e-Governance Academy
Yearbook 2021/2022

Towards a seamless government

eGA
e-governance academy

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Paris Cyber Week

Contents

eGA - Facilitating the digital transformation of governments and societies

eGA's mission is to increase the competitiveness of societies through digital transformation, transparency, and openness. For this purpose, we analyse information, create knowledge about e-governance and digital transformation, and transfer Estonian and international best practices to governments and other stakeholders around the world.

eGA has two subsidiaries: eGA for the Caribbean Ltd (EGA4C) and Digital Governance Academy Asia-Pacific (D-GAP)

ISO 9001
BUREAU VERITAS
Certification

eGA's management system for its project management, study visits and consulting services have been independently certified to ISO 9001:2015 standard.

eGA successfully passed the pillar assessment of the European Commission and is now a trusted implementing partner for managing EU funds.

2021 at a glance

EU4DigitalUA

the largest project by activities and funding that reaches a total of 10 M euros

The Kingdom of Tonga

the farthest country eGA has consulted and assisted

1200

e-Governance Conference participants from 140 countries and territories

1000

participants in 30 e-governance trainings online and onsite

535

days of expert missions in total by 21 employees

254

partner organisations eGA has collaborated with

160

countries are ranked by the National Cyber Security Index (NCSI)

138

countries and territories used eGA's expertise in e-government policy planning and implementation

58

projects implemented in 40 countries

38

Digital Government podcast episodes launched

15%

increase in the number of eGA employees in relation to 2020. In total, eGA has **53** employees working in Estonia, Kyrgyzstan, Serbia and Ukraine

5,96 M

euros in turnover

New realities, new normalities

Hannes Astok
Executive Director and Chairman of the Management Board

My favourite corner café next to our office is open again. But it doesn't open its doors until 10 a.m., not 7:30, as it did before the COVID-19 pandemic and lockdowns, because very few rush to the office in the morning. This is part of the new global normality in early 2022. Meeting a colleague in the office is a great day of joy. Going on a business trip abroad is as exceptional an event as it may have been fifty years ago.

In my childhood, it was exciting to look at picture books that envisioned the future: flying cars, people on Mars, video calls from anywhere in the world. Cars still drive the same way, four wheels on a flat surface. We remain on a planet called Earth. However, in 2021, global video conferencing finally became an everyday reality. Our experts at eGA had hundreds of video conferences and seminars, consulting governments and organisations in 40 different countries.

Governments around the world are also beginning to realize that people do not want to queue behind the doors of government offices to submit yet another application form to get the public services they require. More and more, governments have understood that the response to the situation is not more efficient front office clerks, but digital services that proactively help citizens and businesses manage their affairs. Our e-Governance Academy has actively supported governments to make those transformations in 2021.

In Ukraine, we finalised implementation of the Trembita secure data exchange system, which forms the basis of the most popular e-services and connects more than 90 authorities and local governments. So far, it has handled more than one billon data transactions. Within the EU4DigitalUA project, we continue to contribute to the improvement of the efficiency and security of public service delivery in Ukraine.

In Kyrgyzstan, we started as a lead partner on the European Union-financed twinning project, in partnership with Haus from Finland, and CSI-Piemonte from Italy, to support authorities in managing the digital development of Kyrgyzstan.

In 2021, we witnessed several significant cyberattacks. The new normality demands proper cybersecurity to keep cyberspace secure and e-services accessible. We are glad to assist governments together with donors like USAID and the European Union Agency for Cybersecurity (ENISA). Also, we are continuing to assess countries' cybersecurity statuses and capabilities with the National Cyber Security Index (NCSI) which presents trends governments follow, the best practices they use, and the gaps that should be analysed and filled.

Organisationally, one of the highlights of 2021 was the establishment of a subsidiary in Jamaica, the e-Governance Academy for the Caribbean (EGA4C), to strengthen our presence in the Caribbean, Central and South America, and support digital transformation, transparency, and openness in this region. This company will make Estonia's and eGA's experience and knowledge more accessible to countries in the region.

Most importantly, we were healthy in 2021. Our entire fast-growing team of 53 employees has been vaccinated. This enabled us to lead 58 projects in 40 countries and conduct hundreds of hours of consultations and seminars on-site and online. In short: to be available for our partners and customers.

We believe in scientific achievement. Solutions in science and technology have made digital governance possible. And with the help of science and digital technologies, but also with human wisdom and ingenuity, we will overcome the COVID-19 pandemic.

The growing expectations of citizens mean better services are required of governments. The next-level public services should be highly automated, proactive, and easy to use for everyone. In Estonia, we call it "seamless government." To explore the challenges and opportunities governments and societies will face while moving to this next level,
I invite you to attend our annual e-Governance Conference, May 10-12, 2022. Let us meet in person (or virtually) in Tallinn to discuss the future of seamless governance!

Meanwhile we invite you to follow our Digital Government Podcast, available through all the most popular podcast apps! Tune in!

These trends will shape digitalization in 2022

Federico Plantera
WordsMatter OÜ

The theme that dominated the first half of 2021 was to take stock of the new needs and hectic change that the pandemic had brought. Society's learning curve has been steep, a boot camp in adaptation and reactive innovation.

The risk is, now, that governments and businesses do not make the most of the outstanding digitalization effort that leapfrogged many organizations years ahead of where they stood before the pandemic. With insights from top experts and government CIOs, let's look at what lies ahead and the digital trends to follow in 2022.

Focus on users and effective public service delivery

COVID-19 brought about two major consequences in terms of the way citizens and governments interact. In the eyes of the first, it stretched the boundaries of what was deemed plausible and accepted – remote work, willingness to take on more risks in co-managing processes, distributed accountability, increased fruition of services online. And continuing with Siim Sikkut's words, former CIO of the Estonian Government, on the public sector side of the equation, instead, "It gave us opportunities to demonstrate how we can do things differently. As digital leaders, we must make plans that embed this positive momentum."

Governments, in fact, had their own fair share of work to do. In Estonia, as elsewhere, quite a few COVID-specific digital solutions had to be figured out and developed basically overnight. But previous experience in digital government and transformation is what differentiated countries' ability to adapt and respond. "Many governments say they had a strategy and vision, but little practice with digital transformation. They were hesitant on undertaking the required change. Because while those solutions seemed like something good to have, at the same time they did not want to rush into that," Linnar Viik points out, strong of his longstanding experience in consulting governments on the matter.

Here is where governments fully followed two trends that already gained relevance in the beginning of 2021: people centricity, and location independence. With the latter, we refer to the seamless provision of services regardless of the operator and citizen's locations, the ability to both deliver and use remotely. Which is "Here to stay, organizational boundaries evaporated, and this is something we really need to keep alive," Randall Brugeaud highlights, former CIO of the Australian Government. Then, high up in the list of priorities, is delivering services in a much more user-focused and user-centric way.

Skills and competences have been long overlooked. Time for a change

The other big topic to focus on is digital skills, in public sector employees and society as a whole. It is widely acknowledged by now that a digital society goes beyond delivering services in an e-way. To recognize one as such, being digitally savvy – at different levels, as required – is an asset that should belong to all social groups.

Now, while public services must, regardless, be designed in a way that would not require users to have an IT degree to access them, the reskilling of the labour force requires a more committed focus. Workers' reskilling within and beyond the public sector is an enterprise that cuts across the task spectrum. "It's not all about coding – also running systems, service design. We need to work with the people we already have in the labour market, get them to move more into these professional specialties, and use and value them more in their occupations they currently hold too," Siim Sikkut points out.

> Pandemic gave us opportunities to demonstrate how we can do things differently. As digital leaders, we must make plans that embed this positive momentum.
>
> Siim Sikkut

Talking tech, but keeping in mind people and organizations

Acquiring even more familiarity with salient tech is especially important when, aside from the organizational and managerial aspects the three digital government experts touched upon, we delve deeper into the solutions that could define the digital trends of 2022. As Gartner highlights in their annual report on the topic, in order to develop the capability to innovate, deliver trusted digital connections, and solutions that allow rapid scaling, process managers and organizations should become familiar with heavily tech-inspired strategic trends.

For example, by enhancing trust, scalability, and growth through:

- leveraging the power of data even when fragmented;
- increase cybersecurity capabilities across all technical solutions used;
- sharing data via secure interoperability platforms;
- scaling up infrastructure by increasing cloud-native platforms usage;
- increase collaboration among teams working towards the delivery of same goals;
- fully unfolding the power of automation, artificial intelligence (AI), self-generative and autonomous systems.

It sounds like a lot – and it might be. Which is one of the reasons why the ultimate digital transformation trend of 2022 might revolve around well-known characters: people and organizations. To not let the innovation paths that COVID forced us to walk in the past couple of years dissolve but consolidate all the many steps forward we have already made. And look at the months to come with inspiration, rather than fatigue.

Highlights of the year 2021

Collaboration initiatives on cybersecurity with USAID, ENISA and GFCE

In 2021, eGA embarked on supporting cybersecurity reforms in USAID assistance programs, and was selected to support the European Union Agency for Cybersecurity's (ENISA) work on assisting European Union Member States. Also, eGA partnered with the Global Forum on Cyber Expertise and provided them with a comprehensive and widely recognised tool for mapping and developing national cyber capabilities – the National Cyber Security Index (NCSI).

The Estonian-origin backbone for e-services benefits the Ukrainian digital government development

The Estonian-origin backbone for government e-services – the Trembita system – connects more than 90 authorities and local governments of Ukraine and works as the basis of the most popular e-services. Ukraine is the largest country in the world where the Estonian-origin data exchange platform is fully functional. Building on the achievements of the EGOV4UKRAINE project, eGA continues the collaboration with the government of Ukraine within the EU-supported EU4DigitalUA project.

eGA leads the twinning project in Kyrgyzstan

The twinning project 'Support to the Digitalisation Agenda in Kyrgyzstan' supports the digital development of Kyrgyzstan by increasing the capacity of the national authorities to manage and lead digital development. The twinning project is implemented by the EU Member States Consortium represented by eGA from Estonia (lead partner), Haus from Finland and CSI-Piemonte from Italy. Within the next two years, the twinning project will assist the Ministry of Digital Development and other stakeholders in the development of digital skills, enhancement of access to public services, enhancement of citizen privacy and data protection, and improvement of national cybersecurity in Kyrgyzstan.

¡Hola!

The e-Governance Academy established a subsidiary in Jamaica

The e-Government Academy (eGA) has established a subsidiary in Jamaica, the e-Governance Academy for the Caribbean (EGA4C), to support digital development in the Caribbean region. With the support of our subsidiary, we strengthen our presence in the Caribbean, Central and South America, and make Estonia's experience and knowledge more accessible to other countries. Operating in the same economic space also simplifies communication with the governments and organisations in that region. So far, we have cooperated with 11 countries in the Caribbean region.

eGA completed the pillar assessment of the European Commission

The pillar assessment empowers our work of transferring Estonian and other countries' digital transformation best practices to the governments and organisations who wish to take the next step in their digital transformation journey. eGA is now able to implement large-scale digital projects supported by the European Union in the fields of smart governance, cybersecurity, e-democracy, and technology.

The e-Governance Conference broke the record

The e-Governance Conference held online from 18th – 20th May 2021 hosted a record number of participants – 1200+ participants from 140 countries and territories, and presented lessons learned of 13 countries. The conference looked at the implications of the accelerated digital transformation that resulted from the pandemic and provided governments with the new perspective on how to move forward with more sustainable digital transformation. The e-Governance Conference has been organised by eGA in cooperation with the Estonian Ministry of Foreign Affairs since 2015.

The report on cybersecurity awareness is published

Within the project 'ENISA: Research of Awareness Raising Activities' eGA's cyber experts compiled a report on cybersecurity awareness that aims to assist EU Member States in fostering their cybersecurity capacities on citizens. The report presents ways in which the EU Member States have achieved better cybersecurity awareness in society and have incorporated cybersecurity awareness into their national cybersecurity strategies.

The handbook "e-Estonia. e-Governance in Practice" is available in the Thai language

The handbook "E-Estonia. E-Governance in Practice" is available in the Thai language! The book was published with support of the Khon Kaen University. The book presents fundamental aspects of the Estonian digital society and explains how state-level technologies, legislation, citizen, and private sector systems support electronic governance. Besides English, Russian and Japanese it's the fourth language in which the handbook has been published so far.

Merle Maigre was awarded the French National Order of Merit

The National Order of Merit is the acknowledgement of the French Government to Merle Maigre's contribution to cybersecurity knowledge sharing and collaboration between Estonia and France.

Trends and outcomes

Digital readiness assessment is the first step in a longer cooperation

Marit Lani
Programme Director
of Smart Governance

Digital transformation can significantly contribute to the development of each sector of the society, but the benefits can be multiplied if there is a strategic approach to digital governance and digital enablers and advancements are introduced to several governance areas. In this context eGA's country assessments became a fast advisory tool for governments to realise digital development opportunities and address current weaknesses. It is the starting point of a strategic approach.

Seamless government requires having a strategic view on digital governance in the country as a whole. There has to be a clear understanding about which digital elements need to be centrally developed and which ones must be simply coordinated to achieve homogenous and sustainable progress.

Focus areas that need special attention include the organizational aspects of digital governance, legal framework, financing model, cybersecurity, data management, digital identity, and access to (electronic) services. However, seamless government is not only about the digital services a government can offer to its citizens and residents, but also about the readiness of the society to use these new possibilities and support achieving the digital ambitions of the nation. Therefore, strategic communication, development of digital skills, digital engagement, and cooperation cannot be overlooked.

> Seamless government requires having a strategic view on digital governance in the country as a whole.
>
> Marit Lani

In 2021, the smart governance team finalized digital maturity assessments in Jordan, Montenegro, Sri Lanka, and Iraq, evaluating the current digital governance situation in these countries and providing recommendations for next steps. In addition, we carried out a digital assessment of the Georgian Railway.

Mālō e lelei!

In all of these assessments, we supported the shift towards seamless government by tackling a wide variety of focus areas, as outlined above. This helped create a broad foundation for the understanding of the current situation and made sure all the important pillars of digital governance are considered when developing future strategies.

Launch of the Digital Readiness Review

Moreover, in 2021 the smart governance team issued a new version of the assessment methodology, now named the Digital Readiness Review, which provides an even more detailed analysis, having defined more than 30 sub-topics that are separately addressed and evaluated.

Often the digital readiness assessment is the first step in a longer cooperation. With Barbados and Aruba we took the cooperation further and helped develop and implement their digital transformation strategies. We also assisted the Kingdom of Tonga in updating their civil registration and national ID systems.

While working abroad, we also contributed to the digital skills development of Estonian high-level public officials by contributing to creating an organization-level digital maturity assessment methodology for Estonian public sector organizations and carrying out training sessions.

> Seamless government is not only about digital public services, but also about the readiness of the society to use these new possibilities and to support achieving the digital ambitions.
>
> Marit Lani

Smart Governance team's activities in 2021

3
missions

124
online meetings with stakeholders

124
pages of assessment reports and strategies

220
recommendations for further digital transformation actions

Main projects

Digital Maturity Assessment of public sector in Jordan, Sri Lanka and Iraq

10/2020–12/2021

The assessment evaluated the current digital maturity of the countries' public sector, drew general findings and offered suggestions for further activities in 12 e-government focus areas. The Digital Maturity Assessment report can be used as the foundation and inspiration for strategic national documents on digital transformation. The report also serves as an input to the Digital Landscape Assessment tool developed by the UNDP in cooperation with eGA, which helps governments to identify digital entry points for acceleration towards achieving Sustainable Development Goals (SDG).

Funded by UNDP

Digital Maturity Assessment of Montenegro

04/2021–08/2021

eGA experts assisted the Government of Montenegro to prepare the smooth digital transformation of the country based on digital maturity assessment. Within the project eGA's experts assessed Montenegro's preparedness to implement e-governance reform and to support the digitisation of services relevant for businesses, provided recommendation on how digital transformation could benefit the private sector and proposed the governance model that enables the smooth digital transformation of Montenegro.

Funded by EBRD

Digital Maturity Assessment of Georgian Railway

07/2021–01/2022

The Digital Maturity Assessment of the JSC Georgian Railway provided a foundation for the further digital transformation of the company and facilitated the development of the regional logistics hub in Georgia and achievement of the country's long-term sustainable economic growth.

Funded by EBRD

Consultation and trainings for the government of Barbados

02/2021–02/2022

eGA experts are providing the Government of Barbados with consultations on e-governance related issues and assisting in developing the ICT strategy for the country. The online consultations cover the implementation of a national digital identity, the implementation of an e-services platform that is based on the X-Road solution, the national digital payments framework and various business information systems of the land registration, vital records and civil registration.

Funded by the Government of Barbados

Consultancy on digital transformation for Aruba

02/2020–02/2022

eGA experts are consulting the Government of Aruba on digital transformation. The work areas include consultations on building an e-government organisation, advising on e-ID development and implementation, prioritising the development areas, national cyber security development, and creation and implementation the national digital payments infrastructure.

Funded by the Government of Aruba

Tonga civil registration and national ID

11/2020–04/2022

A modern e-society is based on the identities validated and verified by the government. The project aims to assist the government of the Kingdom of Tonga in modernising the identity management. eGA experts are consulting the government on how to upgrade and link the existing civil registration system with the national ID system.

Funded by the World Bank

Digital capability development programme for Estonian public service

05/2020–12/2023

Within the project, BCS Koolitus and eGA experts are creating and implementing a development programme for raising digital competencies of top officials in Estonian public service, in order to lead the development of the Estonian digital society. The development programme is engaging 20 top public officials.

Funded by the Government Office of Estonia

The big picture is needed while creating a seamless government

Heiko Vainsalu
Programme Director
of Technology

Salut!

Everyone knows the story of the blind scientists studying an elephant - a tree for some, mountain for others. E-government is the same! Not that it would have a big trunk or tiny tail - different perspectives can give you very different understanding. For technologists and engineers first and foremost - e-government means interoperability and architecture. Every piece and component in it must have a clear role and function, and it must fit well together with other components. This is a seamless government - the government that operates as one whole, while under the hood the machinery can be very complicated.

The technology team tends to drive its partners and clients from specific viewpoints – reliable infrastructure, robust networking, user friendly service – to seamless government. This is an approach where the relationship between components and functions is more important than any specific component alone.

> This is a seamless government - the government that operates as one whole while under the hood the machinery can be very complicated.
>
> Heiko Vainsalu

For administrations it is difficult to focus on seamlessness while planning and working towards e-government, as it usually does not deliver an easily understandable output. Therefore, a reasonable balance must be made in all e-government projects and activities for implementing a functionality/service/domain and at the same time improving interoperability and architecture between existing components.

The smartest are those administrations who initially create the big picture - architecture - and then commit to implementing seamlessness step by step. If our technology team would be one of the scientists studying the elephant - we would be study it from the inside out.

Main projects

Development of a government enterprise architecture and e-government interoperability for Uganda

11/2020–09/2021

Within the project eGA experts developed a Government Enterprise Architecture (GEA) and E-Government Interoperability Framework (E-GIF) and provided the necessary policy and technical recommendations for its sustainable and systematic implementation. The GEA and e-GIF were aimed to ensure that information technology infrastructure and services support were aligned with government business goals.

Funded by the World Bank

Public administration modernisation in Djibouti

06/2020–12/2021

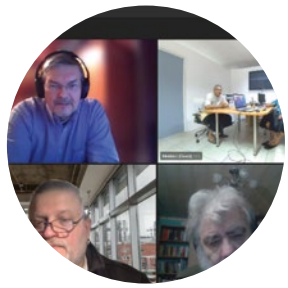
The project created a seamless and secure data exchange X-road between government registries and databases of Djibouti, to modernise its public administration. The secure data exchange will act as the main enabler for e-services development. Additionally, Djibouti has also got a well-trained team able to handle the challenges of growing the ecosystem.

Funded by the International Development Association
Partners: National Agency for State Information Systems (ANSIE), UpMind, Roksnet, Gofore

> The smartest are those administrations who initially create the big picture - architecture - and then commit to implementing seamlessness step by step.
>
> Heiko Vainsalu

Tonga enterprise architecture for the development of ICT infrastructure

11/2020–05/2022



Within the project, eGA develops and maintains the Tonga Enterprise Architecture Framework (TEAF) and creates specific business architecture models that reflect and comply with the government's strategic goals of developing ICT infrastructure. The models include interoperability strategy, secure data exchange, shared services, data strategy, catalogue of interoperable systems, eID and PKI ecosystem, cloud computing, data centres, etc. Moreover, eGA analyzes ways to reduce government costs and IT expenses, and will develop processes to evaluate the information systems of public authorities and local governments.

Funded by the World Bank

Digital Government Platform for Samoa

04/2021–12/2021

The project established a Digital Government Platform for the Samoan Government that works as a basis for the staged introduction of e-government systems and helps to improve internal government efficiency and delivery of government services to the business community and society. Besides this project provided good experience of online workshops where all stakeholders attend with interest and engage into discussions and collaboration. Since 2020 it was the first time when our client was ready to work fully online.

Funded by the World Bank

Twinning project: Support to digitalisation agenda in Kyrgyzstan

10/2021–10/2023

The project supports the digital development of Kyrgyzstan by increasing the capacity of the national authorities, especially the Ministry of Digital Development to manage and lead the digital transformation and to promote transparency and accountability. Within the next two years, the twinning project will assist the Ministry of Digital Development and other stakeholders in the development of digital skills, enhancement of access to public services, enhancement of citizen privacy and data protection, and improvement of national cybersecurity in Kyrgyzstan.

Funded by European Union Association
Partners: Ministry of Digital Development of Kyrgyzstan, Haus, CSI-Piemonte

Trust is the key for democracy in the coming years

Kristina Reinsalu
Programme Director of e-Democracy

2021 started with direct attacks to international symbols of democracy and we experienced threats to democracy throughout the year everywhere in the world. There are more tensions than ever: between governments and companies; between citizens and politicians; between citizens and citizens. The crisis has evolved but the government as such has mainly remained the same – too seamless to keep a fragmented society together. Although, in crisis, the role of governments should be more visible and supportive.

In the area of service provision, a good government means a seamless government. However, for democracy, a good governance means quite the opposite. For a citizen, a government that is present, talks openly and honestly, listens to concerns, and finds new ways to co-design better policies and solutions to wicked problems with its citizens is the best government. Thus, for me open, equal, and inclusive society is instead of being seamless rather a colourful quilt sewn together with beautiful clear stitches. One of the strongest stiches is trust - trust in governments and trust in tech.

Activity in numbers

9
real-life seminars-workshops (around 45+ hours in total)

8
webinars (around 24 hours in total, from 20 to 220 participants on each)

4
real-life presentations at international Conferences (Paris Cyber Week, Granada EGOV2021 Conference, Lisbon Code Europe Conference, Global Conversation 2021)

5
presentations at virtual conferences

5
on-site visits (Moldova, Spain, France, Portugal)

Digital solutions in governance have little meaning and use unless the people believe in the will and commitment of the decision-makers to put the citizens in the centre and trust the leaders and their statesmanship.

Trust is the key for democracy in the coming years to overcome any existing or new challenges societies face – be it pandemic, digital transformation, Green Deal, or any other. If there is no trust in society, decisions and measures must be taken by force, and this raises serious questions about personal and civil liberties, and, then the government is forced to attack these freedoms even more. Trust can be increased through more open communication and user-friendly digital tools.

For example, municipalities can keep people informed by reporting on investments made because of public procurements in a blog format. Interactive map solutions could be used to engage citizens to think along and start the dialogue and increase transparency in public placemaking by proposing and visualizing their ideas on a map. Also, open and operative communication via social media platforms, especially in crisis, is more than welcome.

The e-Democracy team assist governments, local governments, and civil society organisations in using ICT to profoundly increase transparency, accountability, and participation. In 2021, we created new knowledge and a methodology to assess the impact of e-participation and conducted several studies and built new activities based on results. Additionally, we inspired and trained Estonian municipalities on digital capacity for open governance.

Our biggest challenges in 2022 are to successfully implement the crowdsourcing model in Tallinn City and find innovative ways and tools for digital engagement of citizens to help European cities emerge from the crisis stronger, greener, and more resilient.

გამარჯობა

> Trust is the key for democracy in the coming years to overcome any existing or new challenges societies face.
>
> Kristina Reinsalu

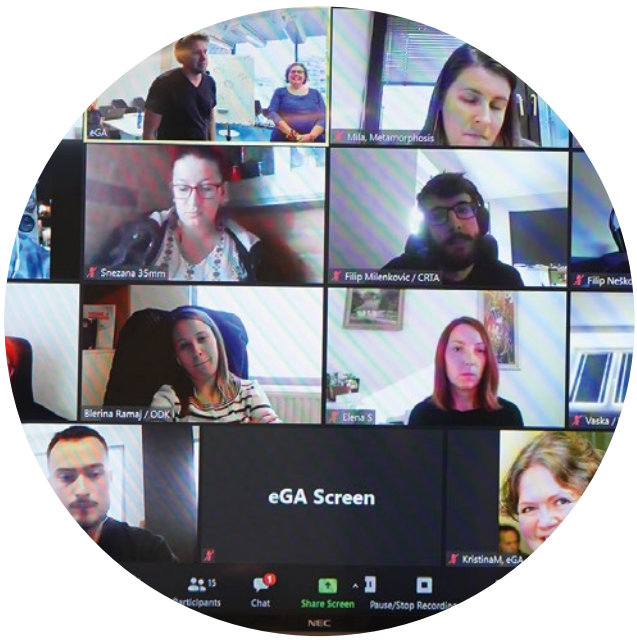
Main projects

Co-Deciding Europe

01/2021–12/2023

The CODE Europe project empowers citizens to co-create policies with decision makers through crowdsourcing. Crowdsourcing is a participatory democracy mechanism that takes advantage of the availability of technological solutions to solicit and analyse "the wisdom of the crowd". We want to empower citizens by giving them the opportunity to learn from each other, collaborate and participate in the decision-making. The CODE Europe project is piloting a Crowdsourcing activity in five European countries about air quality. We have chosen this specific topic because of its transnational nature and the problems associated with it.

Funded by Iceland, Liechtenstein and Norway through the EEA and Norway Grants Fund for Regional Cooperation



DRIVE: Digital research and impact for vulnerable e-citizens

09/2021 –08/2023

The project aims to improve public authorities' and civil society organisations' skills to engage vulnerable groups in Ukraine and Georgia for preventing and overcoming the digital divide, and thus engage groups in political decision-making and services, by providing them with the necessary conditions, awareness and skills for that.

Funded by Luminate

Increasing civic engagement in the digital agenda – ICEDA

2020–2023

The project contributes to increase the engagement of the civil society organisations in the shaping and implementation of the Digital Agenda in the Western Balkans, or more specifically in North Macedonia, Albania, Serbia, Montenegro and Kosovo.

Funded by the European Commission

Open (digital) governance workshops for local government leaders

04/2021–12/2023

The open governance workshops aim to increase the awareness and capacity of Estonian local governments in implementing open governance principles and using digital tools. As a result of the training, Estonian local government leaders are more capable leaders who can transform local governments into smarter users and procurers of digital solutions.

Funded by the State Support Services Centre of Estonia

URBACT Active Citizens

06/2020–09/2022

The URBACT project "Active Citizens" supports the urban development program. The three-year project tries to find new ways to get more people involved in local life. Within the project, local governments will form groups on the ground to work on new ideas. eGA's role in this project is to be an external expert and consult Tartu municipality in planning new engagement activities. Tartu municipality is one of 8 municipalities implementing the project.

Funded by the European Commission

Joint effort helps ensure the security of digital government

Epp Maaten
Programme Director
of Cybersecurity

In 2021, the corona crisis increased our dependence on digital solutions more than ever, and increased the importance of their security and availability.

Seamless government aims to put people at the center of everything the government does, with simple and secure services that meet people wherever they are. Focus on people includes also access to public services remotely, for example through a one-stop contact. By securely connecting systems across agencies, to enable them to work faster and more seamlessly, the burden is reduced for the government. To deliver a modern, secure customer experience for the people, the government needs to use up-to-date design and technology, and to harmonize the actual processes behind the technology.

> Timely information sharing about vulnerabilities and cyber incidents is key to successfully counter the attacks and breaches.
>
> Epp Maaten

Security is an integral part of a seamless government. If governments do not focus on security, unfortunate incidents happen, attacks succeed and finally - trust in government fades, be it seamless or not. Electronic services such as E-tax administration or ID applications are of no use if their functioning and the confidentiality of the transmitted data are in doubt.

There is no single solution to stop human mistakes or people intending on stealing identities or money. Layered security strategies are reactions to today's complicated cyber threat landscape. It takes a holistic view of cybersecurity, accounting for the multitude of flaws, gaps or vectors by which modern malware is delivered. These layers work together to bolster digital services, like keeping payments safe, preventing attacks and where necessary detecting, and managing intrusions.

In the quickly evolving cybersecurity landscape, new threats are emerging daily. Technical solutions are only part of layered security. Connections and collaborations inside and outside of government are also success factors. Governments have a tendency over time to build organisational silos that stifle collaboration and sharing, ultimately inhibiting the flow of information; but timely information sharing about vulnerabilities and cyber incidents is key to successfully counter the attacks and breaches. Only by joint efforts across the government can the risks we face every day be addressed. This should be a guiding principle for national cybersecurity efforts in every country.

> Layered security strategies are reactions to today's complicated cyber threat landscape.
>
> Epp Maaten

Main projects

Cybersecurity readiness in the Ukrainian public authorities

2020–2021

eGA assisted the Ukrainian government authorities to increase their readiness to assess the security of their governmental information systems. The project delivered guidelines, for public organisations, on planning and conducting information security testing and assessments, analysing findings and developing mitigation strategies.

Funded by the U.S. Embassy in Ukraine and the Estonian Ministry of Foreign Affairs through development cooperation

National cybersecurity strategy for Uganda

2021

eGA advised the Uganda National Information Technology Agency (NITA-U) on updating the country's cybersecurity strategy. An updated cybersecurity strategy provides the overall cybersecurity direction for the government of Uganda and is aligned with the cyber laws and regulations. The strategy enables efficient management of cybersecurity risks and helps to build a digital environment that citizens and businesses can trust.

Funded by the World Bank

Research of cybersecurity awareness raising activities

2021

eGA experts analysed EU Member States´ awareness raising strategies and campaigns, identified stakeholders involved, and conducted interviews with the related stakeholders. The research gave a comprehensive overview of challenges and lessons learnt, and proposed recommendations to increase the effectiveness of national awareness raising activities. The work was supporting the European Union Agency for Cybersecurity (ENISA) in their tasks.

Funded by the European Union (ENISA)

National Cyber Security Index

2018–2020 and 2020–2022

The NCSI, launched in 2016, helps to systematically measure and build the countries' cyber security capacities. The project continues developing secure digital societies in developing countries by evaluating their current cyber security situation, defining capacity gaps and sharing recommendations. The National Cyber Security Index currently displays 160 countries' rankings with their corresponding evidence.

Funded by the Estonian Ministry of Foreign Affairs through development cooperation

Cybersecurity consultancy for the Kingdom of Tonga

2020–2022

eGA's activities are focused on the development of operational and administrative standards, and assurance, monitoring, audit and cyber security emergency response (CERT) capabilities. Moreover, eGA will conduct comprehensive security training and awareness-raising for government officials, IT and security professionals, executive management, and the private sector.

Funded by the World Bank

EU4DigitalUA: Interoperability, e-services and cybersecurity for Ukraine

2020–2024

EU4DigitalUA is part of the broader e-government related support of the European Union to Ukraine to continue the digital transformation of Ukraine and harmonisation with the EU Digital Single Market. Within the project, eGA improves the government institutions capacity to tackle cyber threats.

Funded by the European Union

EU4Digital: Improving cyber resilience EaP countries

2019–2022

eGA, as part of the consortium, is assisting the cyber security agencies in Armenia, Azerbaijan, Georgia, the Republic of Moldova and Ukraine to develop technical and cooperation mechanisms that increase cybersecurity and preparedness against cyber-attacks, in line with EU standards.

Funded by the European Union

Cybersecurity regional trends

¡Oiga!

Radu Serrano
Project Manager

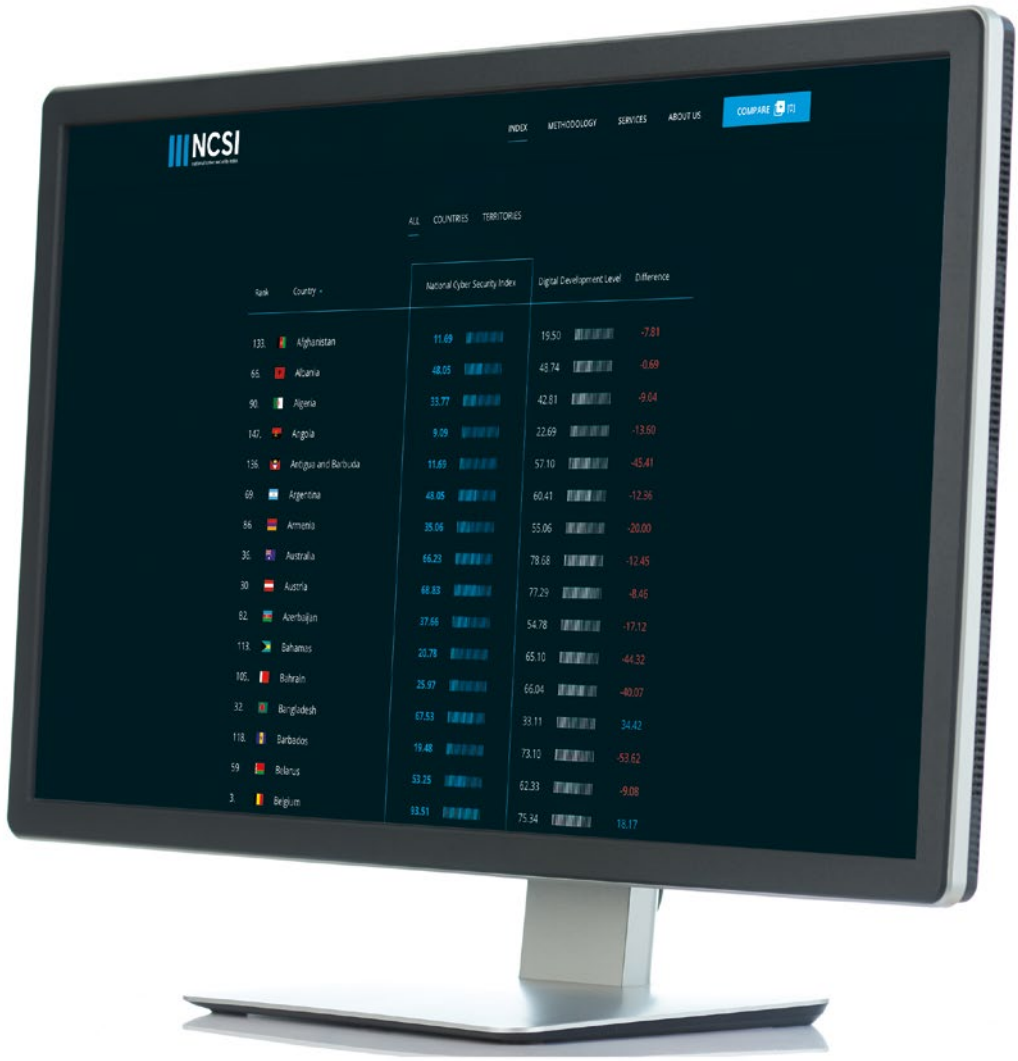
Many governments have accelerated their digitalization and e-governance projects to support and serve their citizens. These projects are complex and intricate endeavors that must take into consideration cybersecurity in order to succeed and benefit all. The NCSI shows clearly trends the governments follow, best practices they use and the gaps, that should be analyzed and filled.

Based on NCSI data analysis, the latest cybersecurity trends show us that globally, the focus is on cybercrime prevention and personal data protection, followed by eID and trust services, incident response, education, and policy development. The global national cybersecurity snapshot still seems to be reactionary in this effect, rather than proactive.

Nevertheless, once we analyze the different regions, we see some different patterns appear. Africa's average efforts emphasize personal data protection, cybercrime prevention, and education, while lacking in crisis management and essential and digital service protection. Their data protection efforts are at the global average level. On the other hand, Oceania's regional focus is on cyber incident response, cyber threat analysis and the fight against cybercrime; but not so much on the protection of services, essential and digital, nor cyber crisis management.

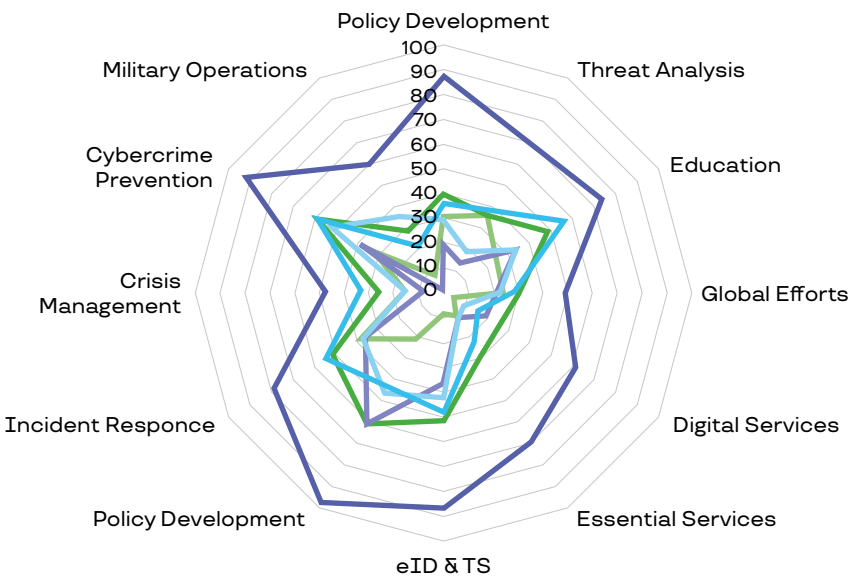
Asia has peak efforts in the fight against cybercrime, cyber incident response, and education, the last two of which are above the global average levels. However, there is still work to be done in the protection of digital and essential services and personal data. Regionally, America is focusing on the fight against cybercrime, incident response, personal data protection, electronic ID (eID) and trust services and education. However, their values are lower than the global average. Only their military cyberoperations excel over the global average. Finally, Europe presents balanced efforts, with work to be done in terms of cyber threat analysis, cyber crisis management, cyber military operations and global efforts and cooperation.

The NCSI (the National Cyber Security Index) is a global live index, which measures the preparedness of countries to prevent cyber threats and manage cyber incidents. The NCSI is also a database with publicly available evidence materials and a tool for national cyber security capacity building. Updated continuously by the NCSI team, 100+ country contributors and eGA's interns.



Latest trends

Global · Europe · Asia · Oceania · Africa · America



Region	Best Average Efforts in	Worst Average Efforts in
Global	Personal Data Protection	Digital Service Protection & Cyber Crisis Management
Oceania	Cyber Incident Response	Digital Service Protection
Europe	Personal Data Protection	Cyber Crisis Management
Africa	Personal Data Protection	Cyber Crisis Management & Military Cyber Operations
Asia	Education, Professional Development	Digital Service Protection
America	Fight against Cybercrime	Digital Service Protection

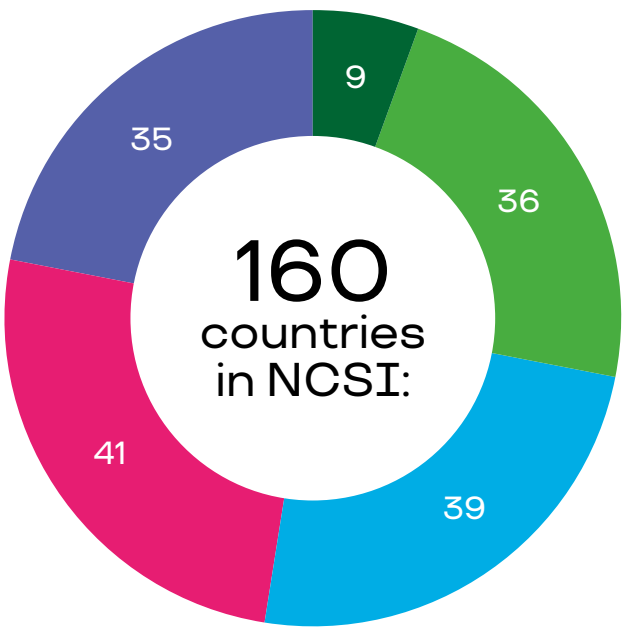
The NCSI's usefulness as a research database is unparalleled. We've received and responded to queries from researchers from the University of Malaya (Malaysia), the Namibia University of Science and Technology, the Stockholm Chamber of Commerce (Sweden), the University of Malta, among others, on the data and methodology of the NCSI. Since the collected evidence is publicly available information, we are happy that it is being used in other sectors and research.

Moreover, individual countries, like Georgia and Finland, have continuously been using it to develop their national cyber security.

NCSI
national cyber security index

Visit NCSI.ega.ee to explore it yourself! If you your country is not yet in the NCSI, or you would like to update some of your country's information, contact the NCSI team via ncsi@ega.ee.

> The NCSI can be used to assess countries and regions, discovering trends, best practices, and gaps, that should be analyzed, adapted and filled, respectively.
>
> Radu Serrano



Countries from:

- Oceania
- Africa
- Europe
- Asia
- America

The return of face-to-face trainings

Annela Kiirats
Director of e-Governance Training

The year 2021 turned out to be a beacon for countries to set their course on e-governance improvement and not only for e-government development. This is a good sign that governments are aiming towards the seamless governance that includes digital development of all society. We also witnessed the increase of onsite trainings.

The situation in the world, still being under Covid19-related restrictions and uncertainty, has clearly shown that public service is about citizen-centricity and assuring working, learning and communication with the government via electronic channels as the option by default. If 2020 was more about providing e-courses, then in 2021 we were slowly coming back to onsite training courses and seminars. That should not be seen as a priority by some countries, already living in the information society, but the reality shows that face-to-face meetings are still programmed into us and we feel better and more focused when we are gathered into one physical room for discussions and brainstorming on the way forward with ICT development.

> Our goal is to provide the best advice we can via those courses and not stay too academic, or theoretical.
>
> Annela Kiirats

The most important approach is that the advice is sought from the best countries in the field and the decision to create sustainability in e-government implementation is guaranteed. Putting countries into a situation when normal life is interrupted shakes the minds of politicians in deciding in favour of the use of ICT. Not doing so has been the main concern highlighted as feedback by most of the groups, attending our training courses.

The keywords to summarize the last year, are networking, speeding up decision-making and collaboration. As the e-Governance Academy has always focused on customized courses, our clients have the actual possibility to discuss their current challenges as openly as they want. Our goal is to provide the best advice we can via those courses and not stay too academic, or theoretical.

We summarize the year 2021 with over 1000 participants and 30 trainings and study visits in total, pointing out that in addition to 23 webinars and e-courses, we had 6 study visits to Estonia, out of which we can showcase the Minister level delegations from Djibouti and Egypt. Also, one training was conducted in Uzbekistan at the Chief Digital Officer level. As the second half of the year showed an increase in study visits, we can predict that 2022 will bring us more delegations and via e-course we can expand our advice and discover new beneficiaries even more.

We will keep our focus on tailor-made content for each country that needs our advice, wants to learn from our practical experiences in the information society and is interested in setting up their course towards e-governance.

Study visits & e-courses in 2021

17 PARTNERSHIPS FOR THE GOALS

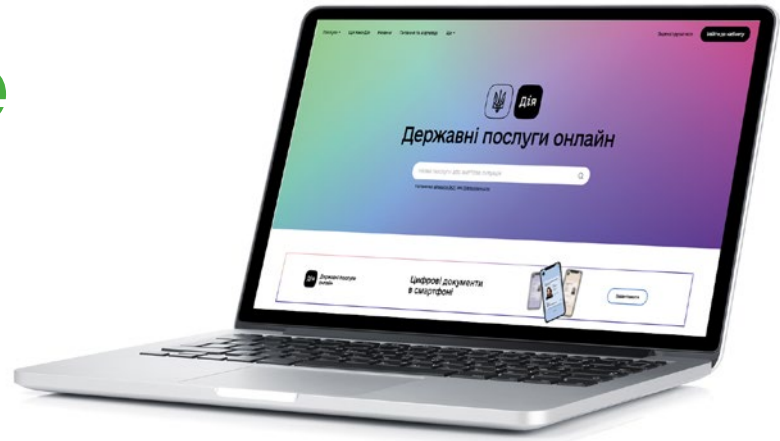
30 e-governance trainings for over 1000 participants:

- 6 study visits
- 23 e-courses
- 1 course in Uzbekistan

Countries and territories that participated in the trainings:
Antigua & Barbuda, Albania, Andorra, Brazil, Djibouti, Georgia, Egypt, El Salvador, Honduras, India, Iraq, Kazakhstan, Kiribati, Kosovo, Kyrgyzstan, Mauritania, Suriname, Ukraine, Uzbekistan

The path towards e-governance in Ukraine

Federico Plantera
WordsMatter OÜ



The roots of Ukraine's commitment to digital transformation are deep-seated. Since **2012**, e-Governance Academy has been present in the country, collaborating with its State Agency for E-governance in preparing e-government development. In **2016**, innovation in the public sector picked up steam more decisively thanks to a large European programme in support of the nation's efforts – **U-LEAD with Europe**. Within this framework, **EGOV4UKRAINE** was deemed to be the ICT-centred branch of the initiative, with **Mari Pedak** at its helm.

Today, the country has an original data exchange platform called Trembita, and local service centres benefit from the creation of a dedicated information system named Vulyk. In 2020 – 2024, the eGA team has been focused on the further development of the digital government infrastructure, public e-services, cybersecurity and data protection.

Tools to enhance digital governance

To date, Ukraine is **the largest country** where eGA and our technology partners have successfully developed, tested, and rolled out digital transformation projects. The points in common with Estonia's own path are several – some core enablers of digital governance. But the **scope and scale** of this endeavour is drastically different. Some claim that digitalisation is easier to accomplish in smaller states, but Ukraine's experience indicates that **size truly shouldn't be an obstacle** (44 million people is no modest number) and interoperability is scalable.

Trembita is the data exchange layer that facilitates interoperability between authorities and local governments. Over 80 different organisations participate in the ecosystem, providing the backbone **for more efficient and comprehensive public service delivery**. It was **developed** on the basis of the proprietary Unified Exchange Platform (UXP) of Estonian IT company **Cybernetica**, which took part in the making of many of the Estonia's key digital services, among which figures X-Road.


WE LIVE FOR ADVENTURE

Since then, progress has been very quick. The first data exchange through the system took place in spring 2019 and, and with two years, **180 different channels of electronic interaction have been established**, building up to a reported amount of over **one million transactions** taking place every month. There are even "most popular" e-services already, such as **eBaby** for new-borns registration and childcare benefits, and **ID-14** for young people to get their first unique taxpayer identity number digitally.

In addition to Trembita, **Vulyk** was the information system being designed to support the digitisation of activities within local Administrative Service Centres (ASCs). At the end of the project more than 250 centres across Ukraine connected to Vulyk.

Three factors that inspired Ukraine's success

1 Political will and collaboration

"Political will is **key to making innovation in the public administration happen** – not only in the initial phases, with a vision, but also throughout the various stages of the process. Even more so when digital transformation brings, on par, a reorganisation of roles and responsibilities across state agencies and personnel," Mari Pedak states. This implies a high degree of cooperation in the first place between the Ministry of Digital Transformation and all others the stakeholders involved. If at the international level this was never in doubt, considering how much the EU supported digitalisation in Ukraine, **collaboration across all levels of governance** is a prerequisite to the success of large-scale reforms of decentralisation.

2 Solutions that fit the needs

Digital tools are not designed to be one-size-fits-all. Or, at least, that certainly does not apply to countries' public sector. The work of our technology partners Cybernetica and SoftXpansion revolved around adapting Cybernetica's UXP interoperability platform to the specific needs of the Ukrainian administration. For example, by harmonising it with **Ukrainian cryptography** standards, which the national government wanted to stick to. Moreover, **data quality and availability** issues had to be resolved, to allow for the correct and smooth functioning of interactions on Trembita.

3 Human capital and awareness

Awareness of the benefits of technological change plays a role. "It was important in the beginning to explain what is Trembita, why it is necessary, how to use it. There is a huge difference between now and when we began. Officials used to ask why do we need this? while now, instead, they demand when will it be ready?," Mari Pedak says.

The second aspect, instead, pertains digital skills. "This is very important for two reasons. First, it is not a good approach to develop services that people are not interested in, or unable to consume. Second, I believe that Ukraine has **one of the most capable private IT sectors in the world**. Four years ago, I would have said that the state and the IT sector were living parallel lives. But now I'm glad to see the first **signs of real collaboration**," Mari Pedak concludes.

EU4DigitalUA: Contributing to Ukraine's digital transformation

Jurijs Svirko
Communication Manager
of the EU4digitalUA

With an overall objective of improving the efficiency and security of public service delivery in Ukraine, the EU4DigitalUA project has achieved a lot in its first full year.

> We are proud to say that in 2021 Trembita had over 1 billion transactions between various state registers of Ukraine. It has been making data run instead of people, as we promised in the EGOV4UKRAINE project.
>
> Jurijs Svirko

eGA is implementing half of EU4DigitalUA's five components and deals with:

1. interoperability and digital government development (Component 1),
2.
3.
4. e-services development (Component 4),
5. as well as the cybersecurity-related tasks (Component 5).

In 2021, two waves of cyber exercises were conducted for Ukrainian officials by Estonian experts. The most visible project activity in Ukraine was the support to the development of the Ukrainian digital COVID certificates, recognized by the EU. Our team has also worked on Trembita 2.0, the next version of Ukraine's interoperability system which will be upgraded with a new data access monitoring module and an intrusion detection system to enhance its security.

In 2021, our interoperability team held three seminars for the current Trembita users and launched quarterly analytical reports on Trembita, helping Ukraine's authorities to define its further development and improve the service delivery to citizens.

We are proud to say that in 2021 Trembita had over 1 billion transactions between various state registers of Ukraine. It has been making data run instead of people, as we promised in the EGOV4UKRAINE project. The government registers were also in the focus, as our experts developed a methodology for their data quality assessment. Our experts also contributed to the compatibility of Ukrainian electronic trust services with those of the EU.

The e-services team was focused on re-engineering and delivering integrated e-services for Ukrainian citizens and businesses. Over 50 new services were under development in 2021. Many of them will be part of new complex e-services like e-Entrepreneur. Also, we started the development of e-services for foreign citizens and the English version of the government services portal called Diia.

About EU4DigitalUA

10/2020 – 03/2024

EU4DigitalUA is part of the broader support of the European Union to Ukraine and is a continuation of the EGOV4UKRAINE project, implemented in 2016-2020 within the U-LEAD with Europe programme co-funded by the EU and its member states Denmark, Estonia, Germany, Poland and Sweden. EU4DigitalUA is focused on the further development of digital government infrastructure, public e-services, cyber security and data protection.

The project is funded by the EU and implemented by the e-Governance Academy (EGA, Estonia) and the International and Ibero-American Foundation for Administration and Public Policies (FIIAPP, Spain) in close collaboration with the Ministry of Digital Transformation of Ukraine.

EU4DigitalUA in figures

14
ministries, state agencies and state enterprises are using the project's results

21
members of EU4DigitalUA team

27
procurement tenders held with total value ca 2,300 000 EUR

52
e-services are being developed by the project
640 participants of the project's seminars and cyber exercises

1,500
media mentions in 2021

1,780
Facebook followers

13 million
digital COVID certificates generated after the project support

1 billion
transactions in Trembita between government registries which are supported by the project

Digital Government Podcast: Best Talks of 2021

The pains of using tech buzzwords

Federico Plantera
WordsMatter OÜ

Ciao!

We are wondering whether we are already taking sides, by using buzzword to describe the way that latest tech developments are often portrayed in media articles, tweets, or even vision papers and strategies. Heiko Vainsalu, a Senior Expert on Technology at eGA debunks the most viral tech myths.

With him, we attempt to go beyond the formulas that too often we can all see flaunted in keynotes and the likes and shed light on the questions governments should ask themselves to truly walk the path of innovation.

If it's cool, then most probably it must be good

Mastering the craft of digital transformation in tens and scores of different countries around the world, as well as organizing and participating in conferences, of course exposes us to the bright rays of tech buzzwords. Or even to the risk of using them, sometimes.

The issue with those is not the technology itself that they describe. Rather, the fact that something in fashion at that moment in time might not be the most suitable solution to the needs of the agent of innovation.

> The problem lies there, where strategy papers get filled up with buzzwords for the sake of appearing modern, using cool technology.
>
> Heiko Vainsalu

"If you ask, "why this specific technology", indicated by a buzzword, or what is the reasoning behind such choice, sometimes spokespersons and representatives do not provide an actual answer. The problem lies there, where strategy papers get filled up with buzzwords for the sake of appearing modern, using cool technology," Vainsalu says.

Buzzwords do help in a game of credentials. But then what?

Chasing tech buzzwords gives governments, companies, and consultants an own role in the race for credentials. Actors using them end up rather trying to enter the flow of the dominant narrative, and accredit themselves as part of the club of innovators – still, according to the standards of the moment.

This brings certainly reputational returns, especially on platforms where going deeper into use cases and the rationale behind decisions does not suit the medium. And so, we hear everywhere of cloud, infrastructure as a code, or leapfrogging. This last one, specifically, describes the case in point.

"See, that is not something that works for everyone. Some countries have gone through decades and many steps of e-governance development. In tech, this is occasionally possible, but not always, and that should be kept in mind," Vainsalu explains.

"Newsworthy things are easier to communicate. However, fixing a 20-year-old problem may now take you to face another 10 years old problem, and that is already an achievement. Instead, people are going for solutions that temporarily show that you are 5 years ahead. But the prerequisites are not there."

Questions that innovators should ask themselves

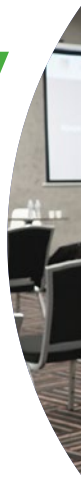
In place of starting from the solution, and then finding it a suitable problem to solve, governments must first identify the needs they have. Once at that stage, technology offers the toolbox to meeting those needs.

"Governments writing some solutions into digital transformation plans, in this sense, are already on the wrong path. Instead, by detecting the source of a certain problem, they then give engineers the necessary information to find a solution that is fit for the purpose," Vainsalu says.

"After all, this happens to me too. It's a mistake everyone makes. Sometimes, I get excited about some kind of technology and want to find reasons for having it. But then I sleep on it, take pen, and paper, and ask myself "what is the problem I have, what will this solve", and how. Does this product solve problems I actually have? Good to buy! But then, if it creates a whole other bunch of issues, then I perhaps do not need it. At home or at the government, I think this decision-making dynamic can be pretty similar," Vainsalu concludes.

> People are going for solutions that temporarily show that you are 5 years ahead.
>
> Heiko Vainsalu

How to strengthen national cyber capacity shields?



Adhele Tuulas

> If you see in practice that colleagues in another agency are as good as you are, it will improve cooperation in the real world.
>
> Ragnar Rattas

Cyber threats have been on the rise for years. Data is currency – especially in the cyber underworld – and locking critical systems for ransom can lead to enticing paydays for cyber criminals.

The first half of 2021 already saw a number of significant cyberattacks against major actors, including the Colonial Pipeline, Microsoft Exchange, and Bombardier. But it is not just large organisations at risk. At the start of the COVID-19 pandemic, global internet traffic increased by 30%. The growing connectivity and reliance on digital systems in every aspect of daily life also increases the importance of their security and availability.

Cybersecurity capacity is the shield that can prepare states, institutions, and individuals to face evolving cyber threats. As cyberspace knows no institutional nor national boundaries, capabilities need to be enhanced at all possible levels.

Methods for cyber capacity building

Cyber capacity spans across policy, strategy, social and cultural factors, education and training, law and regulation, technologies and standards. By extension, cyber capacity building refers to the activities pursued to enhance capabilities across these domains.

The focus of capacity building often boils down to improving foundational skills and knowledge. Commonly, this takes the form of formal education and training. On top of that, two advanced methods that states, and institutions turn to are **pen-testing** and **cyber exercises**.
The first – short for **'penetration testing'** – entails carrying out hacking scenarios. As it **targets actual systems**, the method is highly advantageous to get an accurate risk assessment specific to the given institutions. Nonetheless, it also demands a lot of resources – such as a skilled workforce to organise effective testing – and the consideration of many critical details. For example, as testing can cause serious damage, it cannot be conducted during a time when the systems need to be available and running smoothly.

In this regard, the second method – technical and non-technical **cyber exercises** – provides a relatively low-risk alternative. A technical exercise involves carrying out attack scenarios in a **controlled cyber range environment**. "It is a cloned system, so if you mess something up, you don't damage your everyday services," **Ragnar Rattas**, Cyber Range Team Leader at CybExer Technologies, highlights in our recent podcast. "Furthermore, we can try various attacks and the defence principles will be applicable in everyday environments," he says.

Strengthening trust and cooperation for the future

The insights gained from penetration testing and exercises can be carried into daily practice. Focusing on his experience from cyber exercises, Rattas brings examples of benefits in three main areas.

First, teams get to practice **real-world information sharing**, which is a critical collaborative skill during cyber incidents. Second, it is an opportunity to **enhance personal skills** and those of the **whole team**. During cyber exercises, there are many attacks packed into a short timeframe. Although real-world incidents may leave more time for investigation, the intensity of such exercises facilitates focused skills development.

And third, Rattas emphasises **cooperation** in general. He notes that often, there may be a rivalry between agencies and companies. Cyber exercises, however, bring all stakeholders together and demonstrate the useful capabilities of all parties.

"If you see in practice that colleagues in another agency are as good as you are, it will improve cooperation in the real world," he says. "For example, if you witness the capabilities of the police, then in an actual scenario you are more likely to get in touch with them, when necessary," Rattas underlines.

Introducing a culture of security

But above all, as the digital threat landscape is ever-evolving, security should be seen as a process, not a one-time project. Individual capacity building efforts need to be geared towards wider cultural changes.

Becoming aware of the necessity of testing and exercises is just the beginning. Beyond that, actors must have the capacity to maintain vigilance in the long-term. This includes creation and management of monitoring systems, conducting regular testing and thereby having the skills to independently make inventory, choose target objects, and order the right method.

Cultural changes come about through continuous training and strategic guidance. This has been one of the aims of eGA's recent collaboration projects in Ukraine. The project "Cyber security readiness in Ukrainian public authorities" has helped conduct security assessments and pen-testing on mission-critical systems as well as develop testing guidelines and training materials.

"The most valuable aspects of this project are the changes in our [Ukrainian] legislation, and our approach to vulnerability assessments and testing of information and telecommunication systems," **Viktor Zhora**, Deputy Head of the State Service of Special Communications and Information Protection of Ukraine, shares. "The project gave us a lot of practical results that significantly increase the protection of our information assets in the government," he adds.

Targeting skills and knowledge development on an individual, institutional, and state level, forms the foundation for strengthening national cyber shields in the long-term.

Freedom of expression in the digital age. A lost battle for truth?

Federico Plantera
WordsMatter OÜ

The internet and social media platforms have made increasingly easy for potentially anyone to put out content and information. But the threats posed by the spread of misinformation and maliciously crafted news have proven to be a tangible menace to the stability of liberal democratic societies.

With **Katrin Nyman-Metcalf**, Senior Expert on Legal Framework at eGA, we see that while drafting up new regulation might be an alluring option, we already got some tools to keep our information space healthy.

Gossip and news in a global village

The focus here does not lie on the alleged "loss of freedom of expression" often shouted by some conservative commentators. Rather, on where truth lies in an environment that is increasingly flooded by misinformation-cum-agenda. "Because we see the effects of it more and more, and during the pandemic, with false information being spread very successfully. But also, in a general climate where it feels as if truth, verifying that something is true, is kind of losing in popularity," Nyman-Metcalf points out.

> When we talk about law and technology, there is always a kind of chicken-and-egg question coming up. What should come first between technology and regulation?
>
> Katrin Nyman-Metcalf

Before the invention of the mechanical press by Guthenberg, information was sourced by people from other people, mostly in oral form. The possibility to create mass media and broadcast information widely came with the consciousness that we needed a system for checking what could be news and what was a fact.

"But now we're back at the gossip stage, with the difference that the village is more global than ever before. Having trust in the information we get means a lot for societies. If we don't trust it, such as in crisis situations, then it's very difficult for governments and authorities to get through with the actual, factual information," Nyman-Metcalf says.

Three elements to consciously take in information

However, there is an interesting paradox. Segments of the usual audience of fake news and conspiracies would submit the information received from mass or traditional media to a very, very deep scrutiny. While instead, if other

information is transmitted through so-called alternative media or sources, it could be more easily taken at face value.

In this oxymoron we can easily spot the relevance of trust as a key component in the battle for truth and freedom of expression – because yes, the two do overlap. At the moment, it seems we're faced with three major elements that allow misinformation to spread more rapidly and effectively. We have addressed the technological side of things. To that, potentially add:

- **Weak digital literacy** – in sourcing and screening information found online;
- **Confirmation bias** – tendency to take in information that confirms the intuition or idea we already formed in our mind about a certain, perhaps divisive argument;
- **Lack of a critical look on information quality and sources** that can be considered legit.

The feedback effects here can only reinforce the displacement media audiences are faced with, when approaching the mare magnum of information available online.

Sanctioning looks tempting, but what are the roles for laws and companies?

When we talk about law and technology, there is always a kind of chicken-and-egg question coming up. What should come first between technology and regulation? How can we regulate something before we know how the technology would look like? But also, if we wait too long, then it's like trying to put the genie back in the bottle.

Not to defend big companies, but it's not like they started taking up the space against existing regulation. Simply, on this topic, there wasn't any. "Are they the real actors who should intervene, by means of self-regulation? Traditionally, no. It's good that they're doing something, but there should be laws for it – like in traditional media," Nyman-Metcalf continues.

> Legislation could be crafted in the form of obligations for social media platforms, in terms of corporate responsibility.
>
> Katrin Nyman-Metcalf

Laws that do not punish per se, but that help set the framework in which companies and people in this space operate. If we say legislation cannot work, then it's like giving up. "Instead, it could be crafted in the form of obligations for social media platforms, in terms of corporate responsibility. Outlining what the process, and not the content, could be towards making certain decisions," Nyman-Metcalf concludes. For the time being, we can at least keep hope alive. So as long as we're talking about them, we haven't lost our battle.

> We're back at the gossip stage, with the difference that the village is more global than ever before.
>
> Katrin Nyman-Metcalf

Internet voting is a very sticky method of participating in elections

Federico Plantera
WordsMatter OÜ

More and more Estonian residents have decided to participate in the recent local elections in October 2021 by simply using the internet and their own digital ID. To be precise, more than ever. From the comfort of home, the office, or even a holiday destination.

Priit Vinkel, Senior Expert of Smart Governance at eGA, boasts a curriculum in electoral management that spans over 15 years of activity. Together, we delve deeper into the numbers and salient points of another record-setting election for i-voting in Estonia.

Local elections brought 46.9% of internet voters

In Estonia, voters can express their electoral preference in polling stations the traditional way on paper, or via internet voting throughout the six days preceding the election day. All they need for i-voting is the electronic ID-card or Mobile ID, and an ad-hoc lightweight software to cast and digitally sign their electronic ballot.

This time, over 275 000 people used internet voting to pick their candidate of choice, making up about 46.9% of the total turnout.

So far, Estonia is the only country in the world that has deployed internet voting for everyone and every election, consistently. Since its first use in 2005, i-voting has been fully introduced in the election practice of the country. The need was clear then as it is today – in spite of a global downward trend in voting turnout, more channels and options to participate must be available to citizens. Especially if these are cheaper than traditional, established voting methods. As professor **Robert Krimmer** highlighted, i-voting is the most cost-efficient method of them all to cast a ballot "paper".

Increased usage mostly driven by strong mainstream adoption

It's fair to wonder why many more people, election after election, decide to vote online. We can probably spot here two main categories – circumstantial reasons and mainstream adoption.

"The pandemic certainly played a role, many people switched to just voting from home," Vinkel says. Or some voters simply could not go to a polling station physically and on the set date, due to other impediments or traveling.

"But the truth is that internet voting is a very sticky method of participating in elections, as research on the topic suggests. If you vote once in that way, you're likely to keep doing so in the future. I-voting is not a new thing for us, we've been able to do so for 16 years by now, and it has settled in the identity of the Estonian voter already," Vinkel highlights. Consequently, more people vote online because mainstream adoption already took place.

Where e-government works, everyone is potentially an internet voter

Further proof of that? How fluid is the profile of the average Estonian internet voter. "In the first 3-4 instances we could outline a certain voter persona, but that's not the case anymore. The i-voter, so to say, isn't any different from other voters. Nor geographically, nor from a socio-demographic perspective," Vinkel explains. In the beginning, in fact, belonging to a specific age group or boasting PC literacy did mark an increased or decreased likelihood to use i-voting.

Other factors, instead, might influence the ultimate decision to vote through an e-service or not. One of them is a successful track record in e-government. Not in charts or international rankings, but simply from seeing how digital public services ease tasks and interactions with the public administration on a daily basis. In Vinkel's words, "When voters are content with the e-government system and architecture as such, in general, they tend to use internet voting more or consider this possibility."

It's a matter of trust, too. "Although in Estonia there has always been a majority in favour of internet voting, always and everywhere there will be sceptics. Reasons might be the quest for some electoral gains or political bargaining. But in most cases, people who mistrust electronic ways of voting are not so keen on e-governance and the government in general as well. When you do not trust the e-way of doing things, you don't trust e-elections either," Vinkel notes.

Key enablers in place allow for i-voting implementation

As for most digital solutions that make Estonia's e-government, internet voting too calls for a reflection on whether such (here consolidated) experiment can be replicated in other countries.

The question goes beyond the usual dichotomy between electronic voting or internet voting. Certainly, the pandemic has revived the debate on i-voting as an opportunity. "But back in 2005, when i-voting was first implemented, we were in a very unique situation. The context was suitable for i-voting to stick. In many respects, now that situation has changed – in terms of cybersecurity, trust – so it might be hard to copy or replicate elsewhere," Vinkel says.

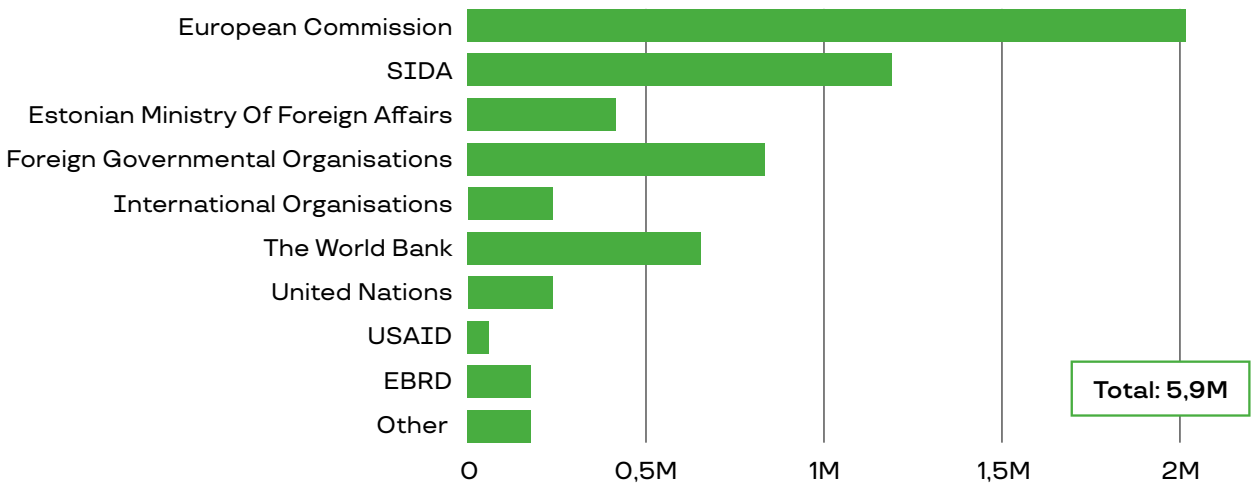
Regardless, before thinking of implementing internet voting, countries need to have in place the key enablers that allow it to exist and function. "I-voting relies mainly on a trustworthy and remote way of knowing who the person behind the screen is. This is the main prerequisite. It doesn't necessarily have to be in the shape of an id-card, but it has to be secure and verifiable." Moving from such stepping stone, internet voting can then be considered.

"It should not be a first or go-to solution to develop, but rather an intermediate or advanced level one. **Always start with simpler and easier solutions to implement**, the necessary e-services, and then think about e-elections as such," Vikel suggests.

> When voters are content with the e-government system and architecture as such, in general, they tend to use internet voting more or consider this possibility.
>
> Priit Vinkel

eGA's Activities in Figures 2002 – 2022

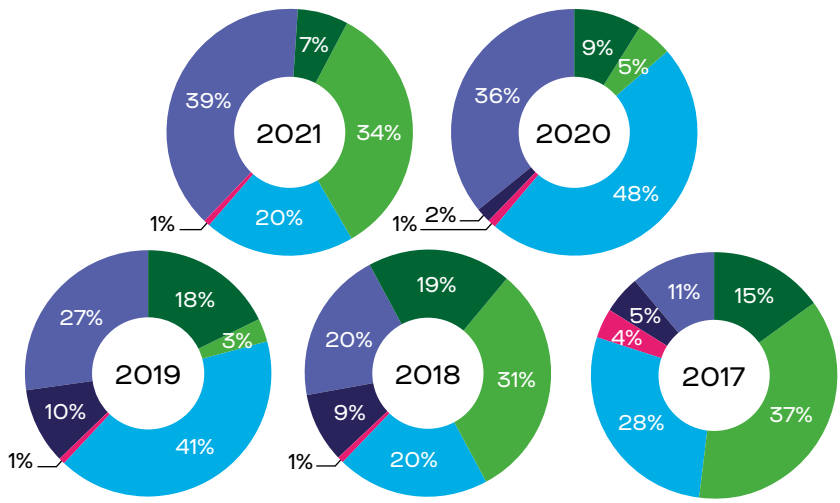
Donors in 2021*



* not audited

Income by source in 2016–2021*

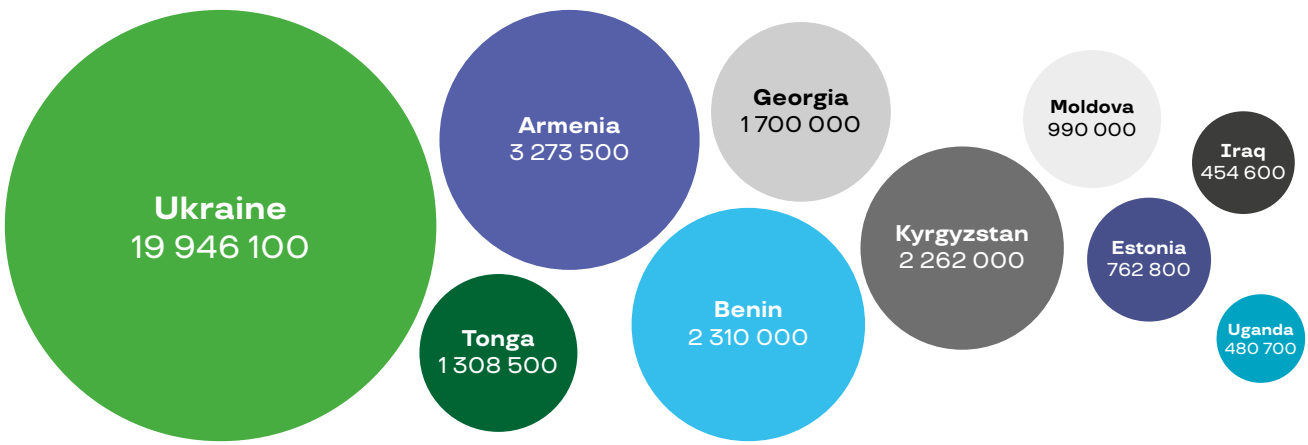
- Estonian Ministry of Foreign Affairs
- European Commission
- SIDA (Sweden)
- USAID (USA)
- Other donors
- Entrepreneurial Income



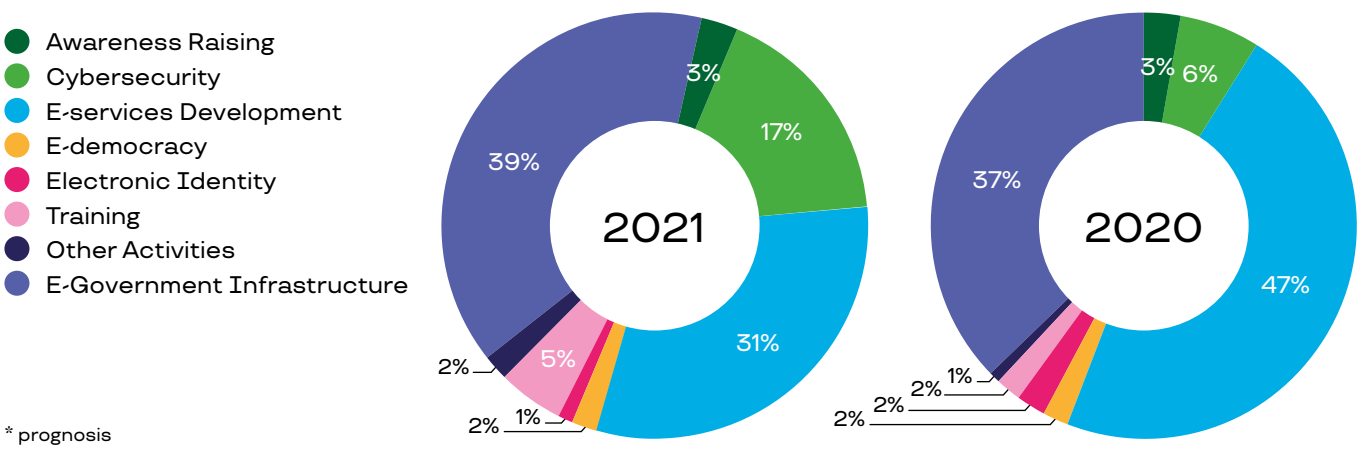
* not audited

Beneficiary countries in 2021

Top 10 collaboration countries by funding (€) in 2017–2021



Income by activities in 2020–2021

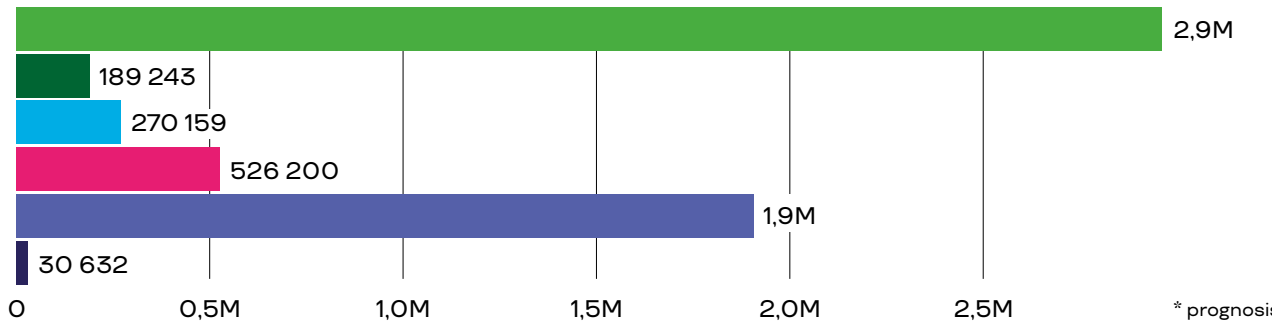


* prognosis

Income and expenditure 2021*

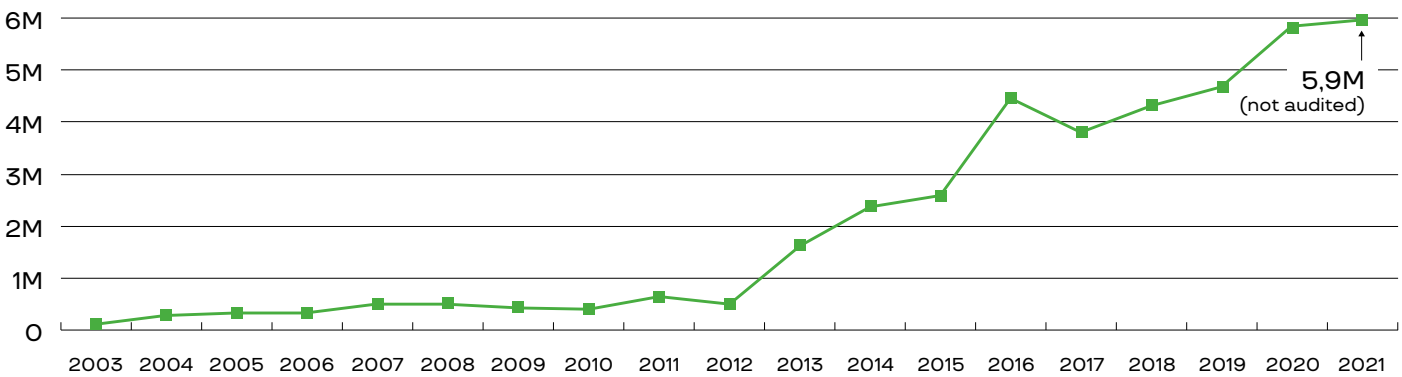
- Staff costs
- Travel costs
- Other direct costs
- Administrative costs
- Procurements/Subcontractors
- Financial income

Total income: 5,9M €
Total expenses: 5,8M €
Result of the period: 140 435 €

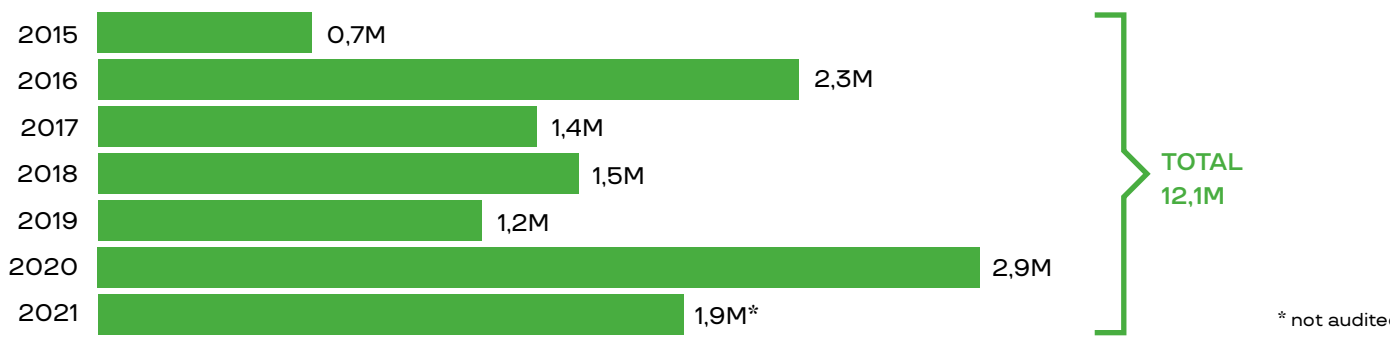


* prognosis

Income in 2003–2021



Procurements and sub-contracts in 2015–2021 and total



* not audited

We are the e-Governance Academy!

Organisation at a glance

53 employees working at eGA (by December 31 2021)

- **20** in Ukraine
- **33** in Estonia

15% increase in the number of employees within the year 2021

Education

8	31	8	5	1
PhDs	Master's Degree	Bachelor's Degree	Applied Sciences Degree	Other

Average age

45 is the average age of eGA's employees

Division by gender

22 **31**

We are ready to meet our partners. Everywhere!

Expert missions 2021

535 days in total by **21** employees

Most travelled employees (days):

186	115	34	33
Mari Pedak	Hannes Astok	Merle Maigre	Arvo Ott

23	21	20	20
Heiko Vainsalu	Epp Maaten	Helen Aasa	Triinu Raigna

eGA Team in Estonia

Chairman of the Management Board

Hannes Astok
Executive Director

Smart Governance

Marit Lani Programme Director
Priit Vinkel Senior Expert
Piret Saartee Senior Expert
Tiina Viiderfeld Client Relations Manager
Katrin Nyman-Metcalf Senior Expert, Legal Framework

Cybersecurity

Epp Maaten Programme Director
Merle Maigre Senior Cybersecurity Expert
Radu Serrano Project Manager
Hauke Schulz Project Manager

Team in Ukraine

Mari Pedak Team Leader
20 Team members in Kyiv

Project Development

Monika Lekić Head of Project Development
Margareta Telliskivi Project Development Expert

Communication

Anu Vahtra-Hellat Communication Manager
Helen Aasa Digital Media Expert

Subsidiaries and Accociates

Member of the Management Board

Aile Kullerkupp
Director of Finance and Administration

Finance and Administration

Liis Saat Project Financial Manager
Maarja Rünkaru Project Financial Manager
Stina Karits-Pihtje Accountant
Evelin Sõluste HR and Administration Manager
Britt Marie Jürman Quality Assurance Manager
Riina Padar-Leppiman Head of People and Talent
Kairi Rada Project Financial Manager

Member of the Management Board

Arvo Ott
Director of e-Government Technologies

e-Democracy

Kristina Reinsalu Programme Director
Liia Hänni Senior Expert
Kristina Mänd Senior Expert
Jelizaveta Krenjova-Cepilova Expert

e-Gov Training

Annela Kiirats Programme Director
Triinu Raigna Project Manager
Anneli Piirat Project Manager

Technology

Heiko Vainsalu Programme Director
Uuno Vallner Senior Expert
Ants Urvak Senior Expert
Anne Nurmik Project Manager

EU Twinning Project in Kyrgyzstan

Tõnis Mäe Resident Twinning Advisor to Kyrgyzstan

Supervisory board

Siim Raie (Chair)
Toomas Hendrik Ilves
Margus Kolga
Paul Timmers

eGA Teams in Ukraine and Kyrgyzstan

EU4DigitalUA Team

Administration team

Mari Pedak Team Leader
Kateryna Rudenko Administrative Assistant
Yurijs Svirko Communication Manager
Anna Hladun Office Manager
Kateryna Slyniuk Financial Assistant
Martsynovskii Anatolii Communication Expert

Component 1

Oleg Burba Component Leader
Olga Pasichnyk Senior Expert on Base Infrastructure
Oleksandr Kozlov Junior Expert on eID
Denys Pryharin Senior Expert on Interoperability
Andrii Shapovalov Junior Expert on Registers

Component 4

Andrii Piskun Component Leader
Roman Matviichuk Senior Expert on E-services
Samar Mykola Junior Expert on E-services
Bulyka Dmytro Senior Expert on E-services
Hromova Iryna Junior Expert on E-services
Khavikova Yulia Junior Expert on E-services

Component 5

Yuriy Kopytin Component Leader
Nataliia Matiash Junior Cybersecurity Expert
Dmytro Savranchuk Senior Cybersecurity Expert
Kyrylo Shypachov Junior Cybersecurity Expert

Kyrgyzstan Twinning Team

Tõnis Mäe Resident Twinning Advisor
Erkinbek Ernisotich Kozhekov RTA translation assistant
Mukhabbat Beknazarova RTA project assistant

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