



# e-estonia: beyond digital

the coolest digital society



Author

Date

# a modest country

extending beyond its borders

- + population: 1.3 million
- + area: 45,339 km<sup>2</sup>
- + currency: Euro
- + member of: UN, EU, NATO, OECD, WTO, CERN etc.
- + employees in the ICT sector contribute to 10% of the GDP



# benefits

fastest decision making



100% of  
services are  
online



1000+ years  
working time  
saved



tax declaration  
in 3 min



99,6% banking  
transactions  
done online



2% GDP saved  
thanks to digital  
signature



# our highest rankings

#2

FREEDOM HOUSE  
2024  
internet freedom

#4

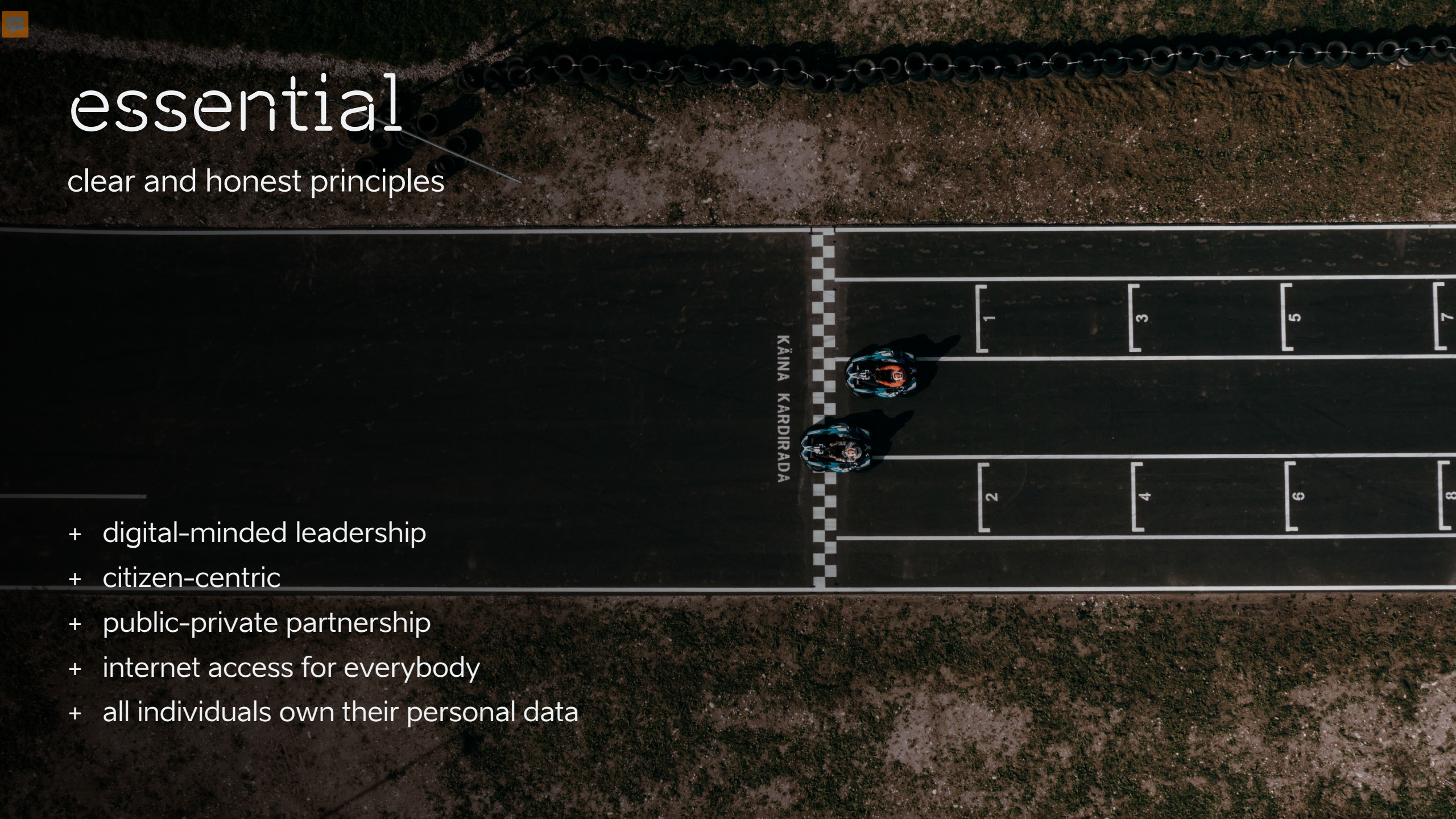
DESI 2025  
digital public services  
for citizens

#1

OECD 2025  
tax competitiveness  
index

#2

UN e-Government  
Survey  
2024

An aerial photograph of a motorcycle race track. Two riders on blue and orange bikes are positioned at the start line, which is marked with a black and white checkered pattern. The track is dark asphalt with white lane markings and numbers 1 through 8. A chain of black tires runs along the top edge of the track. The surrounding area is grassy and brown.

# essential

clear and honest principles

- + digital-minded leadership
- + citizen-centric
- + public-private partnership
- + internet access for everybody
- + all individuals own their personal data

A woman with long brown hair, wearing a light-colored shirt and a beige vest, is pointing at a large digital screen. Two children, a boy and a girl, are looking at the screen with interest. The screen displays a map with various colored regions. The background is a rustic interior with wooden walls and a white lace curtain.

# living the digital future

seamless integration of digital services into everyday life

- + once-only principle
- + all Estonians have a state-issued digital identity since 2002
- + all government services are available online

e.g.:

- + 100% of medical prescriptions are handled online
- + e-portal of Transport Authority provides 6x faster and 20% cheaper transparent services
- + e-marriage and e-divorce via e-population register

# digital society is a team sport

shared responsibility and teamwork inspire innovation

- + public-private partnerships
- + cooperation with the academia
- + e-Government solutions built by the private sector, used by the public
- + security-by-design based on Estonia's cyber security expertise



# electronic ID

the strongest identity since 2002

- + electronic ID is compulsory
- + 64% use ID-card regularly
- + 19% people use mobile-ID
- + 53% use smart-ID
- + 142 000+ e-Residents



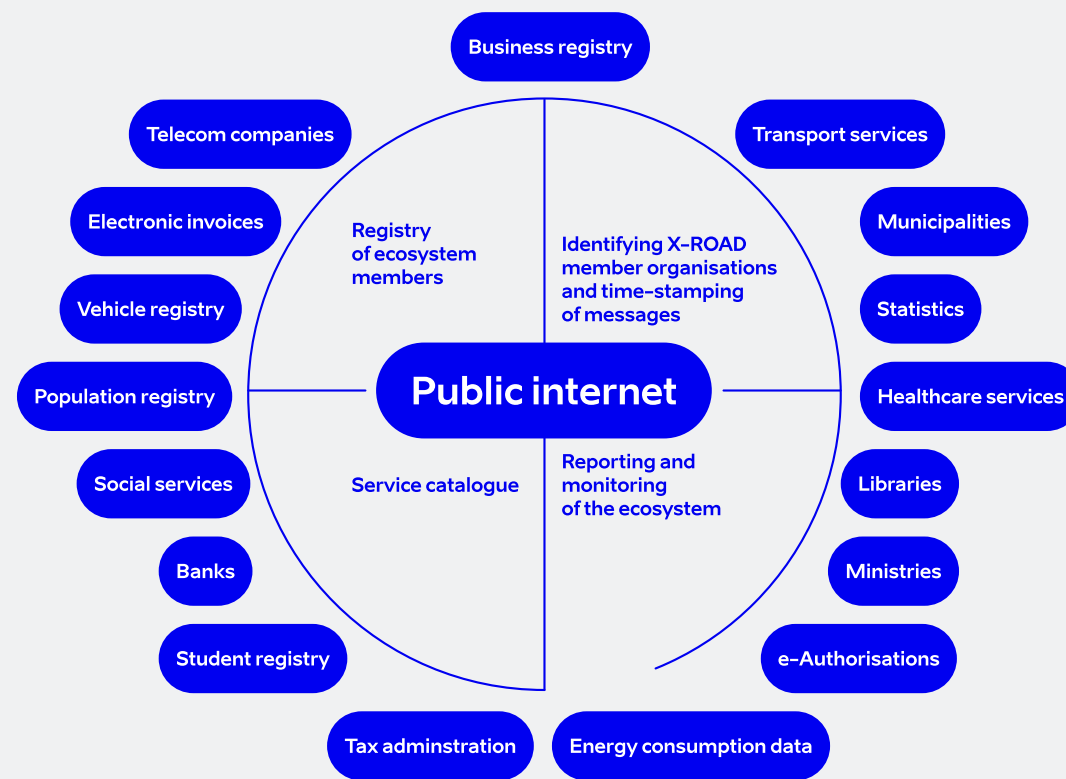
# x-road

probably the world's most widely used digital public infrastructure for data exchange

**X-Road® – an open-source platform for secure data exchange between organisations, used by the world's leading digital nations.**

**X-tee – the Estonian X-Road® ecosystem since 2001**

- + saving 3 million working hours annually
- + over 3,000 different services
- + over 2,5 billion transactions per year
- + over 500 million citizens as end-users





# three pillars

the safest combination to information security

## Confidentiality

e-Identification:

ID-card

mobile-ID

Smart-ID

e-residency card

## Integrity

Data Embassy

Data Tracker

## Availability

X-Road®

# cyber security

the strongest competence

- + first large cyber attack against a nation state in 2007 and constant cyber attacks to this day
- + home of NATO CCDCOE and EU IT agency
- + Locked Shields
- + cyber defence league, cyber command and cyber reserve
- + data embassy

Estonian CyberTech  
cluster





# space cyber range

protecting satellites, securing trust

- + building Europe's first space cyber range with ESA
  - + providing a safe environment to test and certify satellites and ground systems
  - + enabling cyber defence training through live-fire and spoofing/jamming simulations
  - + supporting ESA, NATO CCDCOE and industry to secure space infrastructure
  - + integrating CybExer's cyber range with Spaceit's satellite operations platform
  - + preparing for rollout from 2026 with ESA missions and OPS-SAT ORIOLE
- 



# data embassy

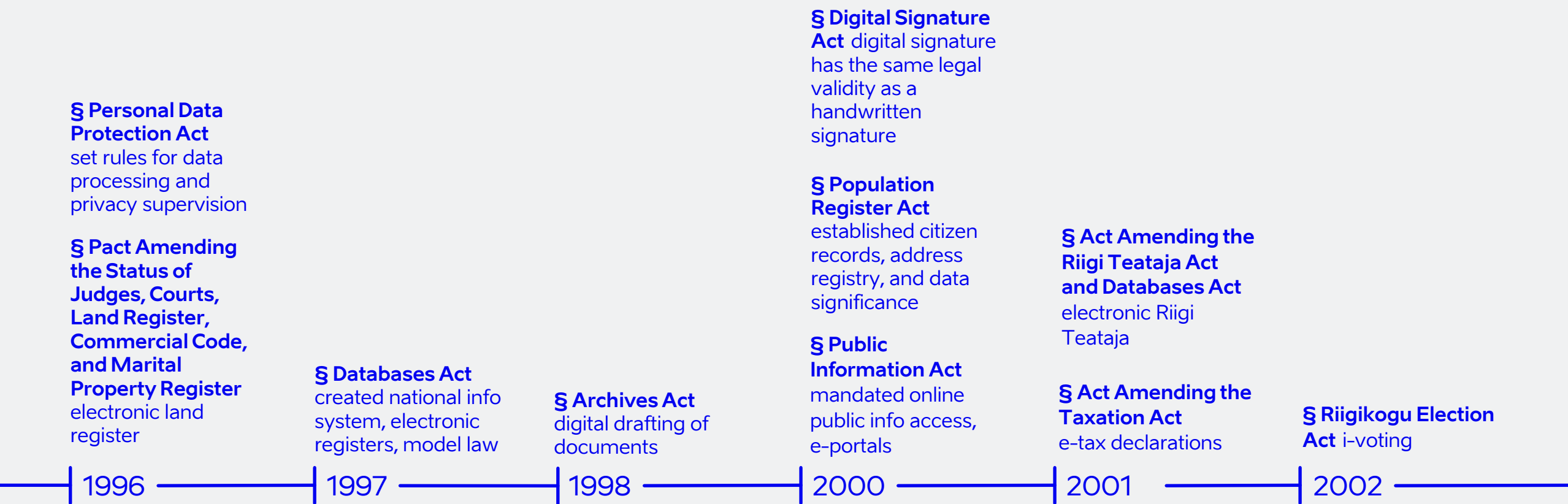
digital continuity of Estonia as a state

- + first data embassy in Luxembourg
- + strategically important datasets
- + highest level of security
- + future: additional locations
- + Estonia as a host country



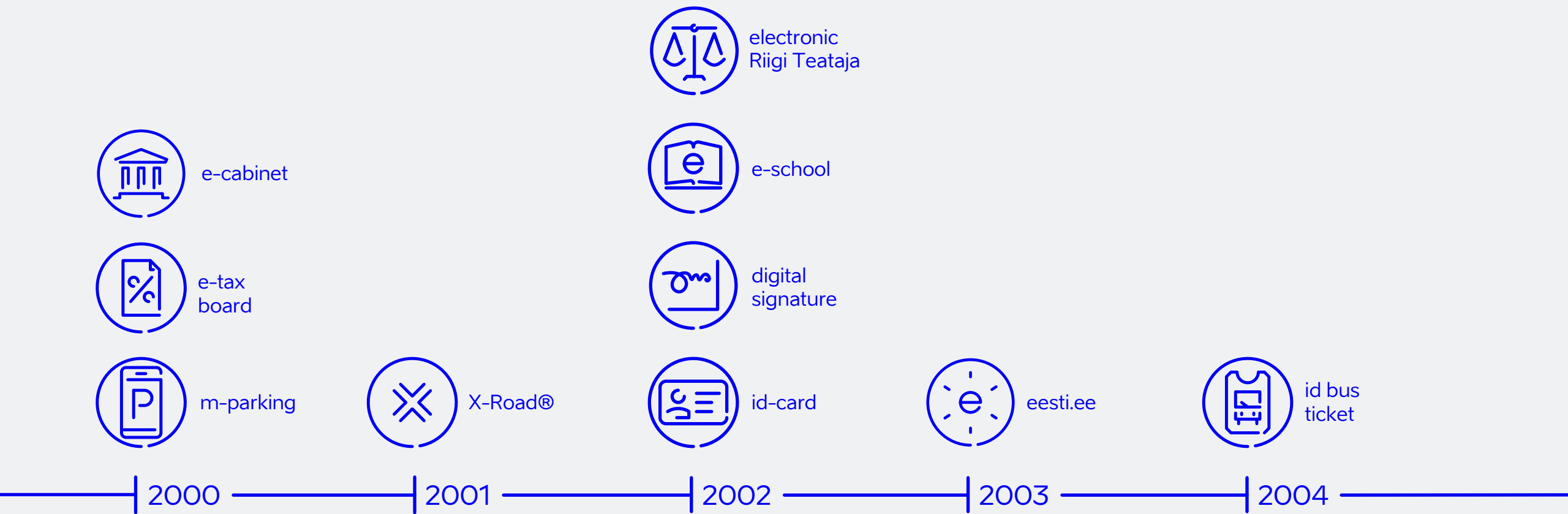


# e-Estonia acts timeline





# e-Estonia timeline





# e-Estonia timeline



e-police  
system



e-notary



mobile-id



keyless signature  
infrastructure



i-voting



e-justice



company  
registration  
portal



e-health  
system

2005

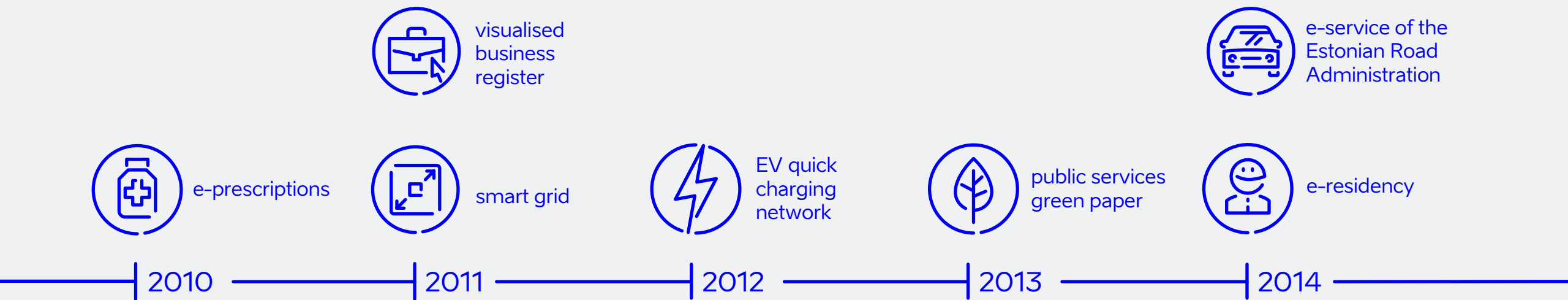
2006

2007

2008

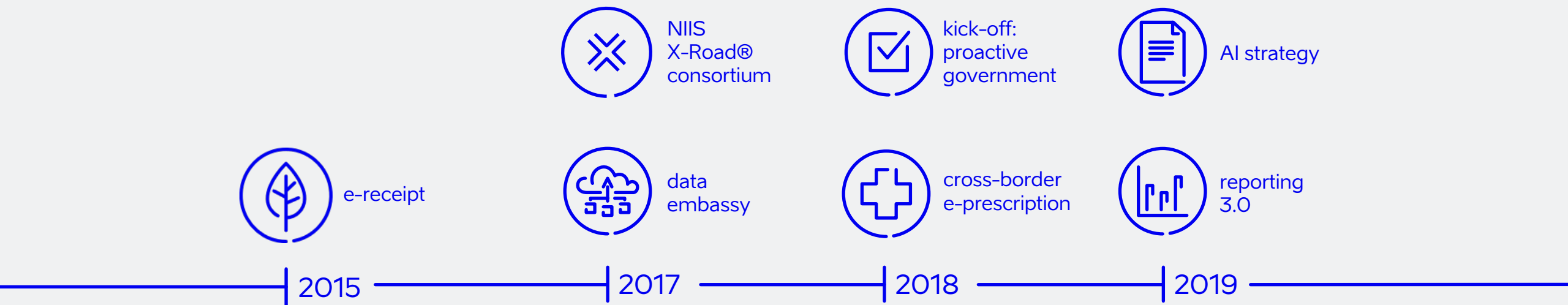


# e-Estonia timeline





# e-Estonia timeline





# e-Estonia timeline



proactive family  
benefits



e-notary for  
remote verification



50 public sector AI  
use cases



7 invisible  
services



bürokratt



e-marriage



mobile app



e-divorce



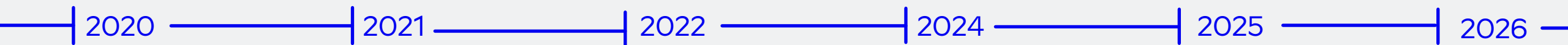
100%  
services online



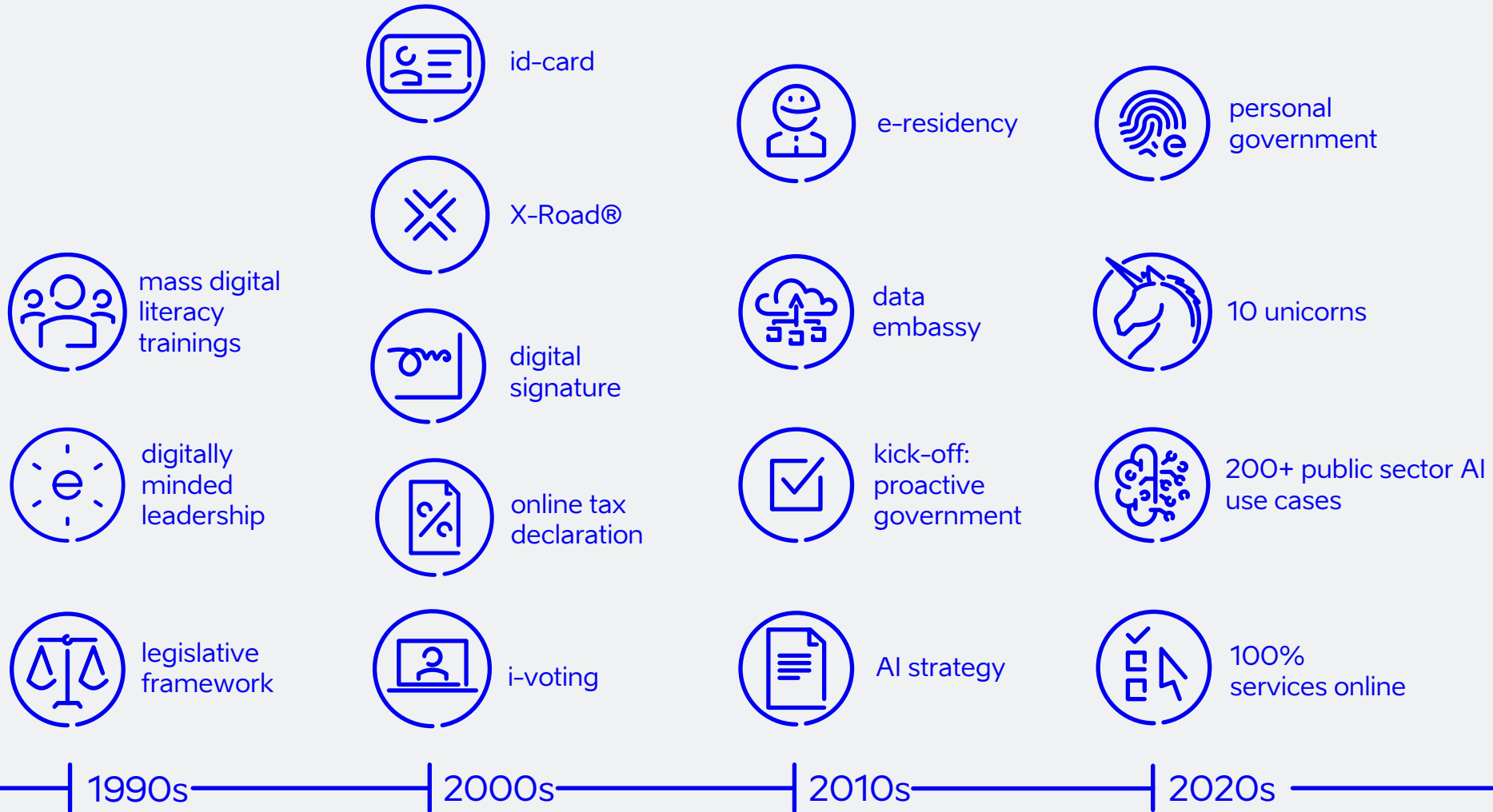
AI Leap



Eesti..ai



# e-Estonia timeline





# innovating for a future- proof tomorrow

future-ready mindset is our starting point

- + 10 unicorns, #1 per capita in Europe
- + #1 largest share of data economy in Europe
- + digital integration in education, e-diary eKool since 2002
- + cryptography and blockchain pioneers, KSI blockchain #1 in national use





# making illegal things legal

paving the way for innovation

- + prove locally, scale globally
- + data-driven legislative change
- + testing solutions in real-world conditions





# straight to business

nothing should get in the way of a good idea

- + under 3 hours to start a company
- + paperless and hassle-free e-taxation
- + e-Residency — Estonian e-services for world citizens
- + Startup Nation — supporting ecosystem





# facts

#6

economic freedom in  
Europe

#1

OECD tax  
competitiveness index

99%

companies established  
online

99%

banking transactions  
online



you can also become an e-resident!

# estonian startup ecosystem

- + 1600+ startup sector companies
- + 10 unicorns - #1 per capita in the European Union
- + 1% of companies attract 12% of private R&D expense
- + Startup Estonia - support, model documents & visas
- + an agile and close-knit ecosystem





# deeptech

research meets innovation in the New Nordic Tech Valley

- + complex solutions with complex obstacles
- + cooperation with universities and science parks
- + regional support with global impact
- + breaking regulatory barriers

# public private partnerships

going the distance together

- + 51% of the ICT sector's revenue is coming from international clients
- + 19% of total export
- + 6.6% of total employment is ICT specialists with 26.8% women
- + meeting place for global innovators
- + future-proofing through expertise

# e-Residency

become an e-resident today



- + first in the world
- + 185+ countries
- + 142 000+ e-residents to date
- + 43 000+ e-resident companies
- + >400M € direct positive economic impact on Estonia



# real-time economy

new mindset change for governments and businesses



first positive  
use-cases

- + taxonomy – systematized data, not reports
- + transition to automated reporting and once-only principle
- + seamless data exchange directly from ERP to state
- + trustworthy and controllable
- + make value for the company and increase productivity

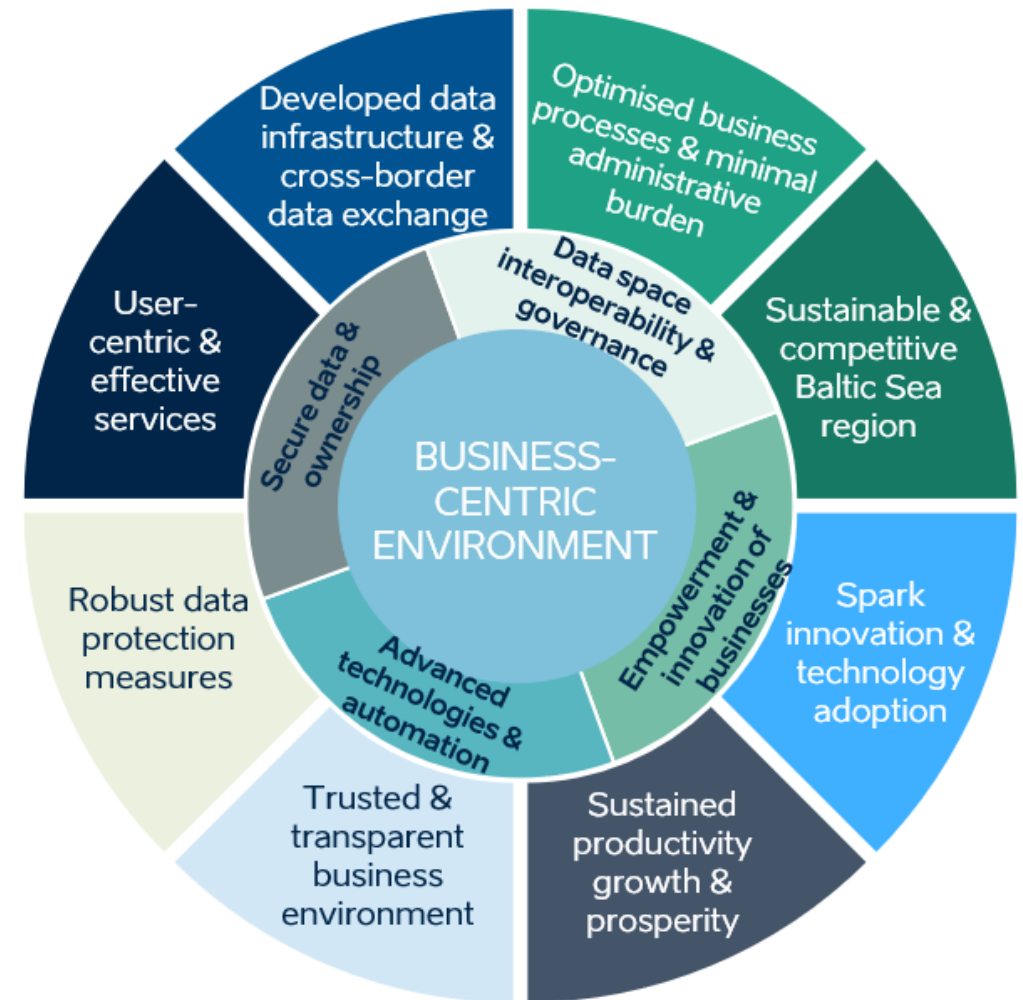
# standardised business reporting

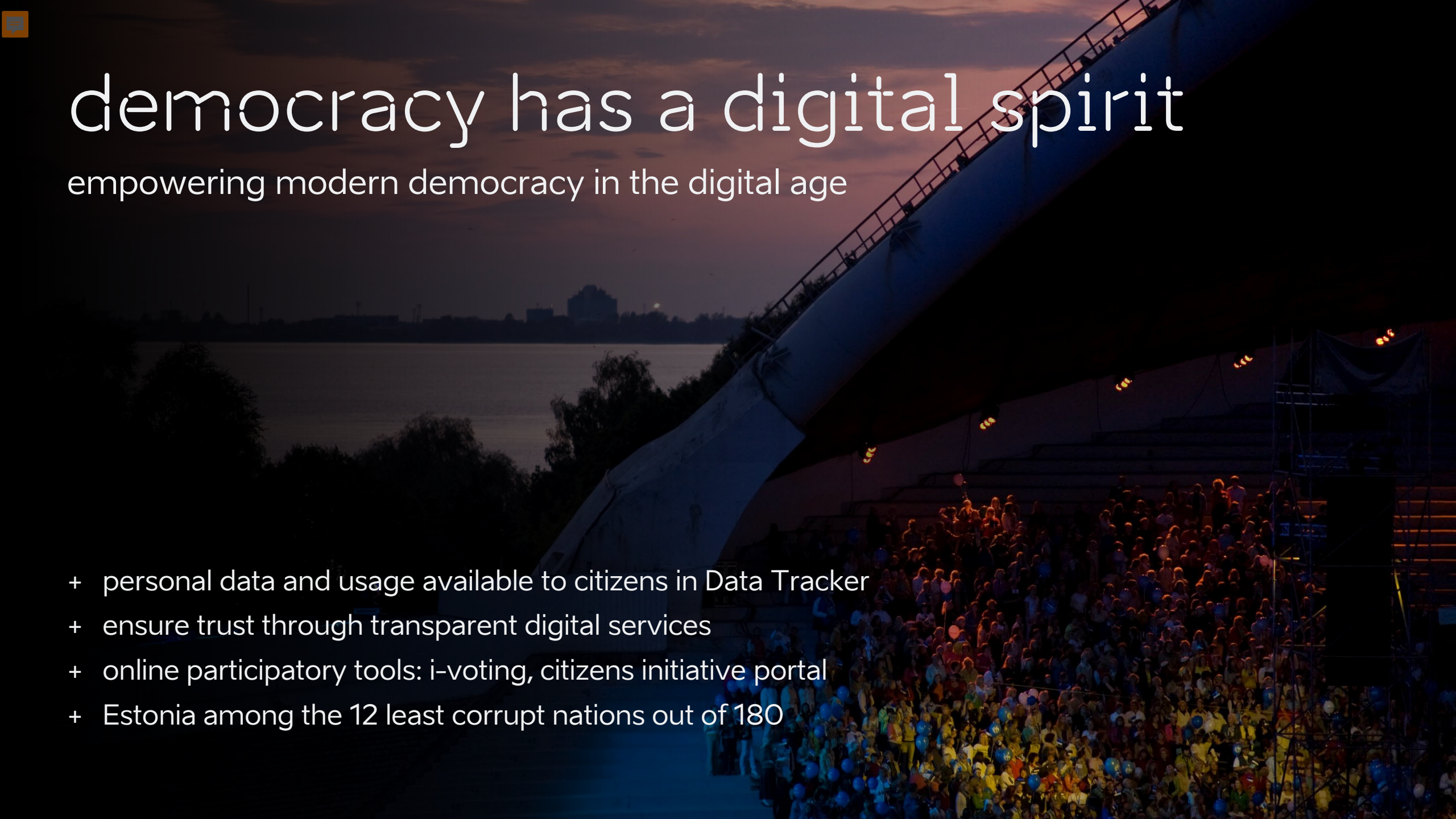
## Key elements:

- + Unified and standardised **data across agencies**
- + **Private sector active participation**
- + Financial and non-financial data on business activities (tax declarations, annual reports & sustainability)

## Once Only Principle — inserting vs submitting data

- + **Sustainability (ESG) reporting** (water, waste, air, package, fuel, labour and workforce data, etc.)
- + **the principle of minimalism**



A large crowd of people is gathered at night, holding many colorful balloons (blue, yellow, red, green). They are standing in front of a large, curved concrete structure, possibly a bridge or a large architectural element. The scene is illuminated by warm lights, and the background shows a dark sky and distant city lights.

# democracy has a digital spirit

empowering modern democracy in the digital age

- + personal data and usage available to citizens in Data Tracker
- + ensure trust through transparent digital services
- + online participatory tools: i-voting, citizens initiative portal
- + Estonia among the 12 least corrupt nations out of 180



# i-voting

voting over the internet since 2005

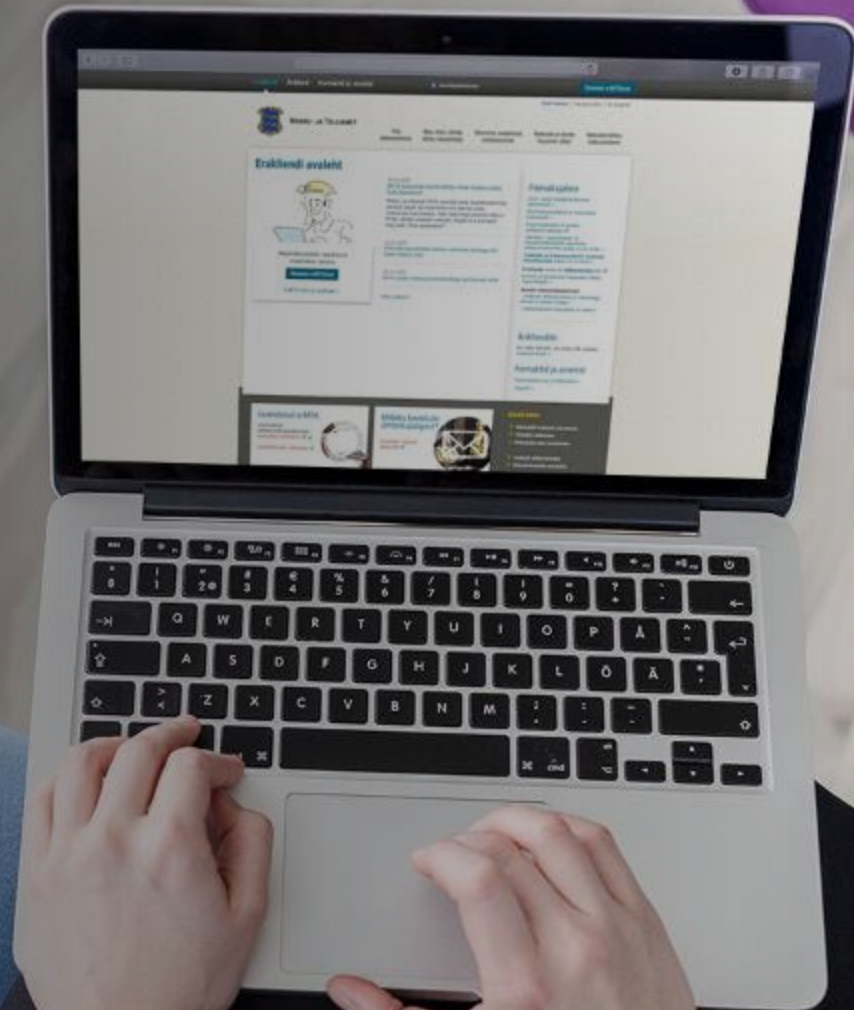
- + first and safest in the world
- + time and location independent
- + strictly optional
- + possibility to change your vote
- + up to 3 times cheaper
- + 51% i-voted in the 2023 parliament elections

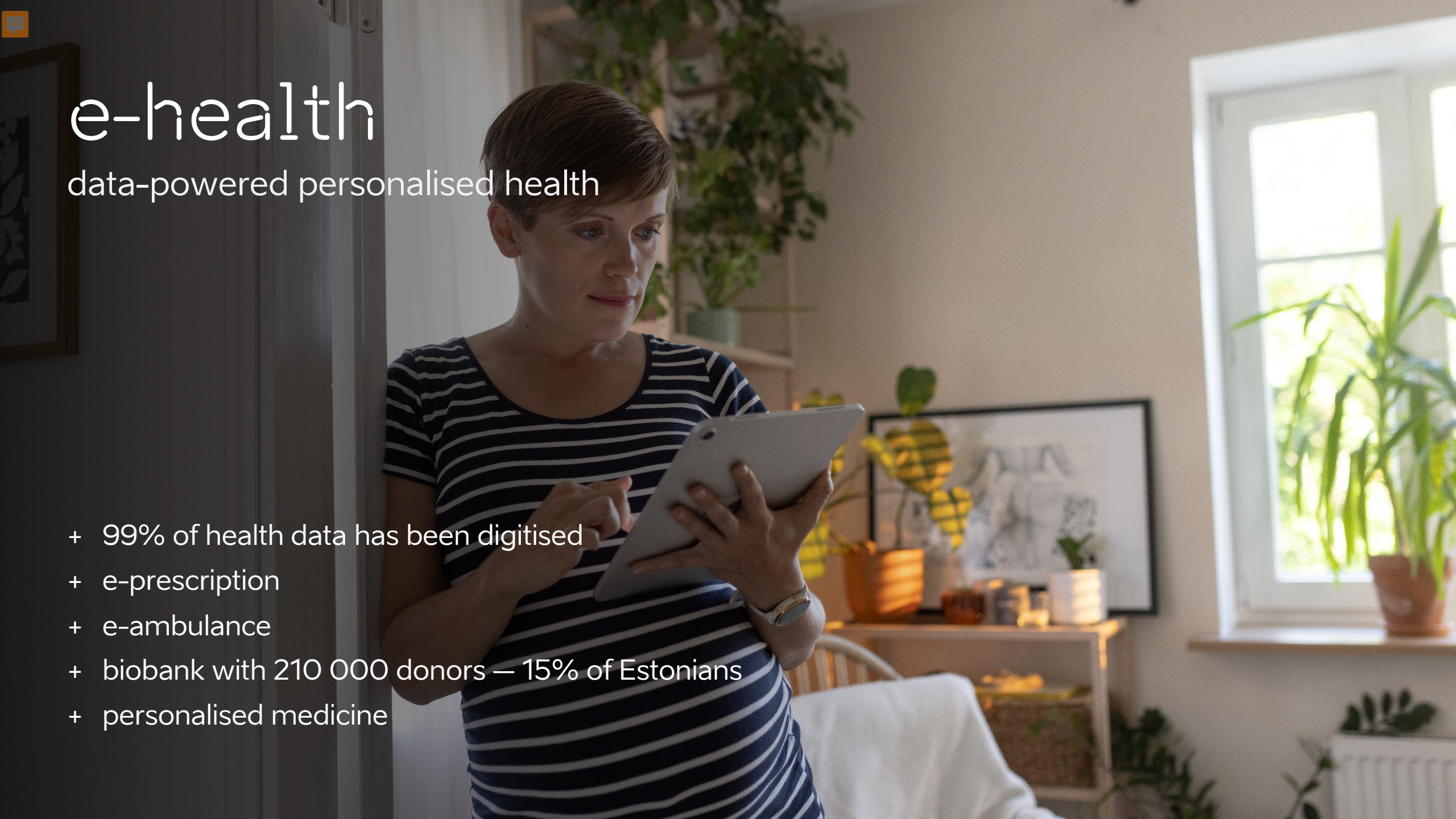


# e-tax

the first public online service since 1999

- + taxes filed in 3 minutes with digital ID
- + pre-filled forms with automated data
- + applies to all types of taxes
- + 99% of income taxes are declared electronically

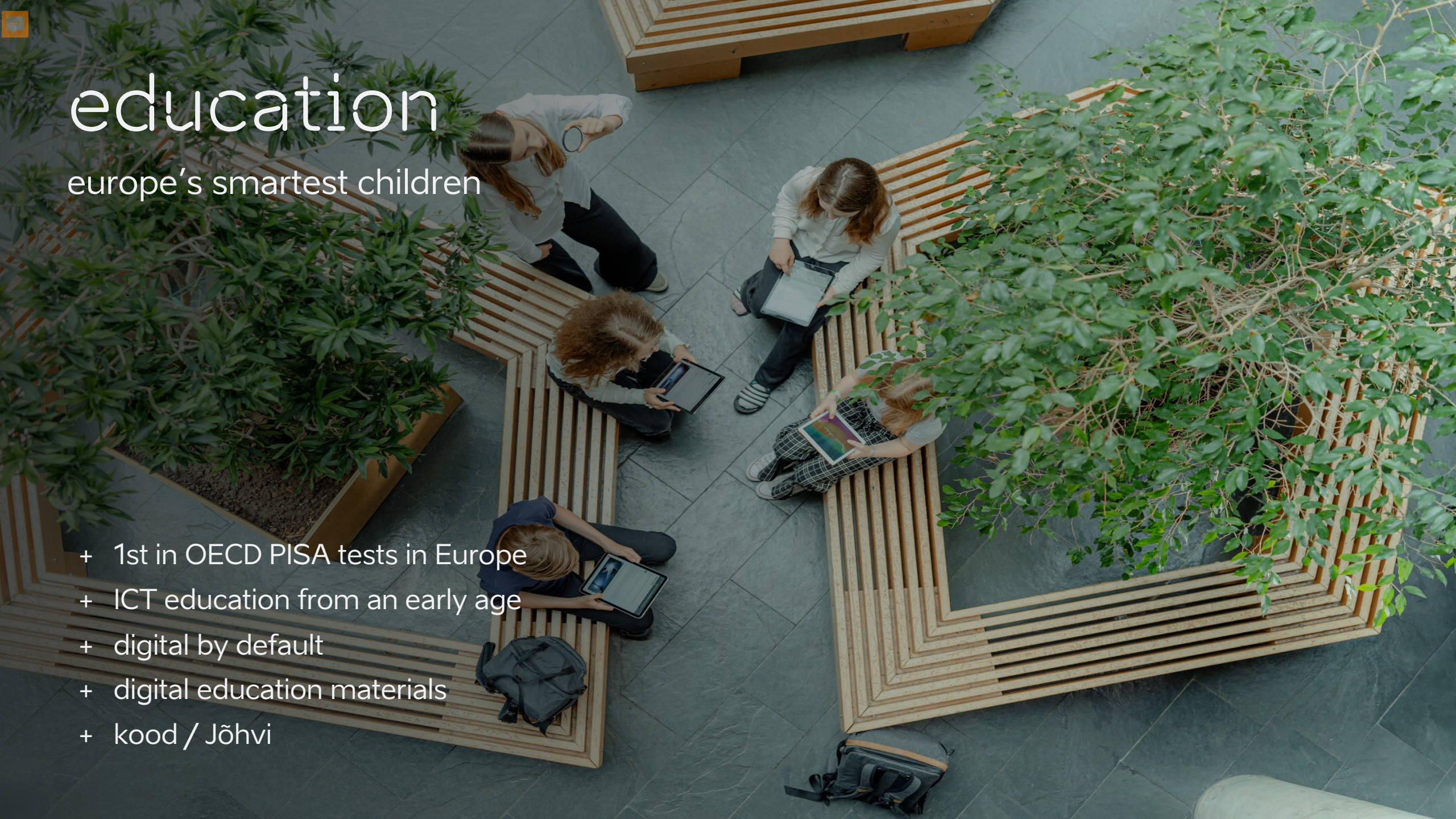


A pregnant woman with short brown hair, wearing a blue and white striped t-shirt, is looking at a white tablet. She is standing in a bright, sunlit room with large windows and several potted plants. The background is slightly blurred, showing a modern interior with a wooden shelf and a framed picture.

# e-health

data-powered personalised health

- + 99% of health data has been digitised
- + e-prescription
- + e-ambulance
- + biobank with 210 000 donors – 15% of Estonians
- + personalised medicine



# education

europe's smartest children

- + 1st in OECD PISA tests in Europe
- + ICT education from an early age
- + digital by default
- + digital education materials
- + kood / Jõhvi

# don't ban, teach instead

preparation for the future

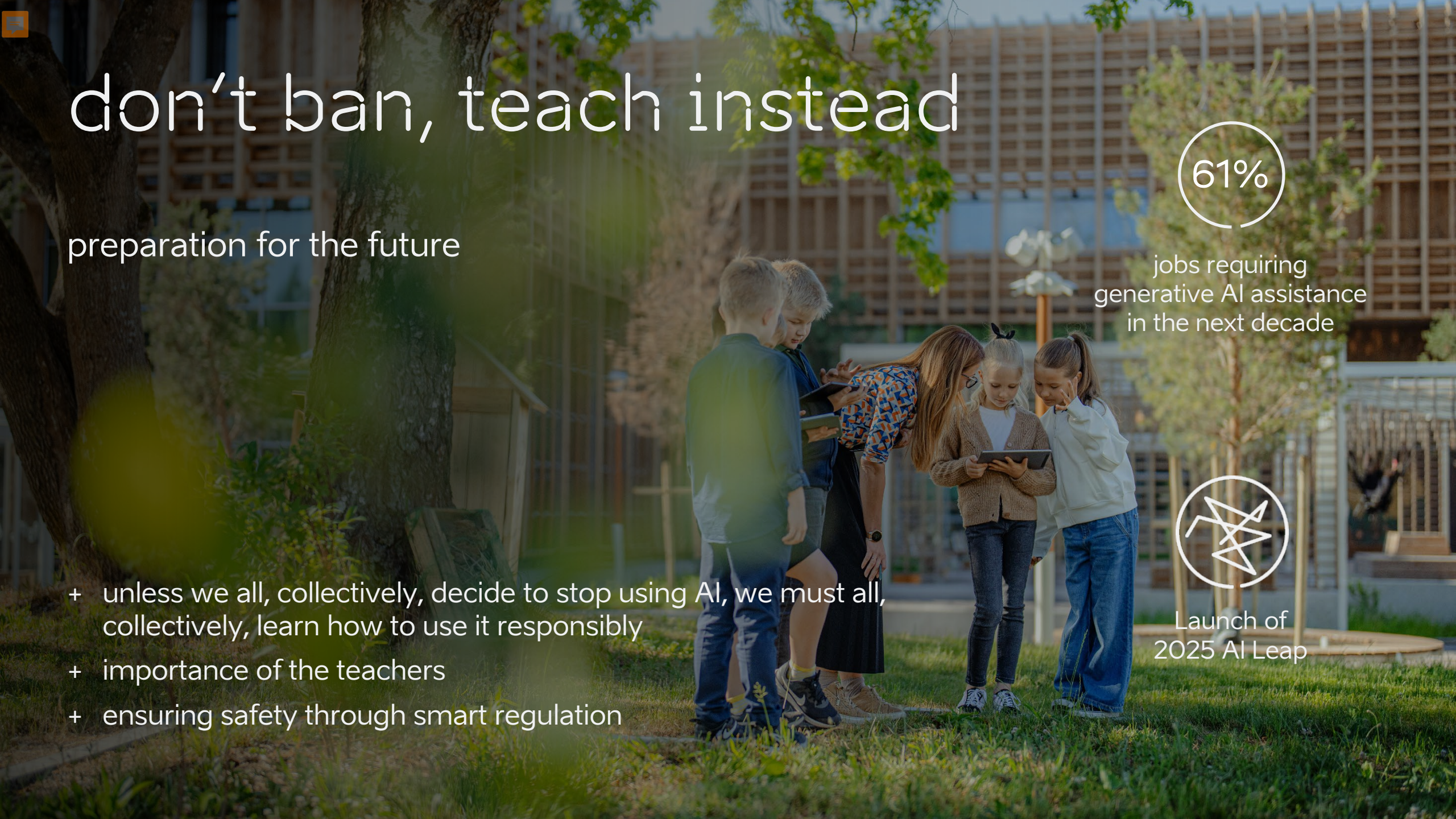
- + unless we all, collectively, decide to stop using AI, we must all, collectively, learn how to use it responsibly
- + importance of the teachers
- + ensuring safety through smart regulation

61%

jobs requiring  
generative AI assistance  
in the next decade



Launch of  
2025 AI Leap



# supporting the learning curve

engaging the brightest minds



Unicorn Squad  
empowering  
girls in tech



EstCube launching  
student-made  
satellites to space



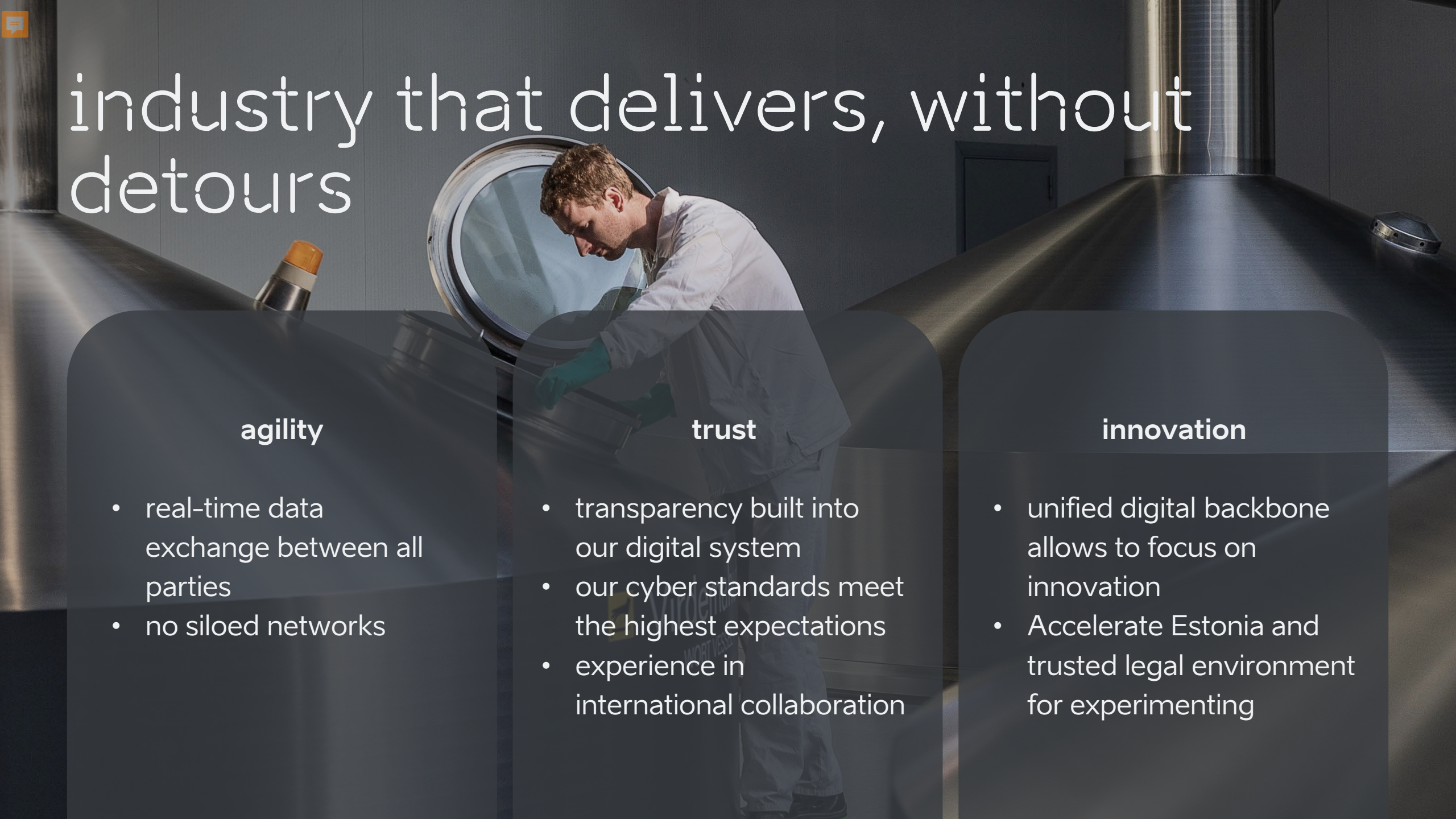
Formula Student  
encouraging  
engineering in  
motosports



Solaride paving the  
way for solar-  
powered vehicles



CyberSpike making  
cyber defence  
competitive

A man in a white lab coat and green gloves is working on a large industrial machine. The machine has a circular porthole and a large, dark, conical structure. The background is dark and industrial.

# industry that delivers, without detours

## agility

- real-time data exchange between all parties
- no siloed networks

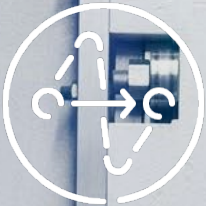
## trust

- transparency built into our digital system
- our cyber standards meet the highest expectations
- experience in international collaboration

## innovation

- unified digital backbone allows to focus on innovation
- Accelerate Estonia and trusted legal environment for experimenting

# agility meets ambition



no red tape and  
direct contact with  
decision-makers



25% of university  
graduates come from  
STEM fields



connection to EU  
market and compliance  
with its security  
standards



fast and agile  
digital ecosystem



high environmental  
awareness expanding  
to industry



experience in global  
trade and international  
partners



# smart city

smartest living environment

- + shared platforms
- + cross-border projects
- + unique semi-autonomous solutions
- + urban data collection and sharing
- + Estonia as a testbed





# defence

hub of agile, adaptive and advanced defence

- + we make iron smart
- + providing advanced solutions to enhance global defence capabilities
- + rapid innovation and adaption enabled by favourable business environment
- + we pledge over 3% of GDP to defence, work closely with NATO and support Ukraine to contribute to global security
- + 2/3 of the defence industry's output is exported, exponential year-on-year growth with growing international demand

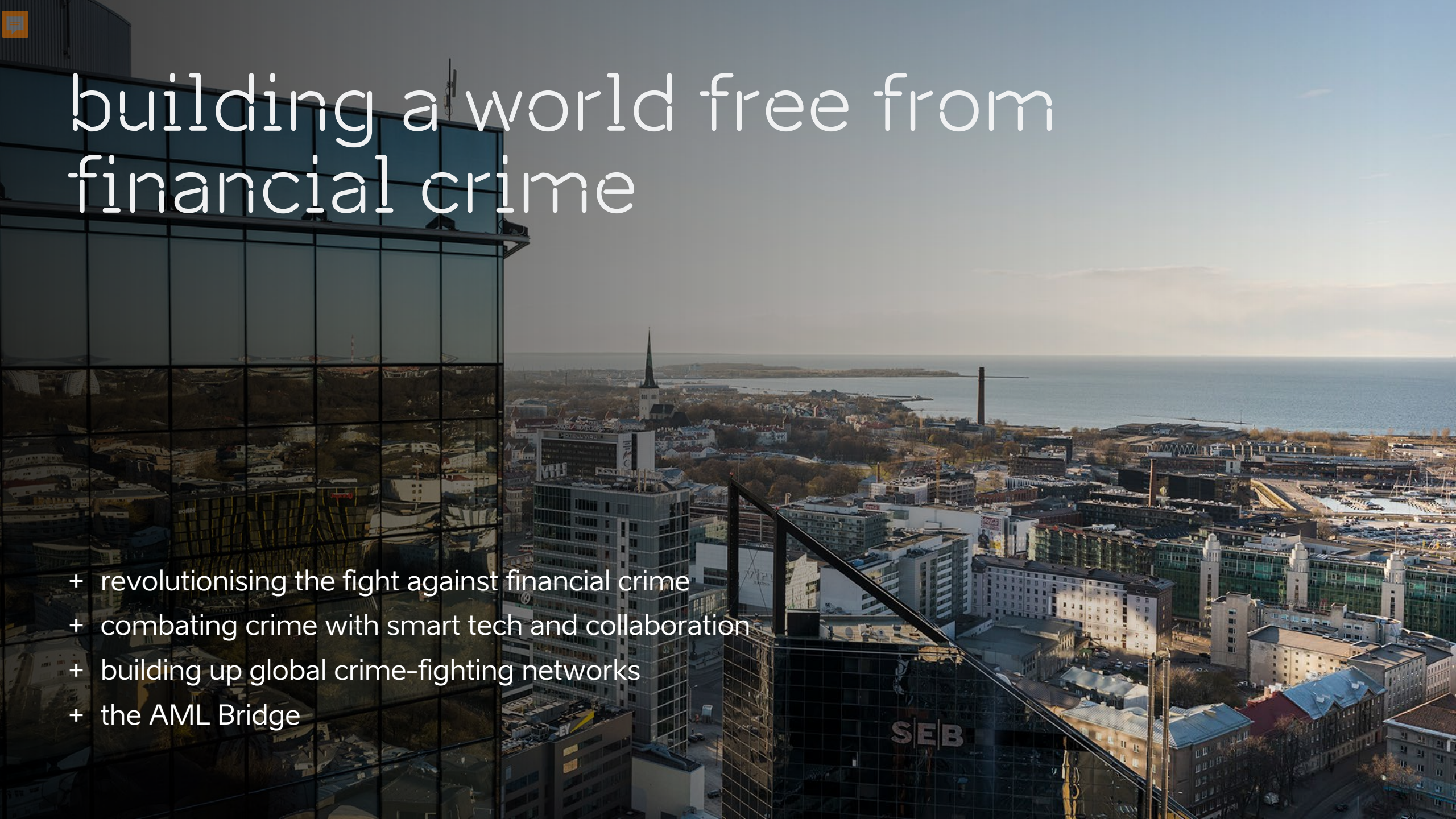


# make everything more efficient

the journey never ends

- + cut your own Christmas tree
- + fishing and hunting licences
- + reporting a crime
- + cemetery Portal Haudi
- + vehicle history check
- + smart-road map



An aerial photograph of a city, likely Stockholm, with a large glass skyscraper in the foreground. The glass reflects the city and the sea. The text "building a world free from financial crime" is overlaid in white. In the background, there is a body of water, a church spire, and various city buildings.

# building a world free from financial crime

- + revolutionising the fight against financial crime
- + combating crime with smart tech and collaboration
- + building up global crime-fighting networks
- + the AML Bridge

# digital agenda 2035

Estonia, full of digital might

- + human-centred, trustworthy, efficient and resilient digital society.
- + secure, personalised and proactive public services powered by AI agents.
- + transparent and human-controlled use of data and artificial intelligence.
- + secure cyberspace and reliable ultra-fast connectivity across Estonia.





# shaping an AI-literate future

eesti.ai  
economic growth  
enabled by AI:  
**2030 ↑ 25%**  
**2035 ↑ 50%**

# shaping an AI-literate future

## healthcare

quality of care  
doctor time  
optimization  
chronic disease  
prevention

## AI-skills

100 000 AI-  
literate citizens  
1 000 000 free  
lessons

## business

added value per  
employee %  
export increase %  
1000 AI  
companies

## governing

increase in  
service quality

## education

AI-literate  
teachers and  
students  
increased quality  
of education

## IT-hardware

covering the  
increasing GPU  
needs of public  
and private sector

eesti.ai

economic growth enabled by AI :

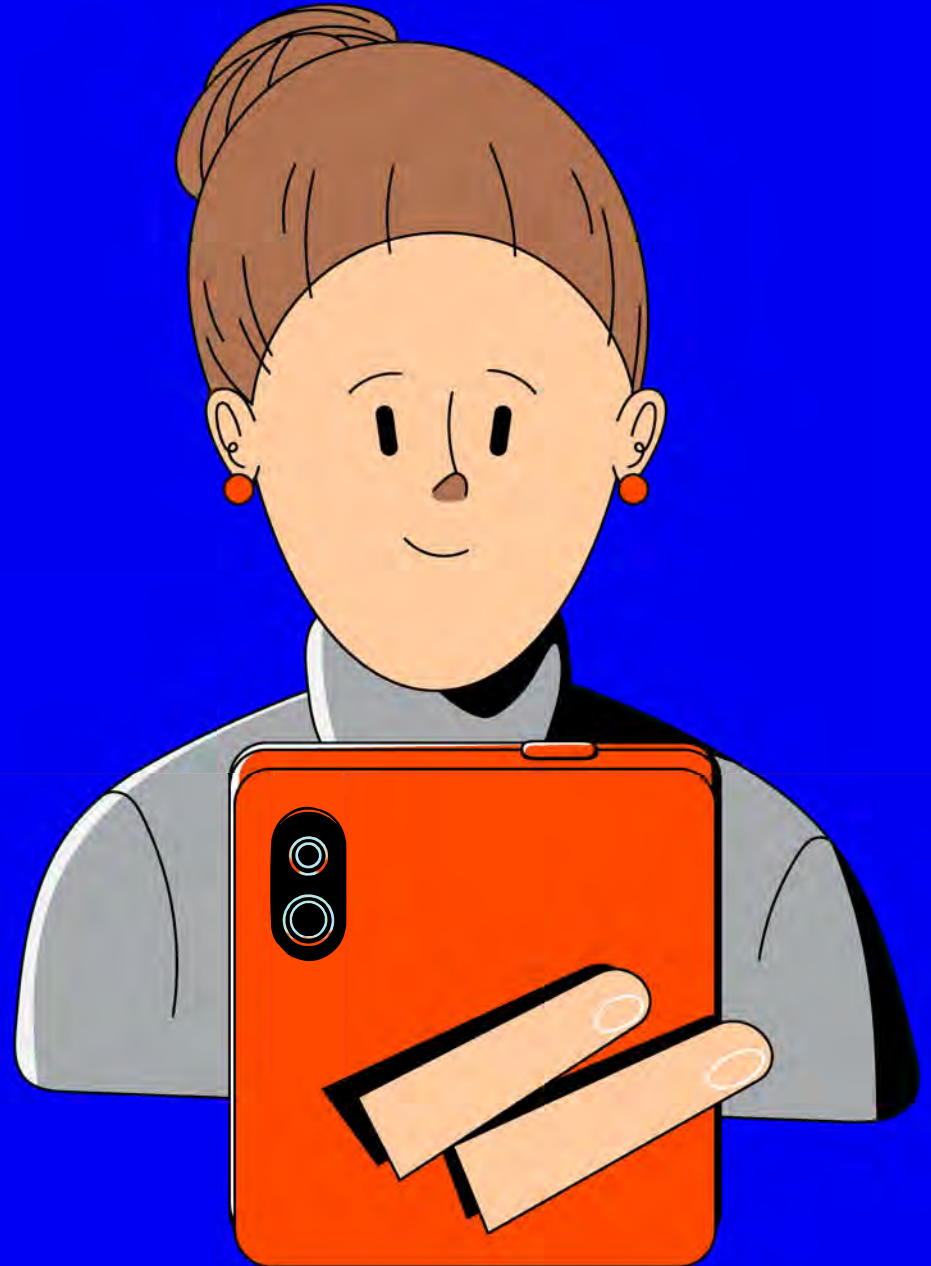
**2030 ↑ 25%**

**2035 ↑ 50%**

# bürokratt

virtual assistant for government services

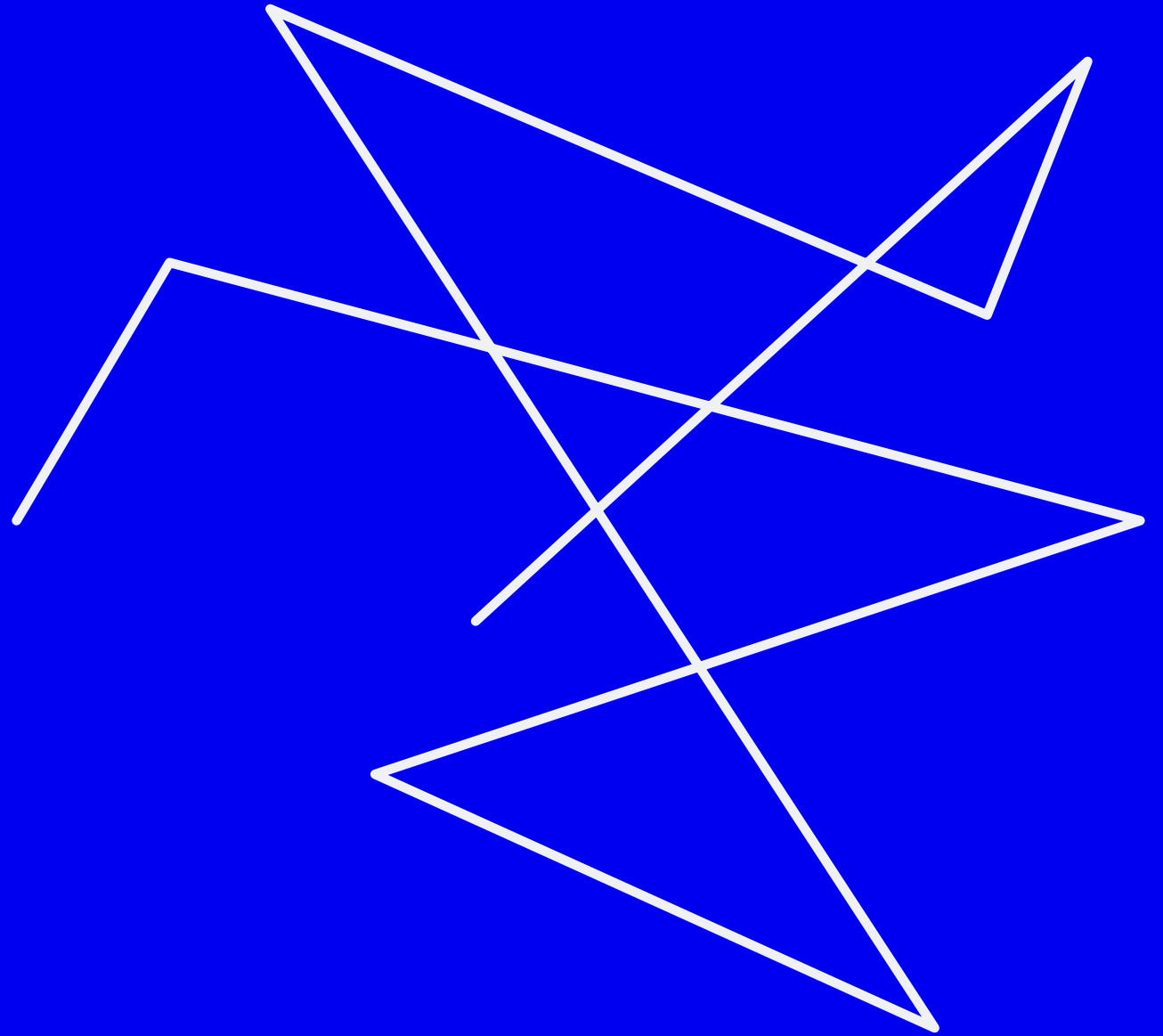
- + all government services & info from one place
- + works 24/7
- + channel and device agnostic (chat, sms, e-mail, phone, voice assistant)
- + open-source and free





# kratt

national AI strategy



- + public-private partnerships
- + government initiative
- + 200+ use cases in public sector



# international cooperation

- + Estonia cooperates with digital-minded countries: D9+, Digital Nations, DGX
- + public-private partnership that works beyond borders
- + NGOs' power in digitalisation: Estonian Association of Information Technology and Telecommunications
- + EU Global Gateway



# personal government

90%

user satisfaction goal by 2030

redefined relationship between a citizen and the government in the post-digital era

our children,  
raised in  
a digital society,  
never having  
had to visit a  
government  
office —  
how will they  
imagine the future?



# welcome to post-digital era

decades of digitalisation has resulted in a society where almost everything is digital. and that opens new possibilities.

Digitization era  
2000—2010  
e-Government

Enhanced traditional public services online. More efficient information processing.

Digital transformation era  
2010—2020  
Digital Government

End-to-end digital replacement of traditional public services. Whole-of-government approach to service delivery.

Post-digital era  
2020—...  
Personal Government

Citizen-centric digital-first new type of services and capabilities without traditional analogues. Whole-of-society approach to service delivery.



A woman with long dark hair, wearing a dark jacket and pants, stands on a rocky beach. She is holding a camera up to her eye, looking out at the sea. A tripod with another camera is visible behind her. The beach is covered with large, smooth, dark rocks. The sea is calm with small waves. The sky is overcast with grey clouds.

# estonishing future

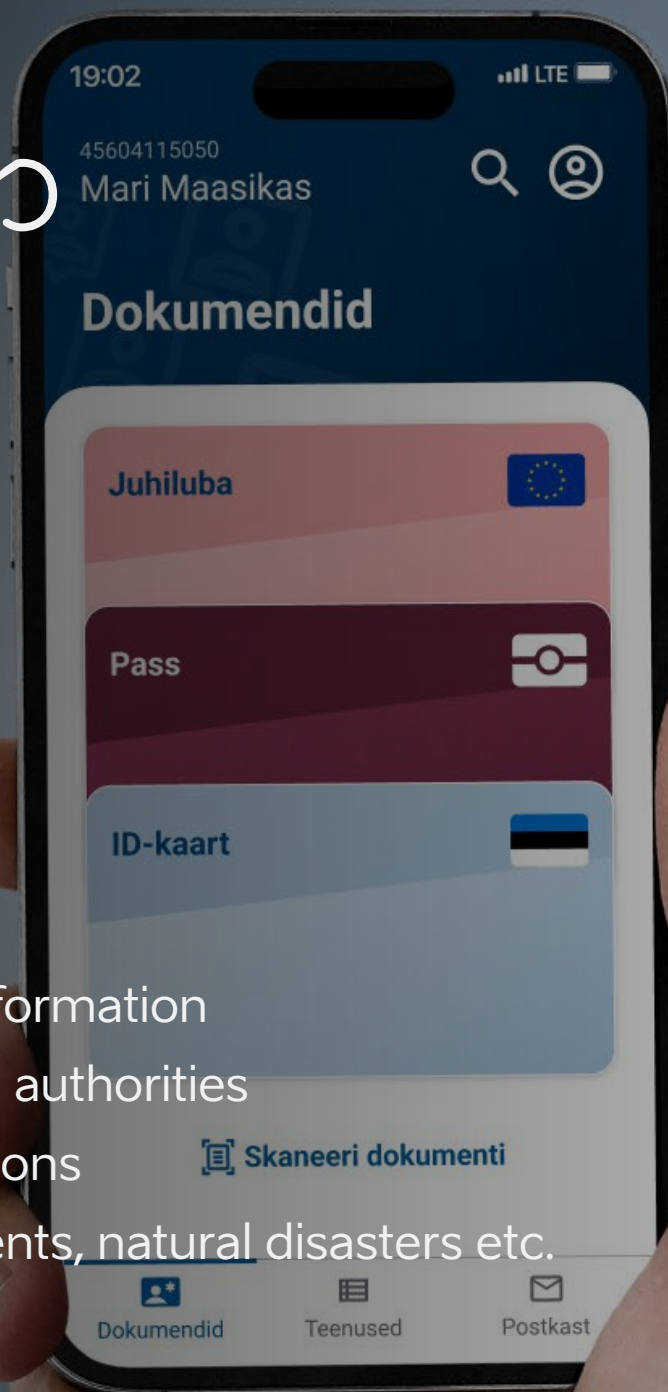
seamless e-services available 24/7

- + proactive government
- + AI in government services
- + cross-border digital governance
- + personalised medicine
- + environmentally sustainable digital state
- + citizen-centric data governance

# eesti.ee app

digital state in your pocket

- + convenient access to one's information
- + fast communication with local authorities
- + view and manage e-prescriptions
- + receive notifications on accidents, natural disasters etc.
- + use the data tracker



potential substitute  
to physical  
documents



access to virtual  
assistant bürokratt  
in the future



# proactive government



starting a  
business



childbirth



buying  
a car



driving  
licence



start of  
school



unemployment  
& job search



marriage



divorce



disability



military  
service



change of  
residence



retirement



death  
(succession)



building  
houses



falling victim to  
an accident



falling victim to a  
crime



# lessons learned

how Estonia succeeded

- + digital-minded leadership
- + keep it short and simple
- + transparency works
- + shared platforms are quicker
- + service design matters
- + public-private partnership
- + start-up mentality



# stronger together

let's keep in touch!

sign up to our newsletter and follow us:

f X in e e-Estonia

e-estonia@eis.ee

materials

