by 2018.

Note: The above objectives are established on the basis of existing data drawn from various sources: CCIS Analytics; Digital Economy and Society Index (European Commission); The Harvard-MIT Atlas of Economic Complexity; Statistical Office RS; A.T. Kearney; OECD Digital Economy Outlook 2015; EDPR - Europe's Digital Progress Report 2016 - Digital Single Market; Agency of the Republic of Slovenia for Public Legal Records and Related Services; The 2016 Global Information Technology Report (technological readiness scoreboard) - World Economic Forum.

ROLE OF THE CHAMBER OF COMMERCE AND INDUSTRY OF SLOVENIA – THE CCIS

The CCIS assists and supports its members - and small businesses in particular - in achieving an easy, economical and efficient digital transformation.
Its agency and services available to SMEs in Slovenia encompass such areas as:

- **Competence**: organisation of training courses and consultancy in the field of digitalization.
- **Finance**: assistance in obtaining public and other available funding in relation to the digitalization of SMEs operations and their internationalisation (the CCIS proposes a voucher system).
- **Access to the state**: a single point of access for operations involving state authorities – all services available at a single point simplifies operations.
- **Standardization**: certification and administration of global and local e-Business standards, together with support to SMEs in their implementation (Industry 4.0).
- **Internationalisation**: provision of a digital showcase for Slovenian commerce and industry.
- **Digitalized services**:
  - **digitization of official documents**;
  - **eService support for members** (eBusiness register, exchange, digital internationalisation, networking and inter-connection);
  - **provision of additional content, information and portals**,
  - **e-linked services from a single point** (encompassing national and regional associations and authorities).

The CCIS is also active in the implementation of a smart specialisation strategy and the establishment of strategic development and innovation partnerships, and thereby a horizontal digitalization of commerce and industry. As such, the CCIS is integral to the initiation of projects that will foster digitalization and the commensurate development of the Slovenian economy.

Groups Elaborating DigitAgenda 2016

Digitalization of Infrastructure
Members: Martin Novšak - head (Gen Energija), Boštjan Gruden (Aps Plus), Boštjan Blokar (Luka Koper), Matjaž Pogačnik (Telekom Slovenije), Matjaž Kranjc (Slovenske Železnice), Janko Janežič (Stelcom), Miro Smrekar (Adecco), Robert Sever (CCIS - Transport Association), Dušan Zupančič (CCIS - Informatics and Telecommunications Association).

Digitalization of Industry
Members: Blaž Nardin - head (Gorenje Orodjarna), Jošt Rupnik (EBM - Papst Slovenija), Valter Leban (Kolektor Group), Tomaž Savšek (TPV), Aleš Hančič (Tecos), Čedomir Bojanić (Fining), Marko Bohar (CCIS - Electronics and Electrical Industry Association, Goran Novković (CCIS).

Digitalization of Services
Members: Tone Stanovnik - head (Špica International), Maria Anselmi (Bisnode), Nataša Koražija (Finance), Tomaž Okorn (Sova), Matej Golob (Lean 30), Pavel Škerlj (Petrol), Polonca Blaznik (Ministry of Public Administration), Marjan Turk (Ministry of Public Administration), Matej Detić (AMZS), Matjaž Mušič (NLB) and Dušan Zupančič (CCIS - Informatics and Telecommunications Association).

Digital Regulation
Members: Cvetka Tinauer - head (Eba), Tatjana Vošinek Pucer (Intereuropa), Ivan Šmon (Elektro Gorenjska), Danijel Keuc (AJM), Marjan Antončič (Osi), Miha Poberaj (Osi), Boštjan Koritnik (Pravnik magazine), Peter Merc (Lemur Legal), Matija Kodra (Ministry of Public Administration), Matej Kurent (New Frontier Slovenia), Luka Pregelj (CMS-RRH), Marko Djinović (CCIS), Igor Knez (CCIS).

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