

Digitalisation in the public sector

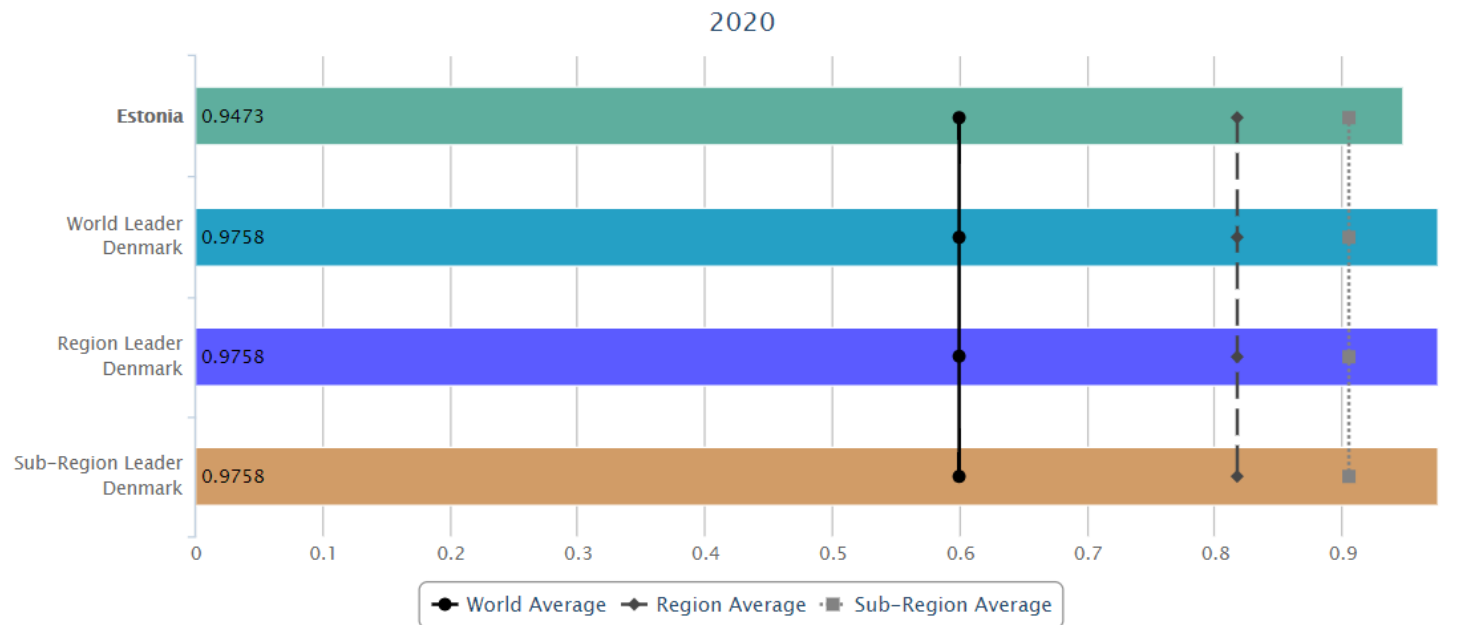
ESTONIA

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Digitalization trends in international comparison: UN EGDI

E-Government Development Index



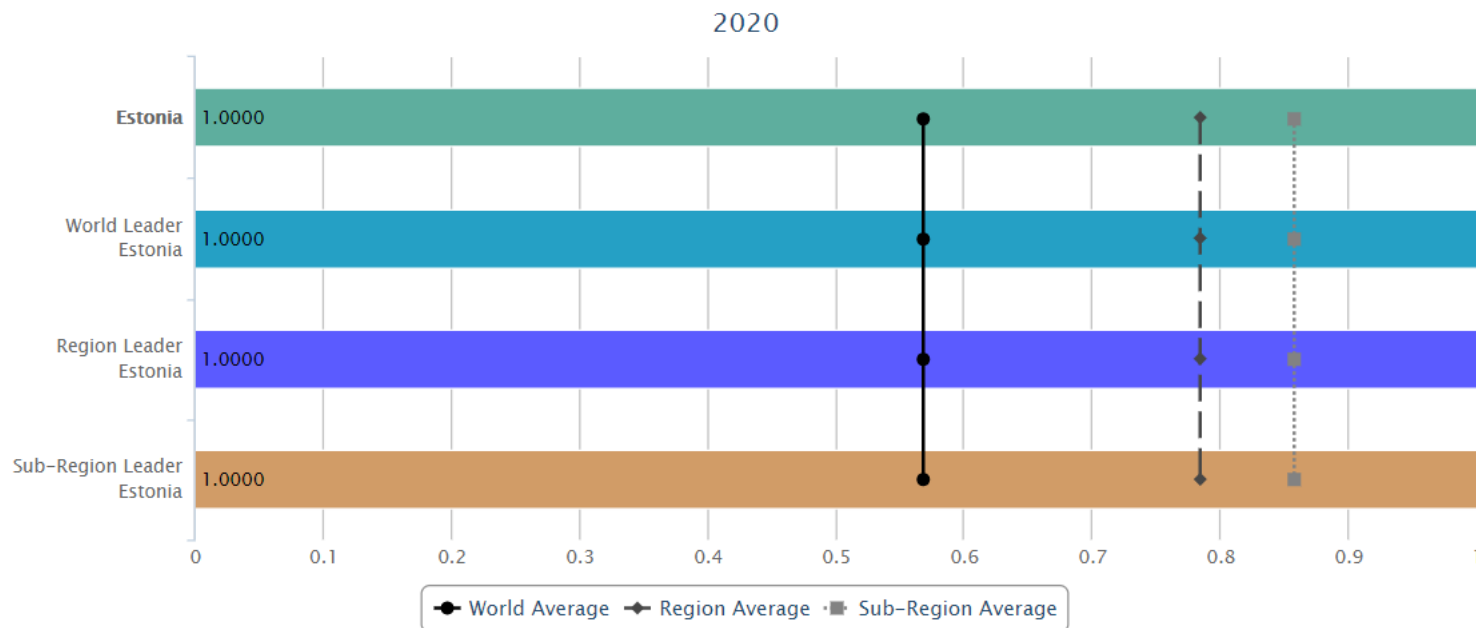
Highcharts.com

EGDI	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Estonia (Rank)	3	16	13	15	20	20	13	19	20	16
Estonia (Value)	0.94730	0.84860	0.83344	0.81796	0.79873	0.69653	0.76000	0.73473	0.70289	0.69680

Source: UN EGDI,
<https://publicadministration.un.org/egovkb/en-us/Data-Center>

Digitalization trends in international comparison: UN EGDI

E-Participation Index



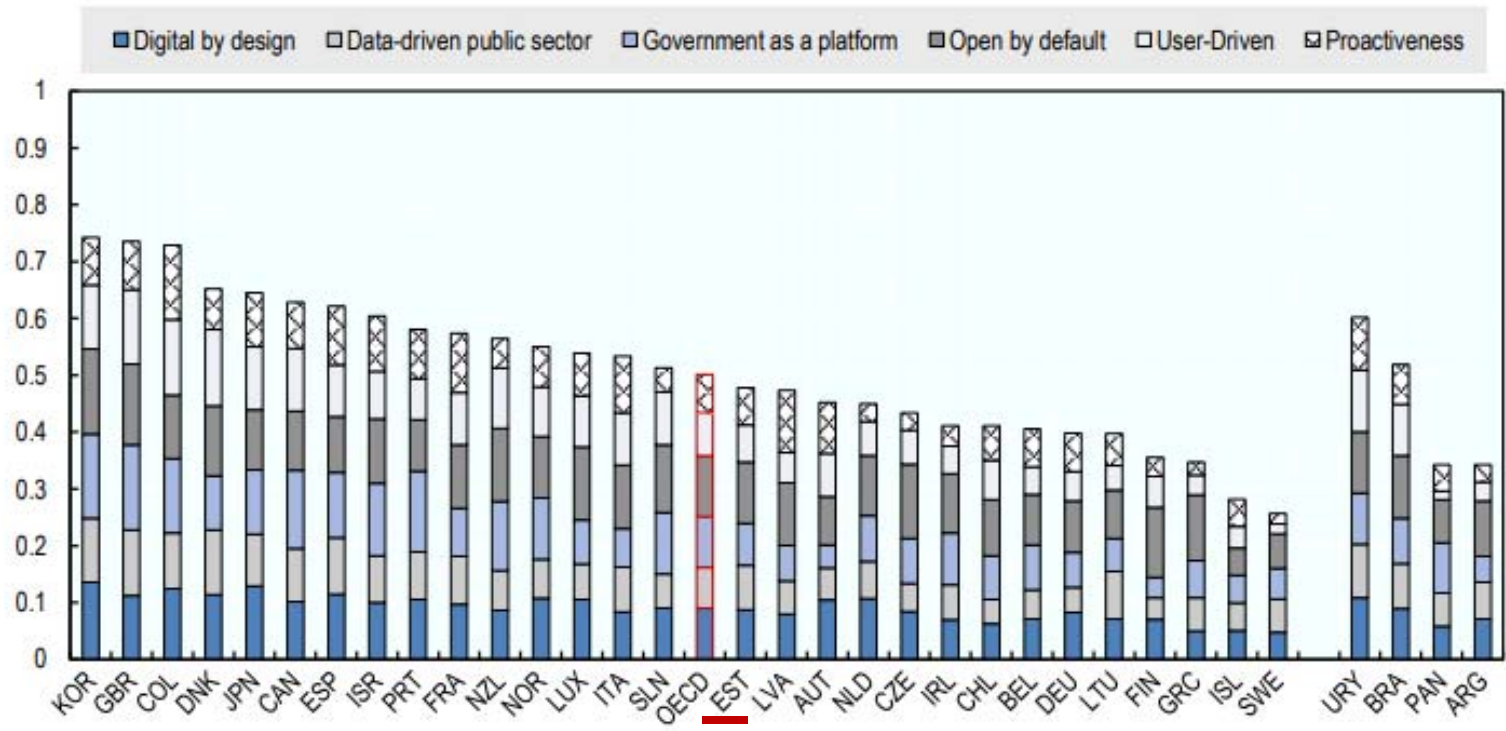
Highcharts.com

EPART	2020	2018	2016	2014	2012	2010	2008	2005	2004	2003
Estonia (Rank)	1	27	22	22	8	9	8	11	11	5
Estonia (Value)	1.00000	0.91010	0.81356	0.76470	0.76320	0.68571	0.72727	0.61904	0.63934	0.75860

Source: UN EGDI,
<https://publicadministration.un.org/egovkb/en-us/Data-Center>

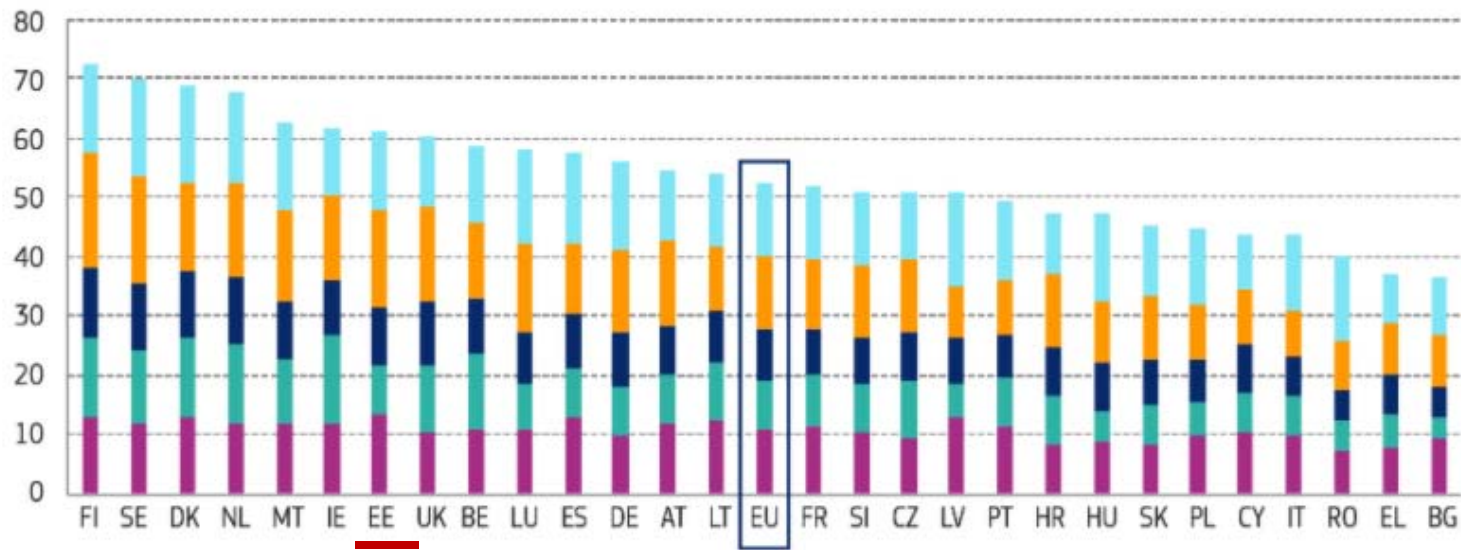
Digitalization trends in international comparison: OECD DGI

Figure 34. The OECD Digital Government Index Composite Results



Source: OECD 2020, Digital Government Index 2019, p. 53.
<http://www.oecd.org/gov/digital-government-index-4de9f5bb-en.htm>

Digitalization trends in international comparison: EU DESI



Source: DESI 2020, <https://ec.europa.eu/digital-single-market/en/digital-economy-and-society-index-desi>

Digitalization trends

- Estonia is a digitally advanced country. The position of Estonia in international rankings varies depending on the methodology, but falls to the category of digitally highly developed states.
- Having an advanced digital society is a strong element in the identity of the Estonian state and a part of its international image.
- Systematic activities for the digitalisation of government and public services started in the second half of 1990s.
- The current Estonian digital government relies on a nation-wide digital ecosystem with two pillars – the compulsory national **digital ID** and the **data exchange layer X-tee** (X-Road).
- The electronic identity (digital ID) allows to identify citizens digitally and to use the digital signature.
- X-tee relies on a decentralized ownership of data, assures interoperability and enables secure data exchange between various dispersed information systems.

Digital public services

- With the digital identity, citizens can access almost any public service digitally.
- Applications and information requests are signed with the digital signature.
- There are some well-know success stories, like online establishment of companies or digital filing of taxes.
 - Around 98% of all tax declarations are filled in electronically through the e-Tax system.
- Digitalisation of services has been more modest in the sphere of welfare and on the level of local governments.
- Government services and information can be accessed through the State Portal eesti.ee.

70%

Estonians who use ID-card regularly

99%

State services that are online

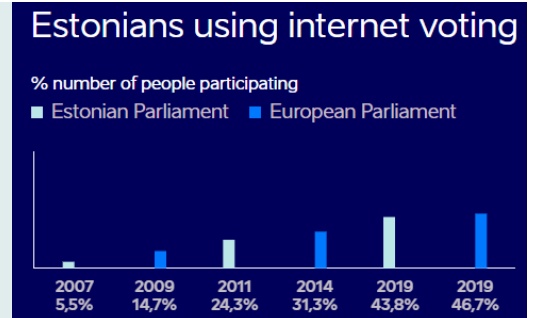
2,600+

Services that can be used via X-road

Source: <https://e-estonia.com/>

E-participation

- In 2005, Estonia was the first country in the world to introduce remote electronic voting in nationwide elections.
- The decision-making processes both in the Government as well as the Parliament *Riigikogu* can be followed electronically.
- Government's legislative activity can be approached through its [e-Consultation system](#) where the draft acts are published for administrative coordination as well as public consultation.
- Ideas and proposals can be sent to the Government through participation web [osale.ee](#) maintained by the Government Office.
- Petitions to the Parliament and local governments can be submitted through [rahvaalgatus.ee](#) (portal upheld by President's think tank).
- The impact of these engagement options is low. Among other reasons reflecting also the modest public interest in participation.



Source: <https://e-estonia.com/>



Governance of public sector digitalisation I

- The approach to public sector digitalisation is decentralised in Estonia.
- The Ministry of Economic Affairs and Communications (MEAC) is responsible for central coordination of digital development.
- Individual Ministries (11 together with MEAC) are responsible for digital development in their areas of governance.
- The Information System Authority RIA (www.ria.ee) under MEAC coordinates the development and administration of different state information systems as well as handles issues related to the cyber security.
- RIA manages eID, the state portal eesti.ee, X-tee and other core elements of the digital ecosystem.

Governance of public sector digitalisation II

- Due to the decentralised set-up and market-based development of digital solutions, the general governance system is largely network-based, including public-private networks.
- The main levers for MEAC are financial (funding decisions), regulatory (legislation, standards) and strategic (roadmaps).
- Government roadmap Government Digital Agenda for 2018-2020 focused on general digital development of society and economy, i.e. advancing the digital ecosystem as a whole, not only the public sector.
- Despite Government declared goals of achieving rise in people's well-being and effectiveness of public governance through digitalisation, the public debate has mostly focused on efficiency and cost-cutting.
- Estonia is active in international cooperation on public sector digitalisation and cyber security, and energetic in promoting and sharing its experience of building 'a digital nation'.

Flashpoint: COVID-19

- Despite being ranked #1 by Bertelsmann Stiftung Digital Health Index 2019, COVID-19 pandemic has revealed several weaknesses in the Estonian digital governance system.
- The challenges of data gathering, analysis, publication and security have been amplified by the lack of resources and decentralised setup of the system where individual organisations are responsible for the processing and quality of data.
- For example, in December 2020 it became public that sensitive personal information of COVID-19 infected and their contacts had leaked from the National Health Authority despite known security risks related to the electronic solution used.
- In Spring 2021, the primitive public solutions for coordinating vaccine distribution have been discussed.
- Some developments have taken longer than deemed acceptable by the public (e.g. the digital option of submitting health declarations on state borders).
- Due to the high expectations towards digital government and the self-image of Estonia as a digital nation, the revealed discrepancies and weaknesses have drawn active media interest and public criticism.

Flashpoint: COVID-19 contact tracing



- Contract tracing is based on HOIA ('take care') application in Estonia.
- The app became available for downloading on 20 August 2020.
- The app was developed nationally in a noteworthy collaboration of different private sector actors and given over to the public administration.
- More than dozen private companies contributed free of charge.
- By 1 April 2021, HOIA app had been downloaded for 272 333 times.
- Despite guaranteed anonymity, altogether only 6275 people had indicated themselves as infected (from more than 100 000 positive cases).
- I.e. the app does not fulfil its function of identifying the contacts.

Flashpoint: e-Residency

- e-Residency is a government-issued digital identity that provides entrepreneurs with a status to start and manage a EU-based company in Estonia.
- It is an ambitious attempt to make the country larger by granting online access to the Estonian digital business environment.
- The e-Residency project was launched in 2014.
- Despite implementation challenges and toning down of initial ambitions (10M e-residents by 2025), it has become an important element in the Estonian identity as a digital nation.
- Further information: <https://e-resident.gov.ee/>

number of e-Residents



13,000+
e-Resident companies

Source: <https://e-estonia.com/>

Conclusion I

- Estonia has developed a strong digital ecosystem where both public and private services can be accessed digitally.
- The public trust toward digital solutions and digital communication with the state is high.
- Despite impressive achievements in the digitalisation of public services, citizen engagement and public participation have developed more modestly.
- Digitalisation of companies, especially industry, lags behind European counterparts.
- The building of digital infrastructure has relied heavily on the EU structural funds.
- The funding solution is not sustainable in the long run and Estonia will face the challenges of financing and updating the digital infrastructure from its own budget.
- The COVID-19 pandemic has exposed weaknesses in the gathering and processing of health data, but also the challenges of a decentralised governance system.

Conclusion II: small state aspects

- **Several small state aspects can be detected in public sector digitalisation:**
- The resources and in-house competence of public organisations are limited.
- Considerable share of outsourcing IT development has led to the evolvment of public-private networks with close personal contacts and shared perceptions.
- These networks can be promptly activated in times of urgency – for example, in solving the ID crisis in 2017 or developing the HOIA app in 2020.
- The digital advantage has been used for international status seeking, especially in the field of cyber security where Estonia has obtained a prominent role as a leader and a hub of competence.
- NATO Cooperative Cyber Defence Centre of Excellence (CCD COE) is based in Tallinn.
- The e-Residency project represents an attempt to make the small country larger economically.