RE-DESIGNING PUBLIC SERVICES FOR THE 21ST CENTURY

COMPARATIVE ANALYSIS OF THE E-REFORMS IN ESTONIA, BULGARIA, AND ROMANIA

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Foreword

Long queues, limited working hours, crippling bureaucracy, lost or damaged papers and ultimately remaining unheard when reaching out to the public administration. A story, most can relate to.

Many still face the bureaucratic hurdles on a daily basis, but others have completely crossed them out. The introduction of ICT in governance brought about a new level of public services, making all aspects of public action more effective, transparent, and immediate, whilst greatly reducing costs. This justifies cautious optimism for the future of governance.

Aiming at fostering a comprehensive inclusion of ICT in state governance, and its greater political and public acceptance, this publication highlights the success story of Estonia, which has turned The State into a service, with 99% of the administrative services provided on-line. The presentation of the triggering factors behind the establishment of e-Estonia, the principles, and components of the e-based state's governance outline the core philosophy behind the re-design of public services. Motivated to compare and provide an unbiased picture two additional cases of countries experiencing greater challenges in their e-reforms and enjoying a far less resounding success, have been presented.

In the course of preparation of this publication, the European Liberal Forum, with the support of the Friedrich Naumann Foundation for Freedom Southeast Europe, organised two thematic expert workshops in Sofia and Bucharest, and an international conference in Sofia, whose findings proved a source of inspiration to the authors. In the future, the organisations involved in this project will continue to collaborate on projects promoting e-solutions for a better governance and I hope you will stay by our side in this mission.

Wishing you a pleasant reading of the diverse countries' perspectives, available in three different language editions.

Ivaylo Tsonev
Project Coordinator at the
Friedrich Naumann Foundation for Freedom Southeast Europe

INTRODUCTION

AET RAHE

It is common knowledge today that investing in well-working ICT solutions to support the governance of a country is a wise choice to make. There are many reasons for that. Running e-services is much more cost-efficient than providing manual services, from both the service providers' perspective as well as the service users' perspective. There is no need to physically go to a certain location to get the service, no time spent waiting in a queue, no need to have many offices open to provide the services etc. Additionally, efficient and user-friendly services create a fertile ground for transparent and trustworthy governance – a principle that has been aptly described by former Estonian President Mr. Toomas Hendrik Ilves by saying that 'you can't bribe a computer!'[1], meaning that in the digital environment everybody is equal and there are no personal favours in play.

Digitising processes makes it possible to ensure real transparency and traceability of all actions, whether it is related to accessing or changing datasets etc. That is something that can never be fully and cost-efficiently achieved when processes are managed on paper. For example – if patients' records are in digital format in all the hospitals, it is possible to track who has accessed the data and why, by automatically logging that data. When patients' records are on paper, it is virtually impossible to make sure all data accesses and changes are correctly recorded. Any attempt to do that manually is very costly and will probably still be misleading due to human errors. Thus, building trust is much harder.

There are many triggers for a government to move towards the digitisation of processes, but it always comes down to limited resources and trying to find more cost-efficient ways to govern. For Estonia, going digital was the only reasonable way after regaining independence in 1991 – it was our only efficient way to serve all the customers! For Denmark and Japan, the reasoning is strongly tied to fighting against a rapidly aging society – a long period of a low birth rate and the development of healthcare services has created a situation where there is a relatively high number of elderly people in the population and fewer and fewer working aged people to support and serve them. Therefore, providing manual services is no longer a sustainable option. It is financially not feasible to maintain the service quality at the same level when services are provided manually. Automation is the only cost-effective way, and the bigger the population size, the bigger the cost saving effect. Estonia has reached a point where there are hundreds of services available online, which has helped to reduce the costs of providing those services. One of the best examples is the Estonian Tax and Customs Board who has been digitising their services for more than 15 years now and by doing that, they have achieved a situation where we are among the most efficient tax collectors in the world – meaning that to collect each euro of taxes, Estonia spends the least amount of money.[2,3]

Ideally citizens should have a choice – whether they would like to use e-services or prefer to keep using counter services. That being said, some countries are already taking the manual service options off the table as they are too expensive. Denmark is one of those bold pioneers who is gradually pushing its population to self-serve themselves and making great efforts to make sure that e-services are built so that they are easy to understand and use for citizens and businesses. The main reasoning for that is cost efficiency. Building an e-service is more cost efficient then the alternative costs. Usually personnel costs tend to be at least 80% of the alternative costs for the administration, additionally office maintenance, printing, paper, archiving and other costs must be paid. For the IT system – it does not matter whether it has to serve 10 or 10 000 customers per day (there are some architectural issues that need to be solved for high volumes but engineers are good at solving these issues with reasonable costs – the prices for server power are falling rapidly and continue to do so). Now imagine what is the alter-

native cost for providing such a service in the physical world as a manual process where the number of customers is 10 000 per day. How many people, offices, papers etc. need to be paid for? Similarly, the costs are much higher for the customers (citizens and businesses), as they have to travel, doing it during working time when they should be creating additional value, they print and scan documents etc. Clearly e-channels are much less costly for all participants, especially for services that have high usage volumes.

It is important to emphasise though, that going digital should always be seen as a process with incremental steps that constantly improve the existing digital environment and service provision. E-government will never be born overnight and it will never be done. There are always new service-layers to be added, new datasets to be used and new technologies to harvest, to make its processes even more efficient. That is why every now and then all the processes and services need to be re-analysed and redesigned, old systems need to wiped off and rebuilt, because there is a good chance that things can be improved again and again, and the rebuilds will make the processes even more efficient, and perhaps, at some point, services will be invisible, seamless, and effortless for the citizens. The way towards that is implementing the rules of the 'No Legacy Policy' – policy guidelines that force government agencies to regularly rebuild their IT systems.

Taking processes from the paper-world to the digital one should always go hand-in-hand with reviewing the legislative framework, making sure that data is not double-collected if it is already available in the system(s) ('data only once' principle is followed), that minimum viable datasets are gathered from citizens and businesses, and that legacy requirements that only apply in the paper-based world are removed from the legal framework (e.g., getting rid of the legal requirement to maintain processes that involve entering data, printing it out and re-entering back into the same system etc.).

The more services are digitised, the bigger their effect, leading to more complex new services that can be taken online. Imagine a situation when a couple registers wish to get married: they pay all related state fees and once the marriage is officially registered, the woman, who changed her last name, gets a new set of identity documents (passport, ID-card and drivers' license) with her new last name. Her name is automatically updated in all the relevant registries and there is no additional hassle on the citizens' shoulders to make sure that all the authorities have the new data available. This kind of service will save the citizen time equivalent to at least 2 working days. By multiplying 16 hours with the number of marriages per year and then multiplying it with the average wages in a given country we get the amount of money 'lost' in the economy every year because of not having such a service available. And that is not even taking into account the money the government would save by automating data exchange and connecting datasets. In the previous example, data was given to the government once and that should be enough. All that can only be achieved when everything is digital and everything is connected, and it cannot happen all at once – but with incremental

steps. And wouldn't it be wonderful if the citizen can review the steps taken with her application online – where every step is traceable and transparent? Wouldn't that citizen trust this kind of a government much more than the government that forces her to run around among different offices, print out, fill in, sign and stamp different forms and applications, wait in long queues etc. just because she got married?

Having a 'seamless government' that has built its services around the needs of its citizens, not vice versa, will definitely be perceived as a caring and considerate government and will increase the sense of democracy. Making sure that citizens have control over their data and can track and trace how it is used will increase their sense of involvement and build trust towards the government. These kinds of tools will also dissolve any fear of the government being 'big brother' – rather, the citizens will become the ones who watch over the actions of the government.

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The cornerstones of e-government

THE EXAMPLE OF ESTONIA

AET RAHE

Context

Estonia regained its independence in 1991 – a time when going digital had started to become 'a thing'. Being a young new country and having very limited resources, a small population (fewer than 1.5 million citizens) but relatively big territory (low population density), rebuilding a government was a challenge. One of the main questions regarding the cost of governance was 'how to govern people efficiently when they live in rural areas and the average population density is very low?' There are not many reasonable answers to that question – going digital and making people self-serve themselves was the most sensible choice. It is important to emphasise that not only the government was facing this problem, but it was just as difficult a struggle for the private sector. No bank, insurance company, or any other service provider can really afford keeping offices open in every small village, where perhaps only 10-15 people live. So trying to work out ways of how to get people to self-serve themselves was a common problem and it was solved in close partnership with the private sector.

Many other developed countries today are facing very similar challenges due to their rapidly aging populations – governments are struggling more and more with being able to physically serve all their citizens. Fast changes need to happen to avoid running out of resources since the load on the shoulders of the working age population is ever increasing because of longer life expectancy due to higher quality healthcare services, as well as low birth rates. Some countries are trying to fight the aging population problem with a favourable immigration policy (e.g. Germany). For others, going digital is not a choice anymore, but often the only option to maintain the quality of life of citizens in the long run. For example, Denmark is already taking bold steps towards digital[4] – making increasing number of government services digital only – meaning that using e-services is the only possible option to interact with the government. Communicating on paper is not an option any more. Of course, such drastic steps are coupled with the principles that government agencies are responsible for providing support for low-skilled or disabled people. This means that if they are responsible for helping citizens who struggle with using the new e-services, and there is no paper-based alternative on the table any more, then they are very motivated to make sure that their e-services are as easy to use as possible, because only then will they be able to lower the costs for the support services.

GOING DIGITAL IS THE ONLY OPTION TO MAINTAIN **THE QUALITY OF LIFE OF CITIZENS IN THE LONG RUN**

The current chapter aims to give an overview about how this success has been achieved – covering the main principles, infrastructure components and other guidelines and lessons learned. Examples from other countries are added to illustrate the main ideas.

The decision making, public involvement, and political debates

The digital reform happened rather seamlessly in Estonia, without large scale political debates or public involvement. Quite the opposite – many of the cornerstone decisions were done by engineers and politicians were either smart enough to trust them or did not take too much interest in the topic. Decisions like making the ID card a mandatory document for all Estonians aged 14 or older, or making the technological platform X-Road mandatory and the only legal way for exchanging information between and with the government or for reusing data gathered by the government, etc. All of those cornerstone decisions were not a matter of political discussions. And all of those major decisions were introduced and implemented in close cooperation with the private sector, to make sure that both sectors' needs are covered.

'Why?' – because as a small country with limited resources, it was not possible to afford many different solutions – having one well-working solution that is used by all made more sense to everybody.

Innovating through hard decisions has also been an important part of building the basic infrastructure of e-Estonia. There has to be a strong commitment to follow through on important decisions and not to hesitate when implementing them. Patience and persistency is needed, since the take-up of many tools takes years, not months. For example, it took about 5-6 years to get a proper uptake for ID cards as electronic secure keys to enter e-services. For the first years, there was nothing much one could do with the cards. Constant action planning, regular supporting activities like training and awareness rising, as well as results monitoring is needed.

Core Components

HAVING UNIQUE DIGITAL IDENTIFIERS FOR PEOPLE AND COMPANIES **IS THE BASIC COMPONENT OF E-GOVERNANCE**

The importance of unique digital identifiers for each person, company etc. cannot be emphasised enough. The only way to efficiently connect different datasets comes down to having one single unique digital name for everything one needs to govern. For citizens, it is a personal code. Without it, every effort to connect data (to reuse existing data in other databases to avoid double collections of data etc.) becomes very difficult. The bigger the population size the more potential mistakes can happen but that can be solved by personal code implementation. There still are many countries that do not have such unique codes implemented and can thus never efficiently nor trustworthily connect datasets in different IT systems. It is also important to stress that those codes should not be secret numbers. For example, if personal codes were secret numbers, then soon enough services would emerge that enable people to access delicate data by

THE POPULATION SIZE OF ESTONIA IS CURRENTLY AROUND

1.3 MLN.

PEOPLE. THERE ARE

1.27 MLN.

ACTIVE CARDS IN USE

just knowing the number (whispering it over the phone etc.). It would be just a matter of time until security breaches happened because people would be unable to keep those numbers a secret. The system would fail and people would lose faith in digital tools.

When a trustworthy unique digital names system is in place, then many additional layers can be built on top of it – the most important of them is a secure e-ID and digital signature infrastructure. It must be in compliance with the highest security standards for e-ID to make sure that the solution is universal – meaning that it is usable for services that need low security as well as for services that need high security. It is not cheaper to have two or three tools. It is also important for the e-ID system will be usable by both the public and private sectors. The main reason for this is the fact that people use government services very rarely - up to 3 times per year on average (based on Estonian statistics) and in most cases, they use different services every time (except tax declarations that are repeated every year). There cannot be any user experience or usage habits from using these government services, and this level of regularity is not enough to introduce new tools. Thus, in order to achieve a real take-up of those tools, they have to be universal across public and private sectors and people need to be able to use them in other day-to-day activities like bank transactions, logging in to an e-school environment, a telecom web page, etc.

The population size of Estonia is currently around 1.3 million people, there are 1.27 million active cards in use, ID cards have been used over 470 million times for authentications and over 300 million digital signatures have been given[5]. One can calculate the equivalent for any other country by multiplying those numbers by the difference in population size. For example – the population size of Romania is 15 times bigger, and the population of Bulgaria is about 5.5 times bigger than the population of Estonia – so those statistics numbers should be multiplied accordingly.

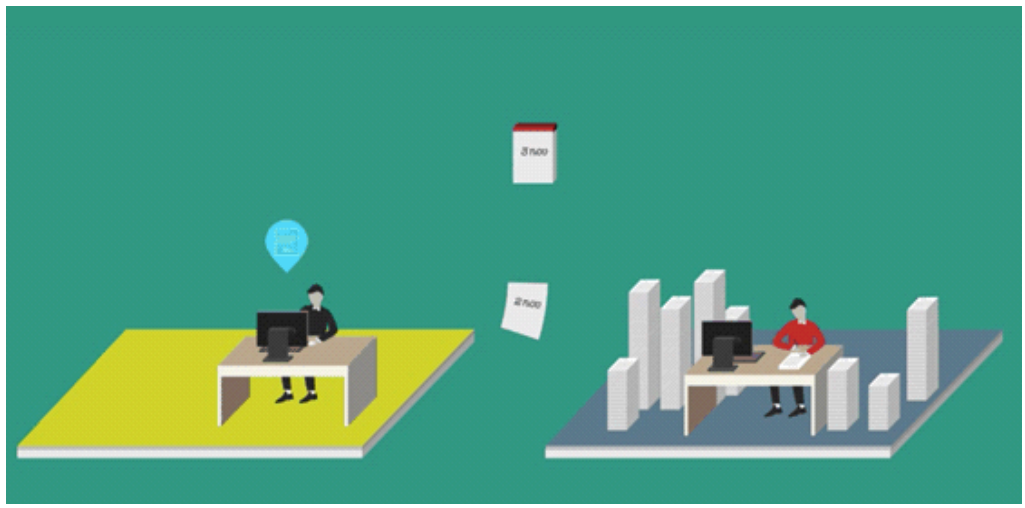


Figure 1: Digital signatures help to make processes more efficient and faster. It also lowers the environmental footprint, because documents do not have to be printed out.[6]

One of the main keys in the process of achieving such high numbers is related to the fact that the ID-card was made mandatory in Estonia – the ID-card is the primary and mandatory identification document for Estonians from the age 14 onwards. Children can also have it at a younger age, but that is voluntary. The technical solution was copied from Finland, which implemented the same system a couple of years before Estonia, and Finnish engineers were the ones that emphasised the importance of making card owning mandatory. The logic went that – if everybody has the 'key' in their pocket (the key is the card), and the key is secure, then the 'locks' will appear to enable entering services in a secure way. It is financially beneficial for everybody to work together to make sure that the system will remain secure and not build their own expensive system. Estonian e-ID and digital signature infrastructure was built and currently also maintained and supported in close collaboration between the public and private sectors. The main initiators in the early days were private banks for whom the security level of accessing their web services was crucial.

Another important core component in Estonian government infrastructure is the X-Road secure data exchange layer. It does not matter what kind of technology is used to make it possible to reuse data that is gathered in the government IT systems, as long as it is one that is secure and is surrounded by the relevant rules and guidelines to make it work. In the Estonian case, those rules and guidelines include the following:

- Data cannot be double collected in government IT systems – thus, in case a certain dataset already exists in another IT system, it needs to be reused, not double collected from the citizen or businesses –the data only once principle.

- In case data in government databases needs to be reused to provide efficient services, then the only legal way is to exchange data via X-Road. Again – making it mandatory is the key. Why is it important to use X-Road one might ask? Because X-Road technology makes sure that data is exchanged in a secure manner, that there is a standardised approach when data is exchanged and it is not up to any junior programmer to decide how the data exchange will happen (alleviating a huge potential security risk).

THE MANDATORY PROVISION OF E-ID CARDS **BOOSTED THE DEVELOPMENT AND THE USE OF E-SERVICES**

- All government-owned IT systems and their integrations must be registered. In Estonia, a system called RIHA[7] (Administration system for the state information system) is used for that. RIHA is a central database about all government owned IT systems and their integrations, making it possible to have a full picture about what is going on in the government IT systems. During the registration process it is possible to make sure all the rules and policies are followed (X-Road is used, data only once principle is implemented, similar classifiers are harmonised etc.). Thus, RIHA is not only a central registry, but also a supervision tool.

One of the core principles that has enabled Estonia to be rather agile in develop-

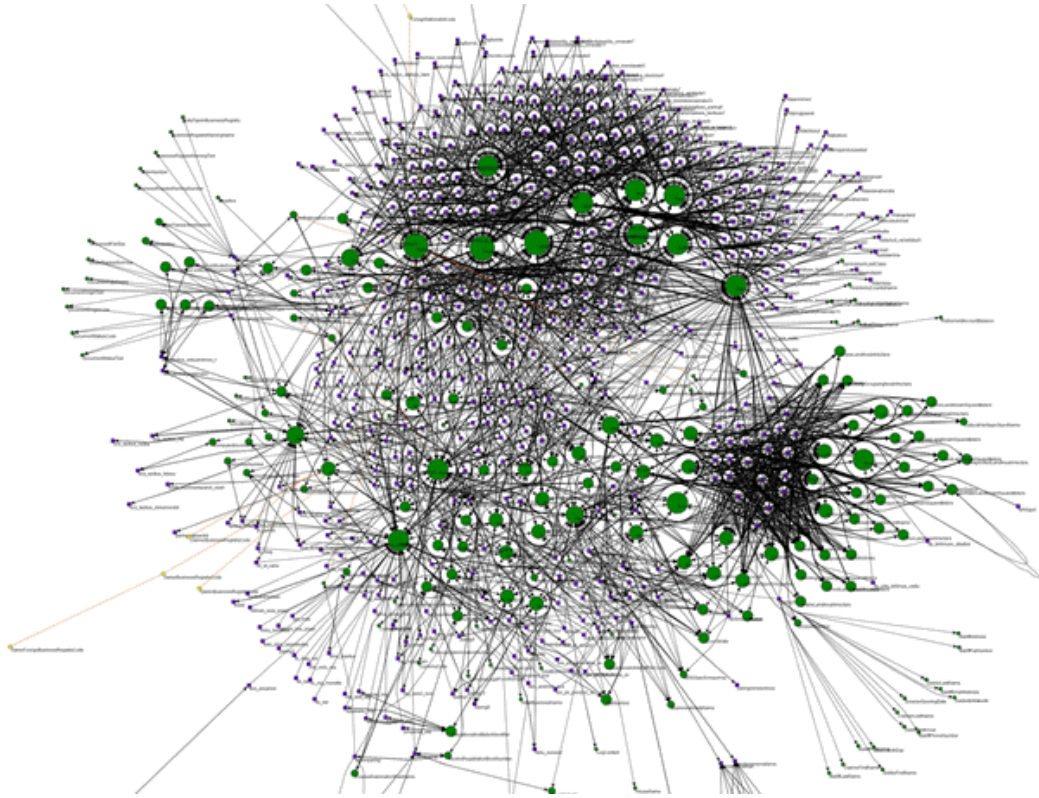


Figure 2:
A diagram of Estonian government IT systems that are connected using X-Road.

ing IT systems has been the principle of distributed architecture, meaning that every ministry and every agency is responsible for developing their own systems – and the IT development projects are not centrally coordinated, there is no one big central system that is supposed to do everything etc. Every government organisation is responsible for building their own systems and with that approach big monster systems that turn into junks of legacy are avoided. Everything is distributed but connected.

One of the new principles in the process of being implemented in Estonian government is the 'No Legacy Policy'. The idea behind it is to avoid legacy build-up by forcing government agencies to wipe off and rebuild their IT systems every 10-13 years. The main reasons for that are avoiding maintenance cost build-up (and the build-up of overall IT costs) and being continuously able to innovate processes by harvesting the benefits of new technologies and other developments in the digital system. The experience of many other countries who have been successful in implementing e-government solutions has shown that getting rid of legacy systems does not happen organically. There are many 30, 40, and even 50 year-old systems still in use in a lot of digitally

advanced countries, even though it is obvious that this is not a reasonable age for an IT system. At the same time, if there is no push at the right time to get rid of legacy, the more time passes, the more expensive and difficult it is to change the system due to a lack of knowledge about the old system and its processes.

Building trust towards IT systems is always a challenge. If people do not trust IT, then e-services will not be used, making the investments into developing them pointless. There are many ways to build trust in IT systems if they are built right and the regulatory frameworks and communication go hand-in-hand with building them. Some of the key factors are making sure that there is transparency in the system. In the Estonian case, citizens are the owners of their data and government agencies must enable citizens or businesses to see who has accessed their data, when, and why. Currently only some of the IT systems enable looking at human-readable logs about data accesses, but again the goal is to make it mandatory in the future, so that citizens can always check who has accessed their data and why – making the citizen the 'big brother' who is watching over government, not vice versa. Surely there must be exceptions to those rules – there are certain agencies whose actions are not always traceable due to state security reasons etc., but these exceptions also need be regulated. It is crucial that data protection supervision responsibilities are in place – that there is an organisation that is responsible for making sure that those rules are actually followed and where the citizens and businesses can turn to in order to start investigations if needed. In the Estonian case, there is an organisation called Data Protection Inspectorate[8] that is responsible for supervision and investigations in that field.

It is clear that the approach of building an e-government must be holistic, meaning that it is not only a matter of taking services online, but also many other aspects need to be considered as well. People need to have the skills to use digital tools, so low-skilled people need to be trained. Infrastructure needs to be in place, thus schools, offices, and homes must be connected to fast internet, mobile internet must be available with reasonable prices, etc. Cyber-security aspects need to be considered when building digital environments. Again, these involve not only taking the necessary technical measures to protect the data, but also making sure that people have the skills to protect themselves in the digital environment. Training programmes need to be introduced at all school levels, but adults also need to be educated about those risks and taught how they can protect themselves.

Central policy coordination is highly recommended so that every authority does not have to re-invent the wheel when it comes to interoperability rules etc. Also, reusable core components (like e-ID tools, a data exchange layer, etc.) should be developed centrally, but business related decisions should be made where the competences are. In Estonia, there is a central coordination for ICT development funding. All authorities must be able to prove that their IT projects will create efficiency in the processes – there has to be a positive business case for IT development projects.

IN THE ESTONIAN CASE, CITIZENS ARE THE OWNERS OF THEIR DATA AND GOVERNMENT AGENCIES **MUST ENABLE CITIZENS OR BUSINESSES TO SEE WHO HAS ACCESSED THEIR DATA, WHEN, AND WHY**

Examples of services

Today Estonia is one of the most digitally advanced governments in the world – there are many e-government and private sector e-solutions in use. Most of them are built on the main cornerstone components described above.

Majority of the Estonians sign documents, bank transactions and other 'decisions' digitally. Using a digital signature alone helps to save at least one working week for every working aged person – that is 2% of the working time in a year, so one could argue that using digital signature helps to increase the Estonian GDP with 2% - an equivalent of the Estonian annual defence expenditure.[9]

People can use most government services via digital channels – including voting online (i-Voting) for Local Government, National Parliament, as well as European Parliament elections. The share of i-voters has been increasing year-by-year, starting from 1,9% of people voting online in 2005 – when i-voting was introduced for the first time, and growing now up to 30,5% of all the voters at present. Additionally, the country has been able to keep relatively high participation rate in the elections in the recent years – having 64,2% voter turnout in the last National Parliament Elections in 2015, where Estonian citizens from more than 116 different states voted over internet.[10]

Estonian government works online, using central IT systems – e-Cabinet, that enables all the ministers to use their own personal devices to get an overview of the discussion topics in advance, making meetings and decision-making faster and more efficient. The average time for the Cabinet meetings has been reduced 8 times thanks to having efficient digital tools in place.[11]

Becoming an entrepreneur in Estonia is as easy as shopping online. One can start a company in Estonia in less than 20 minutes using a e-Business Register, an electronic ID and a digital signature. All corporate taxes and reports can also be filed fully digitally, leaving more time for businesspeople to create value.[12] Today, Estonia has more start-ups per capita than any other country in Europe.[13]

Digital tools are also in use in health care.[14] All Estonian hospitals are connected - there is a shared image bank in use, making sure that all these files are accessible to different doctors who have to deal with same patients, thus avoiding spending money on doing same procedures more than once (e.g. x-ray images etc.). People can check their health data online in a Health Care Portal called *digilugu* ('digital story'), again using secure digital authentication tools. In that portal people can also check who from the medical personnel has accessed their data, when have they done it and why -something that would be impossible to achieve if the data were on paper only. There is over 95% penetration rate of e-Prescriptions, enabling to get a refill for medications without going to the doctor for the prescription – instead, the it can be ordered from the doctor over telephone, and the person simply needs to go to a pharmacy and collect the medicine needed. This solution saves time for both doctors and patients. Doctors' visiting

USING A DIGITAL SIGNATURE ALONE HELPS TO SAVE **AT LEAST ONE WORKING WEEK FOR EVERY WORKING PERSON IN A YEAR**

time is not wasted on routine activities like issuing recurring prescriptions, and patients do not have to waist valuable working time booking doctors' appointments, waiting in queues in hospitals etc., potentially catching illnesses while waiting with other people that might have a contagious disease.

These are just a few examples of how digital tools have enabled serving people and businesses more efficiently. Many more examples are described in the portal e-estonia.com.[15]

Figure 3: *Examples of e-services. See more at www.e-estonia.com/components*

DigiDoc DigiDoc is a system that is widely-used in Estonia for storing, sharing and digitally signing documents	**Digital Signature** Digital Signature enables secure, legally-binding, electronic document signing	**e-Business Register** Enables entrepreneurs to register their new business online in minutes	**e-Cabinet** A powerful tool used by the Estonian government to streamline its decision-making process
e-Court Enables electronic court procedures administration including: submission of claim online, electronic process management, and participation in proceedings over the web	**e-Law** Allows public access to every piece of draft law that has been submitted since February 2003	**e-Police** Revolutionises police communication and coordination, maximising effective policing	**e-Prescription** A centralised, paperless system for issuing and handling medical prescriptions
e-Residency Estonian e-Residency is a digital identity that allows everyone in the world to do business online with ease	**e-School** Allows students, teachers, and parents to collaborate in the learning process	**e-Tax** e-Tax has drastically reduced the time spent by individuals and entrepreneurs on filling taxes	**Electronic Health Record** Integrates data from healthcare providers into a national record for each patient
Electronic ID Card e-ID acts as definitive proof of identity in secure electronic environments	**Electronic Land Register** A one-of-a-kind information system for storing real estate and land data	**i-Voting** i-Voting allows voters to cast their ballots over the internet, from anywhere in the world	**Keyless Signature Infrastructure** Estonian digital society ensures the integrity of its systems and data by using the KSI technology
Location-Based Services A positioning service that detects device location and provides location information	**m-Parking** Allows drivers to pay for city parking using a mobile phone	**Mobile-ID** Allows a client to use a mobile phone as a form of secure electronic ID	**Mobile Payment** Enables payment for goods and services using mobile phones

Challenges of fully digital governments

When a country becomes more and more digital, totally new kinds of challenges will appear. The more processes are digitised, the higher their digital dependency becomes. Estonia has reached a situation where there are many critical government services and data sets that do not have paper fall-backs any longer. In some cases, paper has been removed from the process completely and legally binding information is only in the central systems. Imagine if all databases that keep those data sets would somehow be destroyed. How would data be recovered after this has happened?

One example of having legally binding information in digital format only is the Estonian State Gazette[16] that contains all Estonian law. Additional measures to protect such data must be implemented.

Estonia has reached a situation where digital dependency has become very high, and that creates a whole new set of challenges to be solved. It is important to consider the possibility of history repeating itself. As a small country, Estonia has been occupied by almost all its neighbours and others. Under occupation regimes, it has been common to apply new rules and to tear down as many of the state structures as possible. Thus, de-

Figure 4: *Estonian government IT system e-Cabinet, no papers on the Cabinet meetings.*

stroying (or taking away) all relevant digital information carriers that are part of Estonian legal government seems to be a reasonable threat to consider.

History has taught us that we always have some international friends that do not recognise the occupying regimes and are willing to safekeep Estonian assets, including protecting Estonian Embassies from the occupying regimes – thus Estonia has been shipping copies of relevant government data sets via diplomatic mail to Estonian embassies for years, but due to the high volume of the data becoming digital-only and the increased digital dependencies, that is not enough any longer. To solve the problem, one of the new projects initiated by the Estonian Government CIO, Mr. Kotka, is to build a network of data embassies.[17] That kind of network enables the government to keep relevant datasets that cannot be put into commercial clouds for privacy reasons safe, while still keeping the data under the watchful eye of government, but outside Estonian territory.

Opportunities for the future

Having created a system where many actions can be done using digital tools only, Estonia can serve its citizens wherever they are. About ten years ago, the idea of opening the system up to others as well started growing, and at the end of 2014, the e-residency concept was finally launched.[18] The idea is to give digital ID cards to people all over the world to enable them to use the same system that Estonians use to do everything online.

The e-residency card is a digital ID card that enables people to give legally binding digital signatures, to encrypt data using a high security electronic identity, to establish a business in Estonia, to open a bank account, to do money transfers, to declare corporate taxes, and to conduct everything else it takes to run a business, online. Thus, a person can enjoy the life of a digital nomad, be it a businessperson from Myanmar, or a surfer in Australia, and run his business fully digitally in the largest market in the world – there are 500 million citizens in the EU.

THE E-RESIDENCY ALLOWS EVERYONE IN THE WORLD TO BECOME **E-RESIDENT OF ESTONIA AND TO DO BUSINESS ONLINE WITH EASE**

Estonia is a small country, but the plan behind the e-residency concept is ambitious – the goal is to get 10 million e-residents by 2020. There were about 7 000 applications within the first year, and currently, after almost 2 years of issuing the cards, there are almost 14 000 Estonian e-residents in the world.[19]

It is not known exactly where this project will end up, but the government keeps on building layers of services to enable others to use Estonian system – or one could say – to use the Estonian country as a service.

RE-DESIGNING PUBLIC SERVICES FOR THE 21ST CENTURY
COMPARATIVE ANALYSIS OF THE E-REFORMS IN ESTONIA, BULGARIA, AND ROMANIA

e-Governance in Bulgaria

REFORM FOR BETTER GOVERNANCE

STOIL TZITZELKOV AND RUMIANA DECHEVA

Context

E-GOVERNANCE IN BULGARIA

E-Governance and e-government in Bulgaria have a long history, but practical achievements are very modest to date. The 70's were the decade with most tangible ICT development. In 1980, the country started production of personal computers on a very limited scale and by 1984 had already produced a limited number of high generation 8-bit PCs, followed in 1984 by professional 16-bit microcomputers under the Pravetz16 brand.[20] In parallel, the central government publicised plans for the broader use of data management systems. A generation of enthusiastic youth was given the chance in college workshops to train on analogues of IBM PC/XT and the Apple II series. Ever since, the IT skills and their application in everyday life and public administration are in considerable disparity. The legal framework often has limited the use of IT, placing stress on secrecy (in all its connotations) and state control. Many rebirths of the e-Governance projects have seen applauses and came with high expectations, however, they were followed by disdain and failure. That trend appears to be over now and during the last decade, coordinated efforts for a new beginning of the matured intentions for e-government are given more consideration by both the public and by legislators. The Government has also stated irreversible plans for a more efficient, effective, citizen-friendly, and business enabling e-government.

Figure 1:
A rare copy of IMCO 2, produced in early 1980's in Bulgaria.

OPTIMISING ADMINISTRATION AND FIGHTING CORRUPTION – SUPPORTIVE AND HINDERING FACTORS FOR E-GOVERNANCE REFORM

The history of the introduction of e-Governance in Bulgaria diverges from its stated intentions to optimise administration and fight corruption in recent decades. For the first time the term 'Bulgarian Electronic Government' was used in 1977[21], in the law administering the National Information System for Civil Registry and Administrative Services (ЕСГРАОН). Based on a Scandinavian model, it was pioneering collection and maintenance of information on citizens in a number of categories. In 1985, by decision of the Council of Ministers, and in order to 'provide fast, affordable, cheap and high quality administrative and legal services to citizens', Decree № 2472/1985[22] laid down important principles: the 'single stop shop' and the 'single collection' and 'multiple use' of data, including personal data. The presence of a very successful civil registry, providing efficient access for citizens and organisations (private business was not yet legalised at the time) to certificates, copies from civil registry, forms for construction and property permits, rights for use, duties and taxes, was already regulated and seemed likely to be enforced soon. Many of the planned services were introduced, whilst others were in progress when in 1989, the political changes created a new administrative and legal framework. During the period of political transition information became of primary value and impoverished Municipalities set varying rules and fees to access it. During the years of uncertainty, some e-services were abandoned. With the globalisation of ICT through the Internet and during the process of accession of Bulgaria to the European Union, e-government made a reappearance in a new phase and shape.

ONGOING REFORM PROCESS IN THE INTRODUCTION OF E-GOVERNANCE

The current reform process towards e-Governance started in the late 1990s, when the country chose its political and economic model in an irreversible way. Decree No. 40/1998 took a different direction, away from services for the citizens. Instead, it reached out to the public with intention for board introduction of ICT which in turn would eventually led to a better informed society and better conditions for development:

> '... the information society is a society with a qualitatively new structure, organisation and public relations based on global access and use of information and communication networks and services without national, geographical or other restrictions on the exchange of information, scientific, spiritual, cultural, and other achievements. '
>
> *Decree No. 40/1998 of Council of Ministers*

FOR THE FIRST TIME IN BULGARIA THE TERM **'ELECTRONIC GOVERNMENT' WAS USED IN 1977**

Figure2: *Project for Electronic identify card.*

Shortly thereafter, in 1999, the approved National Strategy for Information Society places Bulgaria amongst the first European countries with such strategy. Given a high priority, the sector was equipped with Coordination Centre for Information, Communication and Management Technologies, a link between the Council of Ministers and UNDP, with its basket fund to support and enable the process. According to the final report of the UNDP project[23], its team was in the core of all activities associated with the introduction of e-Governance in Bulgaria:

> 'The team of the Centre prepared the "e-Government Strategy of the Republic of Bulgaria" (2002), the "Implementation Plan of e-Government Strategy" (2003) and many other documents, supporting the adoption of new technologies in public administration. The Centre was created with the aim to develop and implement the e-Governance technologies by integrating the efforts of all state institutions, NGOs, business and donor programs for the overall improvement of public services and decision-making processes.'
>
> *Final report of the UNDP CCICMT project*

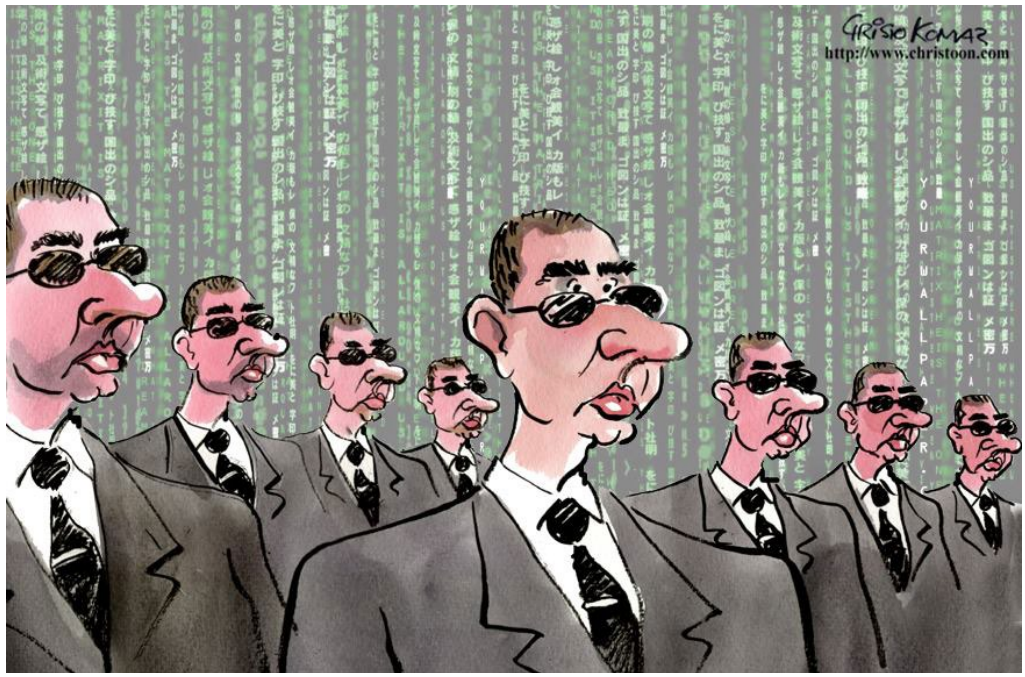
National reports and media from the same time insisted that e-Governance would cut the paperwork rather than suggesting that it may come into life only after the redesign of some of the public sector, notably the justice system and public administration. There is little written in the public domain at the time on the role of the international experts contracted by the project and how they participated in the implementation of the European policies towards a more coordinated effort for a common EU approach to data exchange and management. Until 2008, the Centre played an important role in coordinating the implementation of EU recommendations for eEurope and e-government. The Centre's experts monitored the implementation of EU policies in the development of eEurope, worked hand in hand with the national administration and

OFTEN CITIZENS TRAVEL KILOMETRES TO PUBLIC ADMINISTRATION OFFICES TO ASK FOR A DOCUMENT **WHICH IS REQUIRED BY ANOTHER OFFICE WITHIN THE SAME ADMINISTRATION**

suggested the necessary legislative, organisational and technological requirements for implementation of eEurope. They were key to a successful cooperation under the IDA and IDAbc Program[24], and as a result, Bulgaria adopted a modern National Interoperability Framework in 2005.

Successful e-Governance requires a strategic plan for good governance plus the resources allocated for the transition from two way paper-based relations towards a 'mouse click' relationship. It must include an extensive process of assessment, analysis and public participation before any legal or technological advancement is carried out. Pressed by the deadline for closing of the EU accession chapters, the public administration did not dedicate sufficient time for consultation with citizens and businesses. Similarly, the staff of the existing public administration was viewed rather an enemy (due to the risk of job cuts) than a partner. Even today, there are visible positive processes and undercurrents. On the one hand, there has been no mechanism for public consultation before, during or after the inception of the strategies and plans. Public awareness campaigns never happened, although funding has been reported as spent. On the other hand, public service in general, also held out of the loop, remains to date negative about e-Governance – for fear of being laid off, and also because they have seen decades of declarations, trainings and promises that never materialised.

Another important peculiarity for Bulgaria is in the psychological attachment to paper, created and nourished by conservative public administration, known as *'Cher-*



no-na-byalo', literally from Bulgarian, 'Black-on-White' culture. Citizens have learnt to seek a printed document, with an ink stamp as the only tangible proof when dealing the administration at all levels – central, local, and community. Typically, most of the documents produced by the public administration serve as a proof before other branches of the same public administration. The norm is that citizens travel kilometres to public administration offices, to ask for a document which is required by another office within the same administration or building. In June 2016, during deliberations at Parliament, information presented by the Council of Ministers estimated that the e-government can save up to 500 million euro from the budget and millions of man/hours wasted at present.[25]

ONGOING TRENDS AND DEVELOPMENTS IN THE INTRODUCTION OF E-GOVERNANCE

Example of the low esteem for e-services in Bulgaria is observed indirectly through the very low trust in e-Purchases. As a rule, even in the capital Sofia, there are very limited services with advance payment. Instead, payment on delivery is the common practice. The unilateral bearer of all risks is the business. New generations of IT literate consumers are slowly changing the cultural landscape and the benefits of efficient administration and business, based on integrated data massifs with shared responsibilities, is becoming preferred choice for many.

When no payments are involved, the trust in the online services is much higher. In 2011, without any promotion or serious awareness campaign, half of the citizens opted for online census registration, beating the most optimistic expectations. In 2015, a referendum on the e-vote saw relatively high turnout and 70% approval. It is considered that the 'Yes' was cast not only for the internet voting but more so, for any on-line participation in the public decision making process– important aspect missing in most e-government concepts.

The move towards an ever more efficient administration and the gradual elimination of the space for corruption (ultimate public interest) faces the paramount impediment posed by the need to re-train the public administration for new types of jobs. All governments in the past 15 years have appeared careful when laying off public administration. The country's industry is in ruins and the public administration is by far the biggest employer in Bulgaria. Despite offered trainings, the administration largely lacks sufficient skills for entering into 21st century work roles.

Last, but not least, is the fact that since 2011 the country has held elections at least once every year, which poses a different (very short-term) perspective on those economic impediments.

IN 2015, A NATIONAL REFERENDUM ON E-VOTING **SAW 70% APPROVAL**

2016 YEAR OF E-GOVERNANCE IN BULGARIA

In late 2016, based on the new law on e-Governance, when the National Agency leading the process is taking shape and moving into action, the process is still top-down. The decision-making process is driven by EU regulations, without being properly internalised by the broad public. Large scale scams with software, service providers and unclear tenders were associated with e-Governance in the past, and have all contributed to projects being half done from what has been planned. Especially, if the interest has been public rather than of the private sector. There is also a bulk of mistrust at all levels between the three key actors: public administration, private sector, and citizens.

According to data presented at parliamentary deliberations by Pavel Hristov, MP from *GERB*[27], (the political party leading the introduction of e-Governance in 2015 and 2016), some 1.5 billion euro have been spent recently on e-Governance and the country is yet some 3-4 years away from having the law and the national strategy implemented.[28] With such a massive investment in the establishment of e-Governance and such modest achievements, it remains to assess how, when, and what had been funded. In an environment of very difficult collaboration between political parties and coalitions in power and opposition on strategic matters, the e-Governance project is also seen as an undertaking of the ruling party/coalition at any given time. The process is marred by lack of political consensus across the political spectrum, on the priority and means of this so needed reform.

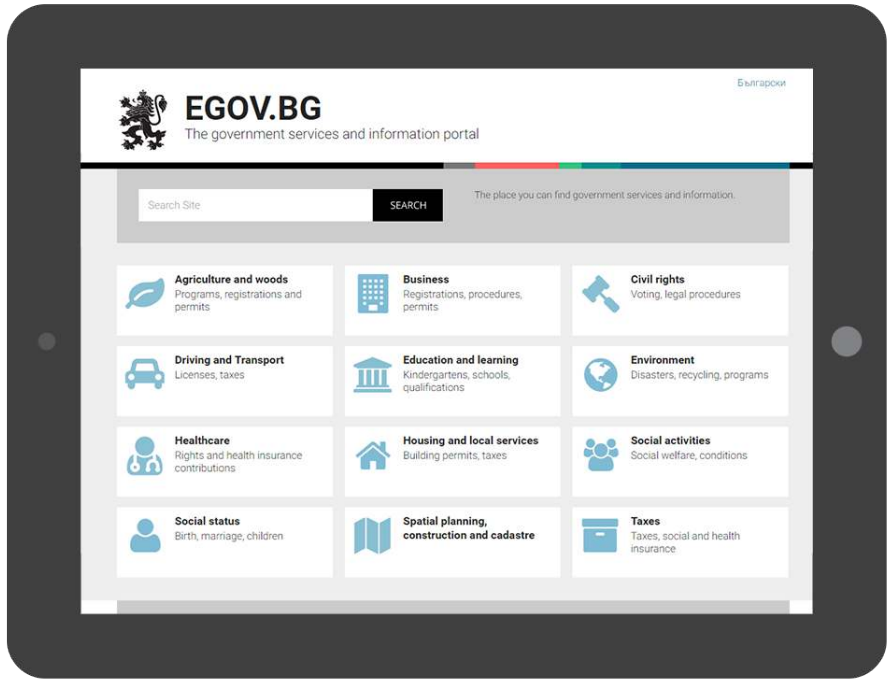


Figure 3: *The Government Services and Information Portal. A platform commissioned and produced in the past, which is not yet in use.* [26]

Figure 4: Bulgaria's Parliament. Fingerprint authentication applies for MPs.

Bulgaria's e-Governance institutional framework

Prior to the changes introduced in June 2016, the e-government was in the hands of the Ministry of Transport and Communications, with a Directorate in charge. In the earlier days of the reform, it had been under the Ministry of Regional Development and Public Works. Now remains to be seen how the current transition will happen while the hopes are for a smooth handover and succession. In general terms, there have been severe deficiencies in the past transitions between the different administrations: little from the lessons-learnt is taken by the new bodies and much of the shortcomings are multiplied. Immense efforts to train public administration from the ministries and to prepare them for the next step is wasted with little benefit for businesses and citizens.

THE STATE AGENCY FOR E-GOVERNANCE WILL BE IN CHARGE **OF THE E-REFORM IN THE COUNTRY**

The current institutional promoters of the e-government are the State Agency for e-Governance and the Unified System Operator. The agency had their Head appointed in late September 2016. The operator is expected to be based on the institutional competences of currently existing information services.

During plenary parliamentarian sessions in June and July 2016, many declarations assured prompt launch of the e-government within 4 to 6 months. Just a few months later, key politicians from the ruling party speak about a more realistic timeframe – at least 4 years process.

The most difficult part of any reform in Bulgaria is to have both sides of the Parliament, the ruling party/coalition and the opposition, to agree on the objective and the way forward and then to mobilise their supporters to the extent of at least not boycotting the process. This kind of national unity is not common in recent history but the topic is such that can generate unanimity on at least some aspects.

While all sides agree on the importance of the introduction of easy, cheap, and effective two-way channels, there is a range of visions on the scope and means. For example, for many, e-government is 'business as usual' with electronic means. Within that philosophy, the citizens are limited to customers, the administration staff scales down, but the type of work performed remains little affected by the introduction of ICT, services are fast and corruption is excluded. While it would be a large leap forward, for the majority of the people and businesses with interest in the matters of governance, it is a modest plan. Academics, practitioners, developers, and providers of IT services, and active citizens expect much more. They subscribe to the vision that the e-government is one of the components of an effective and transparent way of citizens delegating power, overseeing and monitoring the execution of decisions. The key in the implementation is the control over the collection, storage and multiple use of data – both personal and business.

The recently established new institutional framework bears two key components: establishment of a state agency for e-Governance, that would oversee all sectorial projects and undertakings, as well as the Unified System Operator, that would handle the operational tasks. It is a new phase, one that has reliable setting to overcome most of the shortcomings in the decades since 1998 – remembered for lack of cooperation, individual efforts and plenty of financial and administrative waste.

ATTEMPTS FOR REFORMING THE PUBLIC ADMINSITRATION AND INTRODUCING ICT

Bulgaria adopted its e-government law in 2007, shortly after its EU accession. Since, it has been amended 5 times, twice in 2016 alone. The last changes from June 2016 are so fundamental that the public is referencing them as a 'new' e-government law. The law deals with a number of deficiencies from the past: varying in the scale and content e-services, huge administrative and financial resources wasted on parallel structures, lack of coordination mechanisms. It established a new e-government State Agency with a mandate to oversee and coordinate all efforts across the ministries and the state company, Unified System Operator, for the e-works. The law is a serious statement for a new phase of the e-Governance in the country. It is regulated to provide information to the citizens on the data stored on them. However, there is nothing on the control by citizens over their data, stored by the public institutions and used/reused by others.

THE 2016 AMENDMENTS TO THE E-GOVERNANCE LAW PROVIDE **A SOUND BASIS FOR A SUCCESSFUL E-REFORM**

REALISTICALLY, THE LAUNCH OF THE E-GOVERNMENT IN THE COUNTRY **WILL HAPPEN AT THE EARLIEST BY 2020**

MOTIVES AND RATIONALE BEHIND THE POLITICAL DECISIONS

Bulgaria, as a member of the EU, follows a path common for all Member States. During the past 20 years, the EU, an ever expanding community, working in diverse cultural settings in many languages, prioritised in all possible ways the introduction and mainstreaming of ICT. Tangible for the 500 million EU citizens was the introduction of the the EU E-Government, a single portal for all types of dealings with the European Commission. It has seen improvements and would be a standard for the similar (and possibly interconnected) national portals. Ideally, soon citizens from across Europe will have the trust that their personal data is safe and guarded across the EU and will be able to do business with and in any of the EU member states. To that end, the transposition of the EU regulations gradually secures the processes through internalisation of the conditions needed. As a strong sign that e-government is not just about e-services for citizens across the EU, the European Parliament in 2015 decided on e-voting for the next European elections. With effect on the elections but much more with importance for the national e-government frameworks, this decision is an impetus for seeing the 500 million citizens as sovereigns rather than customers of e-services.

The most important of all drives behind the political decisions in the last 3-4 years comes from the combined pressure from the public and the businesses. The two Industrialists Associations, small and medium size businesses and the general public have pushed gradually and consistently for changes that would limit the time spent on administration and improve the quality of the administrative services.

Businesses (including very small ones), banks, and civil society in their self-organisation have paved the road for assessment of the readiness for transition towards e-democracy, e-participation and e-Governance.

A platform set up in 2015[29], prior to the 2016 developments, covered a much broader scale of opportunities for interaction between the public administration, businesses, and public. The existing infrastructure for e-identity is primarily associated with banking. As a more widespread e-ID is just a plan at the moment, it would be too early to judge it.

E-(SELF)-GOVERNANCE

While formal portals are being built, informal groups have already successfully used ICT for governing initiatives and mobilisation of people. It appears that the general public is more eager and better equipped for the e-services. In 2013, under continuous public pressure, coordinated on social media, the electoral code was changed with significant input from citizens' workshops. During almost 400 days, tens of thousands of people, at times, hundreds of thousands, marched the city centre of Sofia and demanded more openness and more democracy. There are different ways to assess the effectiveness of public mobilisation. From the e-government view point, this process created conditions for electronic exchange via various means which played the role of e-civic educa-

Figure 6: The 400 days protests in Sofia, largely organised via the social media, marked the first steps towards e-Democracy in the country.

tion combined with other aspects of e-democracy.

E-participation of citizens in decision-making has been less visible but also very important. Crowds in front of municipalities are part of history in most cities as interested citizens follow the process online and have the tools to communicate back. National institutions, such as the Parliament and the Central Electoral Commission broadcast sessions online.

One of the expectations as e-participation expands, is that under public pressure, some of the processes of the e-Governance would accelerate. In 2015, a large majority voted for i-voting, one of the necessary steps for a speedy and trustworthy e-government.

ORGANISATIONAL, POLITICAL, AND USER VALUE

The Digital Single Market[30] has set the overall strategy binding all Member States and under the DG Connect, works with the respective national institutions on the progress of its implementation. Yearly, Europe's Digital Progress Report provides an overview of the progress made by Member States in digitisation. As stated in the digital agenda, 'it also details the policy responses by Member States to address the specific challenges that face them.' Assessment for the individual countries and for

Figure 7:
e-Vote.

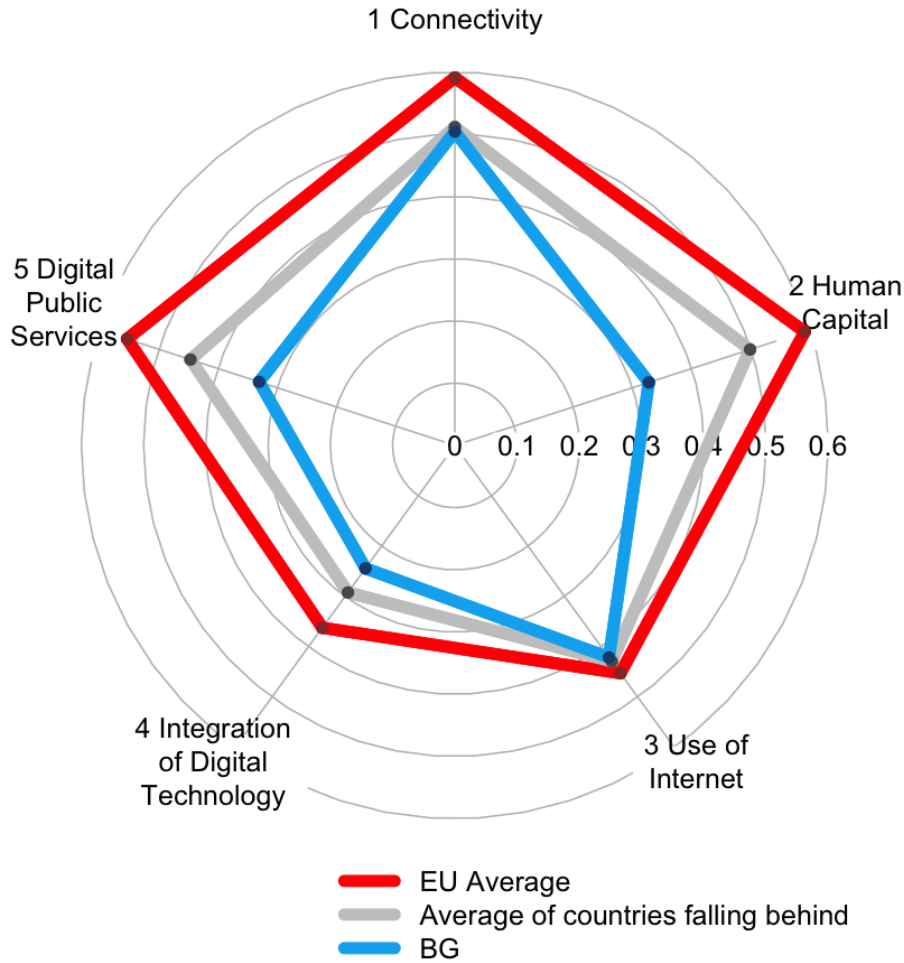
the EU is based on systematic data collection. To monitor in a comprehensive way the developments, the Digital Economy and Society Index (DESI)[31] is used. DESI measures 5 principle dimensions, *Connectivity* (deployment of broadband infrastructure, its quality - a necessary condition for competitiveness;) *Human Capital* (skills needed to take advantage of the possibilities offered by a digital society); *Use of Internet* (range of activities performed online by citizens – phone calls, games, banking); *Integration of Digital Technology* (digitisation of businesses), and *Digital Public Services (*focusing on e-government). While the first four categories measure the overall conditions for use of ICT, the Digital Public Services index indicates the level of available in any given year services for citizens and business. Quick gaze on the pentagram for Bulgaria (the figure below) shows serious delay in the digitisation of businesses and in acquiring the necessary skills for e-dealings in broader life occasions. That poses very high pressure upon the agencies expected to create an enabling environment. Respectively, even if made available sooner, the e-government would be accessible to a limited public an thus, would not immediately reach the projected impetus for a more transparent accountable and easily accessible public services.

In 2016, although the new dynamics have made all previous projections outdated, Bulgaria has much to achieve. According to the DESI 2016, Bulgaria has increased its score from 0.36 to 0.37, this score is placing the country on the 27th place. Whilst internet speed in the country is among the fastest, not only in Europe, but also in the world, broadband connection is only available to 72% of Bulgarian households. It is important

WHILST INTERNET SPEED IN THE COUNTRY IS AMONG THE FASTEST IN THE WORLD, **BROADBAND CONNEC-TION IS ONLY AVAILABLE TO 72% OF HOUSEHOLDS**

to note that the ratio between mobile internet speed and its price in Bulgaria is such that many users go for this option, especially in rural areas where broadband is not widely available. The rapid development of mobile 4G networks might actually leave many rural areas without broadband due to market reasons. What is worrying, however, according to data reflected in DESI, is that only 31% of Bulgarians have basic digital skills. Still, the country holds the first place in online video calls and ranks 6th in social networks usage within the EU. Internet shopping is still not widely popular, with most services only offering goods that can be ordered online, but all payments and documents are handled the traditional way, the order is confirmed over the phone and payment is done in cash, upon delivery. The relatively large number of Bulgarians involved in online crime schemes, and their notoriety among the public is a reason for many to not trust the web when dealing with personal data and money.

Figure 8:
DESI indicators for Bulgaria in 2016.



THE DESI SHOWS **SERIOUS DELAY IN THE DIGITALISATION** OF BUSINESS AND IN ACQUIRING THE NECESSARY SKILLS FOR E-DEALINGS IN BROADER LIFE OCCASIONS

State of affairs of the e-Governance reform

EVALUATION OF THE AVAILABLE E-SERVICES

e-Financial services

The first fully fledged online services in Bulgaria were provided by the financial and banking institutions. They are also the services with most trust – equally by citizens and business. Large experience paired with responsibility for the risks would be of great benefit when transitioning to e-Governance.

e-Business services

Trust in e-commerce is very low in Bulgaria. Most providers of such services are taking on the risk and provide them under conditions of payment on delivery as pre-payment would have killed any initiative. Customer support networks report negligent problems with the companies but still customers fear as not delivery of paid online goods could hardly be sanctioned.

e-Public services

The 2011 Census saw for the first time the National Statistics Institute offering online registration as a test. All provisions were made for a full-scale paper and door-to-door census, with e-service being a just a test. Big surprise for many, half of the population chose the e-census.

Most of the municipalities, down to the smallest ones, offer e-services. As a general rule, there is still a lot of paperwork involved even in the process of e-services.
A number of universities, including private ones, provide distance learning and interactive online courses. It both rises the skills of the students and prepares them for the job market which, according to the Single Digital Market strategy, will require e-skills for 95% of the jobs by 2020.

THE SERVICES OFFERED BY BANKING AND FINANCIAL INSTITUTIONS **ARE THE MOST WIDELY USED AND TRUSTED BY CITIZENS AND BUSINESS**

COST-BENEFIT ANALYSIS AND OTHER CONSIDERATIONS

Comprehensive cost-benefit analysis is yet to be done in the country. All assessments suggest increased efficiency, mineralisation of administrative costs and increased quality. There is also an added value of saving millions of man/hours (according to government estimates) on the side of the public administration and even more so, for the citizens and businesses.

Better organisation of the administration – public and private, brings an organisa-

tional value to the undertaking and a more responsive administrative culture. Transparency and accountability in the processes at all levels contribute to added political value. If or when combined with e-participation and e-democracy, that would bring about a new political landscape.

RECENT DEVELOPMENTS (2016)

Most of the considerations are in the form of 'if' and 'when', as the new beginning of the e-Governance was just given a start. The institutions are yet to assume their role and the deadlines for coming to life are stretched. Against that background, a few remarks stand out:

- The adopted by the Parliament amendments to the e-Governance law are of utmost importance for the implementation of e-Governance, which has been delayed for years;
- The new structures – the E-government State Agency and the Unified System Operator are new structures, but there are no provisions for new employees. It remains to be seen how these positions will be filled. The questions at present are: if the new leaders are pushed to take on board units from previous structures, would that serve the best interest of the new structure, and, is it a new structure if the staff is the same?
- While previously defined as open source based, some 20 years ago the system was diverted towards a single company software. Now that has been reversed and rectified. Typically, open source is associated with more transparency, higher quality and better security.
- During 2016 deliberations in the Parliament official statistics for the first time indicated that 1 – 1.5 billion Euro have been spent in the past 10 years on development of e-government without a visible impact.
- It will probably take time to retrain public administration in use of the new software and how to follow the protocols.

In any case, soon the administration will be able to collect information from primary registers and to build additional registers instead of demanding from citizens to carry paper certificates from one office to another. It is estimated that some registers will be ready as early as 2017 for provision of data.

As of 2016, there is a qualified electronic signature for physical persons and other for legal persons. The launch of electronic identification of a new generation is expected and at that point, citizens will be able to gradually use electronic services with a new electronic identification.

THE PLANNED INTRODUCTION OF E-ID CARDS IS EXPECTED **TO BOOST THE DEVELOPMENT, PROVISION, AND USE OF E-SERVICES**

Conclusions

CONCLUCIONS AND RECOMMENDATIONS FOR MEANINGFUL AND SUCCESSFUL E-GOVERNANCE REFORM

In time of serious crisis of the EU project, e-government across its territory would be an important contribution for rising the trust in the union and underpinning it uniqueness in setting environment for people and businesses. For the success of e-government implementation, it is very important that it is introduced and applied in every member state with the same quality and effectiveness.

On the process:

E-Governance, with varying degree of use across the EU, has been taking shape and proves to be the only meaningful alternative to the traditional administration. For a truly citizen and business driven government, it requires much broader public consultations within EU and each of the Member States. That consultation process on the scope and shape of the EU e-government proves to be a point demanding more attention and focus.

On the content:

In the focus of the Single Digital Market strategy is the market, with all its aspects. Gradually, the decision-making process should be included in all facets of the process. That market has features of collection and use of personal data on all EU citizens and all decisions should be transparent and accounted for. More e-services to public without consideration for more e-decision making by public would be process short of proper success.

On Bulgaria:

Widespread information campaign on the e-government, accompanied by broad simultaneous consultation between the State Agency, the System Operator, the businesses and industries, and citizens, should lead the process onwards. Trust is the key for a successful e-Governance.

WIDESPREAD INFORMATION CAMPAIGN **WOULD BUILD TRUST IN THE REFORM PROCESS**

LIMITATIONS OF THE STUDY AND AREAS FOR FURTHER RESEARCH

The publication is presented prior to the real take off of the State Agency for e-Governance and the System Operator. Some assumptions may prove wrong during the process. The emphasis, when writing this publication has been on the process of empowering e-Governance, rather than the technological aspects which are yet to manifest.

RE-DESIGNING PUBLIC SERVICES FOR THE 21ST CENTURY
COMPARATIVE ANALYSIS OF THE E-REFORMS IN ESTONIA, BULGARIA, AND ROMANIA

e-Governance in Romania

REFORM FOR BETTER GOVERNANCE

COSTEL STĂVĂRACHE

Context

REASONS AND MOTIVES FOR THE INTRODUCTION OF E-GOVERNANCE IN THE COUNTRY

The present text aims at analysing the current state of e-Governance in Romania. The general motives for the adoption of e-Governance in Romania are similar to those already encountered in other countries:

- Optimisation of public administration;
- Reduction of the administrative burden for taxpayers and improvement of the public services;
- Improvement of the business environment: e-Governance reduces the expenditure of companies - not only financial costs are reduced, there is also a reduction in terms of time, stress, etc.;
- Improvement of democracy by increasing transparency, accountability, and increasing citizens' access to public information;
- Reduction of corruption: Romania is perceived as a corrupt country. In the Corruption Perception Index (2015) by Transparency International, Romania ranks 26th within the European Union (EU) and 58th out of 168 countries analysed.[1]

These motives frequently appear in the strategies of the Ministry of Communication and Information Society. For example, in the manual for the implementation of the e-Governance Strategy 2016, the targets are as follows:

- Increasing the transparency of the acts performed by the public administration by digitising public services;
- Development and improvement of cyber security networks and systems;
- Increasing access to digital public services;
- Efficient public administration and a reduction of the public administration burden;
- Improvement of the business environment;
- Improvement of e-Governance at the time of implementation of digital public services.[2]

CONTEXTUAL DRIVING FACTORS

An important external factor, which was beneficial for the adoption of e-Governance in the Romanian administration, was the European Union. Accession to the EU pushed the Romanian authorities from the very beginning. The EU supported e-Governance applications in the new Member States in Central and Eastern Europe[3], as it considers that the adoption of e-Governance strengthens democracy[4], and it even supervised some actual projects. The Romanian experience seems to prove that these external entities do have an important role to play. This influence of the European Union is also

Figure 1: *Queues in front of administration offices.*

evident in recent strategic documents, such as the manual on digitalisation strategy, which is is strongly influenced by the EU thinking about the documents which relate to the European digital agenda. It is said that part of the objectives of the European Digital Agenda were taken over and adapted to the current Romanian context, to the extent that they were relevant and aligned to Romania's ICT strategic vision 2020.[6] The European Union had a significant influence on Romanian e-Governance programmes. The platform e-guvernare.ro, launched in 2003, was developed by the Ministry of Communications and Information Society and supervised by the EU.[5,7] Although there were no EU obligations, it served as a model for inspiration for Romanian public policies. There is the motive to catch up with the European standards, meaning that policies, including after Romania's accession to the EU, were transfer of policies from the EU to Romania. e-Governance is not an exception in terms of this trend.

THE EU HAS HAD A SUBSTANTIAL INFLUENCE OVER THE **DEVELOPMENT AND IMPLEMENTATION OF THE E-REFORM IN ROMANIA**

Digital literacy training of the population is a positive element of e-Governance. If one takes a look at the Eurostat figures concerning digitalisation indicators and at the current trends, it is easy to notice an improvement of all these indicators in Romania, even though the country does not excel in these indicators in comparison with the EU average. The digital literacy rates of the population increases making the introduction of digital tools and instruments easier. The contribution of the public campaigns, online petitions, etc., in this regard, is worth to be underlined.

Romania does not have a sufficiently developed IT infrastructure. The 2015 strategy of the Ministry of Communications states that the use of the new types of ICT services and facilities by everyone can be performed only by using broadband infrastructure

Figure 2: *The EU and e-Governance.*

which requires significant investments for reaching the objectives in terms of coverage and accessibility.[8]

The United Nations highlights the importance of a country's national income for the development of e-Governance programmes.[9] This explains why low-income countries have a poor score in the UN's ranking despite their e-Governance efforts.[10] The lack of an appropriate infrastructure has also been often highlighted.[11] Economic factors are important, as e-Governance requires the provision of the necessary resources. The issue of funding is mentioned in the Ministry's strategy from 2015 and a SWOT analysis concerning e-Governance, the category threats or constraints identifies the low level of investment funds from the state budget.[12] A country's wealth has a crucial role in the acquisition of technical infrastructure.[13] The Ministry speaks about the relatively low number of digital public services related to their degree of sophistication.[14]

Yet, the real obstacle is not so much the money, but the bureaucratic structures' resistance to change.[15] Employees' reaction is also seen as a risk to the implementation of e-Governance.[16]

SUDDEN POLITICAL CHANGES AND INSTABILITY AFFECT LONG-TERM E-PROGRAMMES

On the one hand, there is an administrative inertia in Romania, on the other, there are sudden changes, changes of ministers, governments, and political instability. This impacts long-term programmes and leads to a neglect of good programmes and ideas. The changes at the level of the political environment can influence the pace of progress and the achievement of the envisaged e-Governance targets.[17] Political instability sometimes seems to be as dynamic as the field of IT technologies itself and it is proven that the political environment can affect e-Governance through frequent changes of legislation. Previous experiments in implementation of Western policies indicate that it is difficult to build large scale projects because of the political cycle, budgetary constraints, and mentalities.[18]

Romania's e-Governance institutional framework

The key institutions in the management of e-Governance are the Ministry of Communications and Information Society (MCSI) and the Agency for Romania's Digital Agenda (AADR), the latter being subordinated to the Government and coordinated by the Prime Minister's Office.

One difference between the two key institutions involved in the implementation of e-Governance would be the fact that the Ministry offers a general perspective, drafting the digitalising strategies. The Agency, however, is in charge of product management: e-Auction, e-Governance, ghișeul.ro, etc. The coordination of the implementation of the e-Governance agenda was recently transferred to the Government's General Secretariat (SGG). On the one hand, this transfer proves the greater interest of the government to accelerate the e-government-related reforms, on the other, this could enclose the risk of a poorer coordination between the institutions involved in the policymaking due to overlapping of some responsibilities.

The e-Governance legal framework was created mainly after 2000[19], with the largest part related to the creation of responsible public organisations and the authorisation to use electronic signatures and payments.

Other pieces of legislation aimed at encouraging the use of electronic facilities.

Ministerul Comunicațiilor și Societății Informaționale

Figure 3: *The logo of the Ministry of Communications and Information Society.*

Figure 4: *The logo of the Agency for Romania's Digital Agenda.*

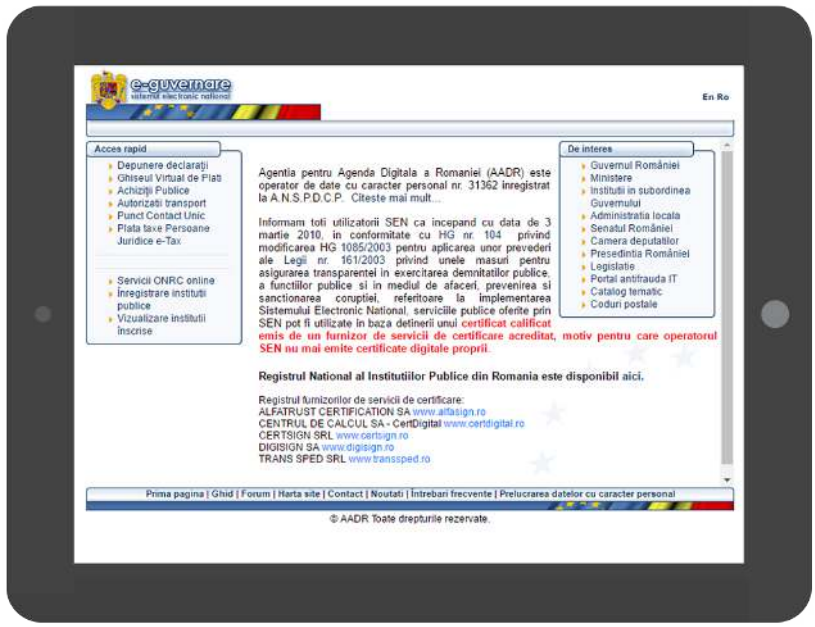


Figure 5: *e-guvernare.ro - Romania's e-Governance portal.*

SINCE 2008, E-PROCUREMENT HAS BEEN APPLIED **FOR AT LEAST 20% OF THE PUBLIC PROCUREMENTS**

On 27 February 2008, the Government approved Decision no. 198 on Electronic Public Procurement, according to which, contracting public authorities are obliged to use the electronic system for at least 20% of their procurements.[20]

State of affairs of the e-Governance reform

EVALUATION OF THE AVAILABLE E-SERVICES

The main electronic public services available today in Romania are of three types: integrated electronic services (or electronic services in process of integration into the national electronic system), independent electronic services used by ministries or agencies, subordinated to the central government, and independent electronic services used by local public administrations.

The National Electronic System

Website	Used for:	Status:
Ghiseul.ro Portal www.ghiseul.ro	Payment of taxes and fines, extending a previous mechanism for the payment of VAT	Operational and under development, launched 2006.
e-Governance Portal http://www.e-guvernare.ro/	Website aggregator which aims at becoming the sole access point for services like: submission of affidavits, payments of certain taxes, public procurement, shipment authorisations, etc.	Under development, launched 2003
e-Direct Platform https://edirect.e-guvernare.ro	Sole information point for companies, including access to the Trade Registry	Incipient, under development
SEAP www.e-licitatie.ro	Tendering and public procurement	Operational, launched in 2002, it is considered to be a success story
National Centre for Response to Computer Security Incidents https://www.cert.ro/	Malware and vulnerabilities alerts and solutions Certification services	Operational
Romanian Post https://www.posta-romana.ro	Money transfer services	Incipient
Cloud Infrastructure Project for Public Institutions in Romania www.icipro.ro	Cloud services for public institutions	Under development
e-Academy for Civil Servants http://eacademie.e-guvernare.ro/	Educational resources for the public administration	Information website

Figure 6: *The logo of the Romanian Post (Poșta Română).*

Electronic services offered independently by central public institutions

Within the past three years, a large variety of applications which provide or facilitate public services has appeared. They cover alerts and all kinds of information, submission of documents, calculators of benefits and dues, health insurance cards, etc.

Public Institution	Application	Website
Fiscal Administration ANAF		www.goo.gl/kVTSGB
Government		https://goo.gl/50ysg7
Ministry of Health	Health insurance card	http://www.cnas.ro/casmb/page/cardul-national-de-asigurari-de-sanatate.html
		www.stopgripa.ro/ministerul-sanatatii-lansat-aplicatie-pentru-mobile-vaccinapp/
		www.stopfumat.eu/campanii/
	Health Insurance Company CNAS	www.cnas.ro/page/verificare-asigurat.html
Ministry of External Affairs	Travel alerts Consular assistance	www.mae.ro/travel-alerts www.econsulat.ro/
	Registration in the electoral registry for Romanian nationals who live abroad	www.registrulelectoral.ro/
Ministry of Education and Scientific Research		www.anmcs.gov.ro/web/acces-aplicatie-capesaro/
		www.siiir.edu.ro/acces-siiir www.goo.gl/maOFRg
		www.siiir.edu.ro/acces-siiir www.goo.gl/84R0Vj
Ministry of Interior		www.dsu.mai.gov.ro/descarca-gratuit-aplicatia-dsu/
	Border Police	www.goo.gl/ghIeg8
Ministry of Environment		www.play.google.com/store/apps/details?id=ro.indaco.inspectorapv_public
Ministry of Justice		www.avocatro.net/forum/civil/193-ce-este-sistemul-ecris
Ministry of Labour	Revisal	www.reges.inspectiamuncii.ro/Cont/Autentificare?Return
	Pension Fund	www.cnpp.ro/web/guest/varsta-pensionare

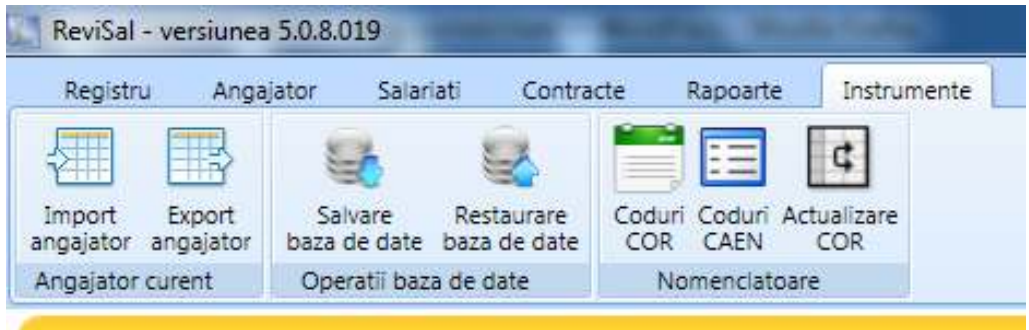


Figure 7: *The ReviSal system for registration of employees is used by the Ministry of Labour.*

Electronic services offered independently by local public institutions

In recent years, the services offered electronically by municipalities have been developed and strengthened. They are made up of websites and portals, various applications systems, and information points offering the submission of petitions, declarations, applications, parking payment systems and other types of tickets, etc.

Examples:

Public Institution	Website
Arad Municipality	www.primariaarad.ro/index.php
Alba-Iulia Municipality	www.goo.gl/GKYyY1 www.goo.gl/wv6cLZ
Brasov Municipality	www.goo.gl/MRdZPk www.goo.gl/LZW0Vf www.goo.gl/oSQpwv
Buzau Municipality	www.goo.gl/jbRoXN
Oradea Municipality	www.goo.gl/hjwNyW
Predeal Municipality	www.goo.gl/Gw87T3
Botoșani Municipality	www.webroll.ro/botosani-city-tru-reclamatii/
Voluntari Municipality	www.volalert.ro/

A minimalist way of assessing public policy is to see if the envisaged objectives have been achieved. Many of the benefits brought about by e-Governance are, however, difficult to predict and calculate.[21] Another type of assessment is to check how the e-Governance status of Romania is reflected in international standards, such as the UN E-Government index.

E-GOVERNMENT BRINGS ABOUT **NOTABLE SAVINGS**

Various figures are circulated concerning the savings brought about by e-Governance. It is estimated that between March 2002 and October 2006, the Romanian state saved

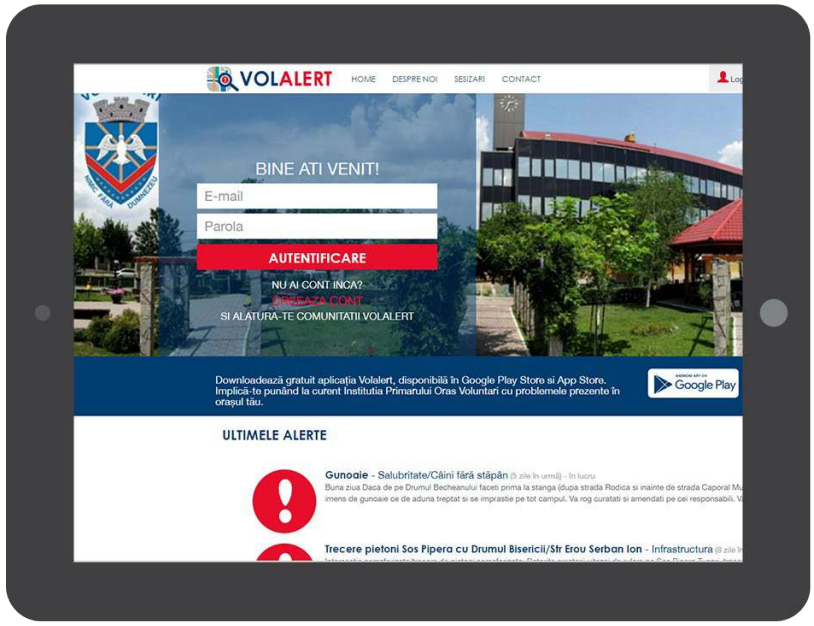


Figure 8: *The Volalert platform.*

178 million euro after conducting public procurements via the Electronic System for Public Procurement (SEAP).[22] The Ministry of Communications has recently carried out a cost-benefit analysis concerning the completion of the e-Governance programme, which showed that the complete implementation of the strategic vision for the ICT sector in the country will require a total investment of over 3.9 billion euro.[23] The direct and indirect impact of the completion of the e-Governance programme on the economy, as calculated by the Ministry of Communications in accordance with good practices in other European countries with similar investments, translates to a GDP growth of 13%, an increase of employment by 11%, and the reduction of administrative costs by 12% until 2020.[24]

The fact that the targets within the strategy of the Ministry of Communications and Information Society are quantified is a good practice. In terms of the use of internet, with the aim at obtaining information from the websites of the public authorities within the last 12 months, the starting point is a reference value from 2014 of 9% of persons aged between 16 and 74 years, whereas the target for 2020 is 50%.[25] Concerning the persons who submitted forms to public authorities online in the last 12 months, the reference is 3.37% in 2014, whereas the target is 25% in 2020.[26] The increase in companies which submitted a bid via the Electronic System for Public Procurement (eAchiziții) was 14.8% in 2013 and the target is 25% in 2020. This strategy undertakes to increase the number of SMEs which sell online (at least 1% of their turnover) from the reference value of 7.29% in 2014 to 20% in 2020.[27] The achievement of this target raises concerns

INTEROPERABILITY OF THE DATA OF DIFFERENT INSTITUTIONS **IS STILL AN ISSUE IN ROMANIA**

as Romania is no longer a planned economy.

Romanian e-Governance is confronted with various problems, such as confidentiality, interoperability, poor use of the service, etc. The fiscal administration published the names and debts to the state of the population, and as a result it was fined 3 500 euro for breach of confidentiality.[28] Ghiseul.ro had similar problems in its initial phase, as then it was still possible to see one`s financial situation by simply entering a person's personal identification number.[29]

Figure 9: *Ghiseul.ro portal.*

Another problem is the interoperability of data. Organisations in the public sector offer services to the citizens rather independently.[30] This situation exists because the available e-Governance services in Romania started some 7-10 years ago as independent initiatives by various institutions within the public administration (ministries, agencies, municipalities, etc.) and further developed independently. The Ministry of Communications has been well aware of this deficiency and often addresses the lack of interoperability standards within the public administration.[31] The correlation among the different systems is inadequate[32] and previous initiatives concerning the integration of systems failed. Hundreds or thousands of fines reach the fiscal administration of Bucharest on a weekly basis. Fiscal administration clerks then take these fines and personal identification numbers and enter them into the computer, copying from paper, with a 1-2% human error rate.[33] This is a common practice. Hundreds of clerks in municipalities do this job just because the database of the Ministry of Interior does not communicate through barcode, or otherwise, with the database of the local fiscal administration.[34]

The ideal situation would be when one state institution gets the information it

needs from another state institution automatically. The fiscal administration could take the criminal record of a person or his birth certificate directly from the police. This contributes to a reduction of administrative costs.

This exchange of data is, however, only partially available, among the Ministry of Public Finances, the Ministry of Justice, the Ministry of Health, and the Ministry of Labour, Social Protection and the Elderly.[35]

Another problem for the Ministry of Communications would be the decentralisation of public authorities and the difficulty of imposing upon them the use of interoperability standards[36], which justifies the decision to transfer the coordination of the e-Governance from the Ministry of Communications and Information Society to the Government's General Secretariat.

The digitalisation of the administration bears the risk of the creation of opportunities for illegal activities: the case of the E-Romania portal, the investigation concerning Microsoft licenses, etc. For example, the e-Romania portal [37] is reported to cost the record amount of 12 million euro.

Apart from that, the portal is still incomplete and deficient[38], duplicating already existing services. A criticism brought by the ICT expert Bogdan Manolea about the e-Romania portal is that the government has been reinventing the wheel, paying for services which already exist, such as the objective access to legislative information, for which four databases, all created with public money, already exist.[39]

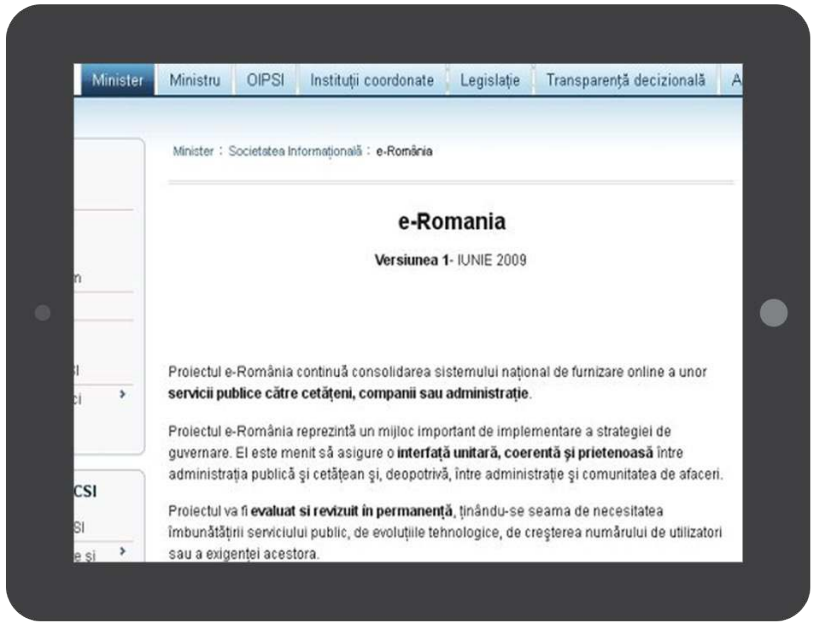


Figure 10:
e-Romania portal.

There are fraud allegations related to the Electronic System for Public Procurement SEAP, a project which in theory was supposed to cut corruption and increase the transparency of public institutions. European directives require that 40% of public procurement conducted by the contracting authorities every year must be performed via electronic means.[40] According to a study conducted by the team of licitatia.ro in May 2014, among 162 persons who use SEAP, 85% of the respondents complained about the Electronic System for Public Procurement, indicating technical deficiencies and a lack of transparency.[41]

The low degree of use of the existing systems remains another problem of Romanian e-Governance. In 2014, 10% of Romania's population used e-Governance services.[42] Within that population, only 3% sent to the public authorities the forms downloaded and filled in.[43] The difference between the number of those who downloaded online forms and the number of those who sent them filled in can be explained by the mentality which assumes that it is safer to submit documents personally and directly to the respective institution.[44] This difference can also be generated by the temporary unavailability of certain e-Governance services.[45]

According to Eurostat figures, companies seem to be more electronically sophisticated than citizens. In January, 47% of Romanian companies obtained information from the websites of authorities while the percentage in the EU27 was 74%.[46] In the same year, 39% of Romanian companies submitted electronic forms, as compared to the EU average.[47] A reversed relation between the degree of e-Governance and the percentage

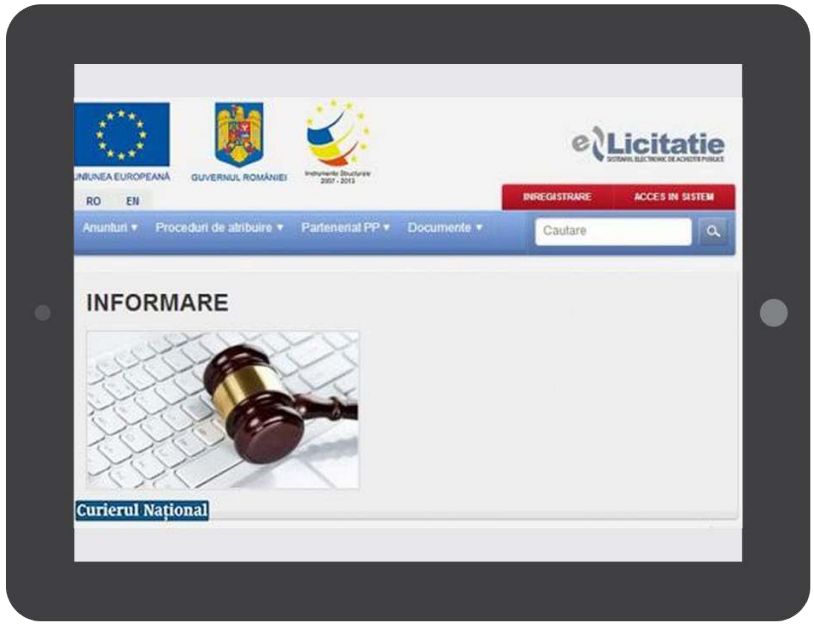


Figure 11: *E-licitație (E-Auction (SEAP)).*

MOST OF THE EXISTING E-SOLUTIONS IN ROMANIA **REMAIN BARELY USED**

of companies can be seen. In 2013, the online submission of income tax declarations was the most frequently used e-Governance service within the EU.[48] In 2014, 63% of Romanian legal persons used the internet up to level 3 of sophistication – transactional e-Governance services for the interaction with public authorities (which is under the EU28 average of 87%) and almost 20% send bids via the Electronic System for Public Procurement, SEAP. The 2015 strategy aimed at increasing the use of SEAP from 40% to 60%.[49]

The most widely known instrument for measuring e-Governance is the UN index, which was developed in 2003.[50] Presently, the EGDI index (E-Government Development Index) for Romania (0.5632) is below the average for Eastern Europe (0.6333).[51]

This index can be explained as follows:

- Online services: it estimates the use of the interaction with the authorities based on four levels of sophistication;
- Telecom infrastructure: it is determined by the percentage of internet users, the percentage of fixed subscribers, the percentage of mobile phone subscribers, the percentage of dial-up internet subscribers, and the percentage of broadband communication services subscribers;
- Human capital index: it is determined by the level of education of the adult population and the percentage of school enrolment.[52]

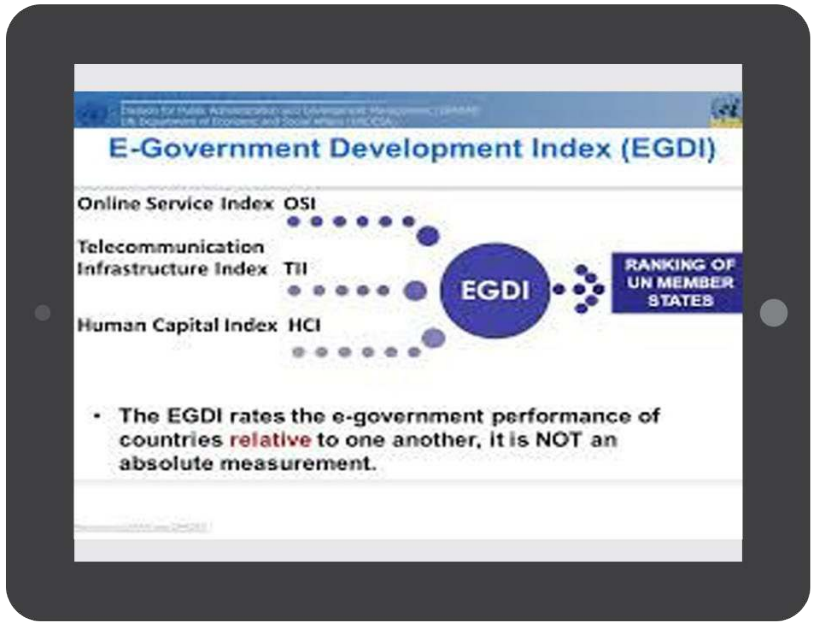


Figure 12: *The UN E-Government Index.*

The world average is 0.4712, the average of those who ranked best was, in 2014, 0.8368.[53] Romania is in the high index group (the first one was with a 'very high index') between 0.50-0.75.[54] Romania's UN E-Government index is 0.5632, two positions lower compared to its 2012 ranking. This is below the EU average (0.7300), and the regional average for Eastern Europe (0.6936), but above the world's average of 0.4712.[55]

The model of online services created by the UN has 4 levels; basic, advanced, transactional, and connected. The online service has four stages. The first one is about emerging information, the second stage is about intensified information services, the third stage is about transactional services and the fourth stage is about connected services. Each stage requires a higher level of sophistication and often the employment of resources.[56] The most complex phases of e-Governance are related to the transactional and connection phases. The maximum level of e-Governance seems to be related to electronic voting and the use of social media. These are elements which increase the democratic participation of citizens. This is level 4, the level where institutions are more connected to the citizens' preferences. Information and downloading are not priorities as they are for levels 1 and 2 of e-Governance. The payment of taxes has to do with the transactional level. It is the third in the UN index or in the rankings of various researchers, which means a rather complex one. For example, in Romania only 10% of users return the forms completed as compared to 85% in Denmark.[57] This would be level 3, the transactional level.

Romania has the following percentage per stage:

- 78% - stage 1; 45% - stage 2; 19% - stage 3; 29% - stage 4.[58]

By decomposing this general interaction, various percentages for each segment are found. Analysing obtaining information from the websites of authorities, the percentage of Romanian citizens is 9% as compared with 40% in the EU.[59] Regarding the download of forms from the websites of the administration, the percentage of the Romanian individuals is 5% as compared with 28% in the EU.[60]

RECENT DEVELOPMENTS (2016)

Since November 2015, the technocratic cabinet of Dacian Cioloș has been successful in speeding up e-Governance based on three lines of action:

- directly, through the Ministry of Communications and Information Society (MCSI), which increased the speed of development of the portal ghiseul.ro, successfully extending the system to several districts and sectors of G2C interaction. Getting the user name and password directly on the website and not from the headquarters became possible. The receipts for payment of fines are sent automatically via the system and do not have to be sent separately any longer.
- directly, following the transfer of the agenda coordination from the Ministry of Communications and Information Society (MCSI) to the Government's General Secretariat (SGG)

THE UN E-GOVERNMENT INDEX RANKS ROMANIA **BELOW THE EU-28 AVERAGE**

Figure 13: *Romania's Prime Minister Dacian Cioloș.*

Indirectly, through the Paper Reduction Commission (Comisia de Tăiat Hârtii), which is engaged with the simplification of the administrative procedures for the citizens, to a large extent through e-Governance means. In parallel, the administrative procedures concerning the interaction with citizens were also simplified, which in its turn makes the introduction of e-Governance easier. The obligation of citizens to request and send criminal and fiscal records to other institutions was eliminated - from now on, the institutions have to request them directly from the issuing authority.

On 24 February 2016, the government led by Prime Minister Cioloș launched the online platform www.maisimplu.gov.ro with the purpose of consulting the population and the companies on the administrative procedures that they find burdensome. A number of concrete measures have been planned. In order to obtain a criminal record certificate, one had to go to two institutions, but the commission suggested two important steps forward. The introduction of the possibility to request a criminal record certificate online, combined with the provision that public institutions cannot request a criminal record certificate from a citizen any longer, but rather public institutions have to request it directly from the specialised structures within the Ministry of Interior, via e-mail.[61]

Another problem is the lack of means for submitting confirmation for an online fine payment. The solution would be to have the option to send the proof of payment

via e-mail and to eliminate the obligation of sending it on paper if the payment was performed through electronic means other than via ghişeul.ro.[62] Another simplification has to do with accepting the electronic copy of the identity card.

The centralisation of information concerning public services is another problem. The authorities and institutions of the central public administration have the obligation to publish standardised application forms and information concerning the online public services which they offer, updated on www.e-direct.ro. By the end of 2016, the e-Direct platform contains little information about the public services offered to citizens and it is in a format which is not updated. In this case, the Agency for Romania's Digital Agenda (AADR) could develop a platform so that e-Direct could become a useful instrument for citizens, with information and applications concerning public services which can be accessed in one single place. This would be a front-end centralisation, connected through the graphic interface with the users. The back-end connection, the connection of the databases of institutions, remains as important as always.

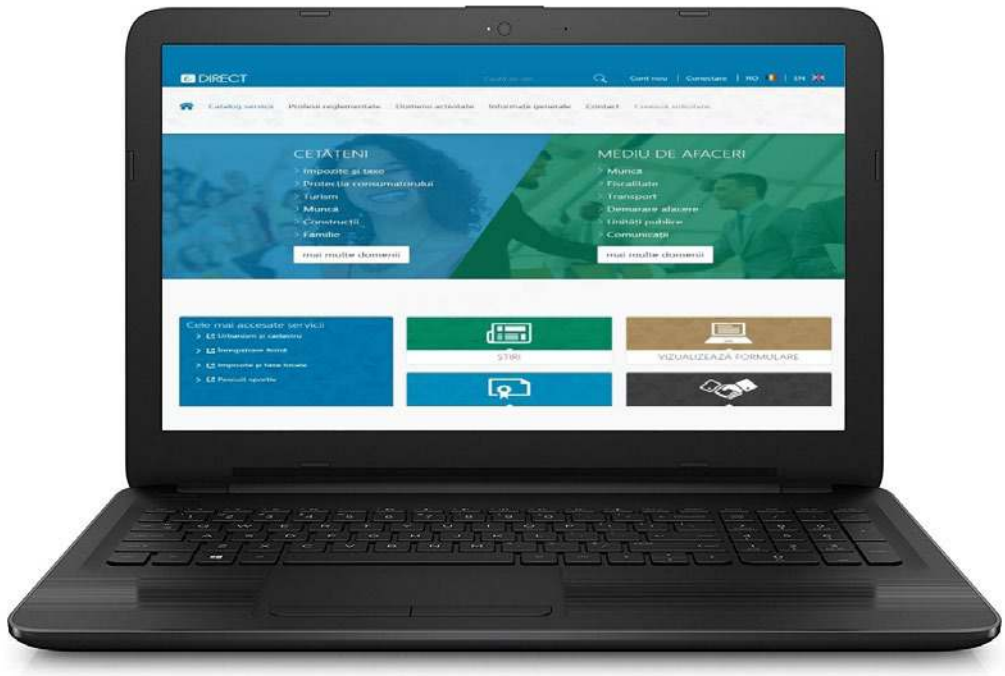


Figure 14: *The e-direct platform.*

Conclusions

CONCLUSIONS AND RECOMMENDATIONS FOR MEANINGFUL AND SUCCESSFUL E-GOVERNANCE REFORM

In Romania, the digitisation of administration is in full swing, but there is only a partial progress achieved so far, such as the increased use of ghiseul.ro, SEAP etc., as well as the use of e-Governance applications in central administration agencies and in local administrations. Problems still exist in regard to the front- and back-end integration of data, ICT literacy of the population, the increase in use of e-Governance instruments, and corruption suspicions related to public procurements.

The recommendations concerning the improvement of e-Governance can be both technical and political in nature.

TECHNICAL

- Interoperability: integration of databases (back-end integration) in order to reduce G2G and G2C costs;
- Front-end integration based on the model of the e-guvernare.ro website, as the Paper Reduction Commission is also planning; at least a common interface is needed for the developed products so far – i.e. ghiseul.ro, SEAP etc. – an interface, able to expand while new products are added. This would simplify citizen's interaction with the administration;
- Solving technical issues, errors, and bugs before they lead to data loss. There can be no genuine e-reform of administration with technical flaws happening every now and then;
- Considering open source solutions for the public administration such as Linux, OpenOffice, etc., in order to reduce the cost of administration digitisation. The open source solutions would reduce the possibility for corruption-related cases, as the one related to the purchase of Microsoft licenses, but will also result in lower maintenance costs in a longer term.

POLITICAL

- Continuation of the activity of the Paper Reduction Commission by the new government, no matter who acquires political power;
- Speeding up current trends for making public services more efficient;
- Adoption of good practices from other countries, such as electronic voting from Estonia, already introduced in 2005;
- Using e-Governance in the e-Governance implementation processes, like the use of SEAP for the procurement of e-Governance software and hardware;
- Increased adoption of business environment practices. e-Governance was inspired in

THE OPEN SOURCE-BASED E-SOLUTIONS **OFFER MULTIPLE BENEFITS**

developed countries by e-commerce;
- Enhanced experimental electronic voting, which could be a pilot project in one of Bucharest's sectors;
- Enhanced use of social media by the public authorities.

LIMITATIONS OF THE STUDY AND AREAS FOR FURTHER RESEARCH

The limitations of the present study are at the same time suggestions for further research. One would be a sectorial, segmented research study of the programmes or a detailed study dedicated to only one product - SEAP or ghiseul.ro.

Another line of research would be an analysis of the feasibility of the introduction of electronic voting based on the experience of other countries and the successful thus far national pilot projects. Despite the fact that it seems to be a futuristic project in present day Romania, in the future it can be a solution for the voting of the Romanians abroad.

The planning of a study on how authorities use social media can also be an interesting option. Social media are a cheap and interactive way of communication. The reduction of bureaucratic staff is not a much explored field. Most experts consider the reduction of paper, time, transportation costs, etc., but also ignore the reduction of staff in public administration. Sometimes in Romania, e-Governance relates to the substitution of 10 clerks with 10 clerks plus 10 computers, who fulfil the same tasks as before, with the only difference of using computers.[63] However, the practical added value of e-Governance is exactly the achievement of greater efficiency at reduced costs.

The relationship between e-Governance and decentralisation is also not a much explored topic in the country. A major reason is the fact that e-Governance systems are, in general, centralised by design.

Conclusion

IVAYLO TSONEV

Digitalisation of services and communications is given a very high priority at European Union level, when analysing the tools for new generation coherence between the EU member states, institutions, business and citizens. Digital technologies in the Europe2020 agenda are key to mainstreaming priorities, such as better business environment, new drives for economic and social growth, better health and social protection, new jobs, new skills, online platforms for sharing, including informal learning and education, telecoms and media beyond national borders, new forms of commerce – e-commerce, and last but by far not least, e-Governance.

"DIGITAL TECHNOLOGIES ARE GOING INTO EVERY ASPECT OF LIFE. ALL THEY REQUIRE IS ACCESS TO HIGH SPEED INTERNET. **WE NEED TO BE CONNECTED, OUR ECONOMY NEEDS IT, PEOPLE NEED IT."**

JEAN-CLAUDE JUNCKER, STATE OF THE UNION ADDRESS EUROPEAN PARLIAMENT, 14 SEPTEMBER 2016

The case studies of Bulgaria and Romania, described in this publication, prove the substantial role of the European Union in triggering crucial e-Governance reforms. Credit is given not only to the Union's supranational legislation that is due to be transposed to the national ones, but also to the financial incentives provided through a number of operational programmes. Likewise, in a number of other areas the EU funds allocated to optimisation and modernisation of the administration and the development of a more effective, electronic system for provision of public services have proved to be a highly stimulating factor for undertaking the necessary e-reforms by a number of national governments.

The overall technological progress which touches upon every aspect of public action and personal life is another factor that predisposes the ever more extensive use of ICT in governance. The European continent enjoys the highest Internet speed, the highest number of internet users per capita and the entire multitude of technical preconditions for the extensive implementation of e-Governance. However, the governance part, in terms of good governance, does not come automatically with higher use of ICT.

In this regard, the major preconditions for meaningful and successful e-reforms remain political will and political consensus. There should be profound understanding for the state as a service provider, whose primary role is to serve its citizens in the most effective and transparent manner. Long-term strategies and public awareness measures will give greater credibility to the process by ultimately contributing to broader public consensus. At the same time it should be highlighted that the development of e-solutions and their implementation is not a political issue and should not be treated as such. It is not politicians who should decide which e-solutions should be installed, but engineers in close public-private partnerships, in order to ensure that the interests of all stakeholders are addressed to the highest degree. Exactly this service-oriented approach has turned Estonia into one of the most digitally advanced countries in the world today, with 99% of the administrative services provided on-line.

The central role of government as the coordinator of various institutions' efforts within a comprehensive e-governance reform, rather than acting as its sole executor, and firm political and public consensus towards optimisation of public services will build trust in the reform process and the services provided. The trust in well-designed and helpful services will reflect on to the government itself, which will be regarded as citizen`s-caring and good government. The more e-solutions are in place and the greater value they create for citizens and business, the greater public confidence and trust will the e-reform process enjoy.

The high number of success stories from across Europe are also of help for the efforts of countries, which are making their first steps in the design and implementation of e-reforms. With the experience of the world's top performing e-Governance countries widely available, no government today still has to reinvent the wheel and spend a great deal of time, efforts, and resources for wide-ranging researches. For the political-

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ly, economically, and socially interconnected states in united Europe, it has never been so easy to exchange best practices, including those in the area of e-Governance and to borrow well-proven and working e-solutions. In addition, the high number of e-showrooms, research centres, and universities remain available for adapting the examples and best practices, in accordance to the particular country contextual specifics. Yet again, that should be an engineers' issue, not a subject of political debates.

In Bulgaria and Romania the introduction of e-Governance is characterised by modest to date achievements at high cost, which creates the public perception of e-Governance as an expensive luxury, affordable for the well-off countries from the European north. This understanding is, however, simply untrue. While the development of e-solutions and the installation of the necessary technical infrastructure require an initial investment, well-functioning e-Governance saves money and accounts for perceivable economic boosts. In fact, it is the only cost-effective way to govern, as the ever increasing demands for cheap, high quality, and reliable services cannot be fulfilled by maintenance of large paper-based administrations. Modern and integrated e-solutions save time and money for citizens and business, who no longer waste time waiting behind a counter, but create a real product for themselves or the market.

Re-designing public services relates to re-designing the understanding of the role of the state in today's rapidly developing world, where societies are becoming ever more open and are ever more demanding for better services and better governance. Fortunately, the success stories of countries such as Estonia, give a note of inspiration to those which are yet to explore the potential of digital tools and systems for provision of public services to citizens and business, with improved transparency and broader participation.

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RE-DESIGNING PUBLIC SERVICES FOR THE 21ST CENTURY

COMPARATIVE ANALYSIS OF THE E-REFORMS IN ESTONIA, BULGARIA, AND ROMANIA

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