

DIGITAL ESTONIA, BLOCKCHAIN AND ROADMAP FOR THE FUTURE

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ESTONIA IN FACTS

POPULATION	1.3 million
LANGUAGE	Estonian
SIZE	45 339 sq. km
CAPITAL CITY	Tallinn
CURRENCY	Euro
GOVERNMENT	Parliamentary democracy
MEMBER OF	European Union, NATO, WTO, OECD, DIGITAL 5
GDP	25,9 bln USD
ICT SECTOR	7% of GDP





ESTONIA IN FACTS

TAX FOUNDATION

#1 Tax Competitiveness

FREEDOM HOUSE

#2 Internet Freedom

EUROPEAN COMMISSION

#1 EU Digital Economy and Society Index

FREEDOM HOUSE

#9 Index of Economic Freedom

UNITED NATIONS

#15 E-Government Index

WORLD BANK

#16 Ease of doing business

WORLD ECONOMIC FORUM

#22 Networked Readiness Index



e-State

Redefining governance,
simplifying life and business



Empowering

Everything can be done online except for marriage, divorce and selling your house



ONCE-ONLY PRINCIPLE



NO LEGACY



DIGITAL BY DEFAULT



USER FRIENDLINESS



OMNI-CHANNEL SERVICES



OPEN STANDARTS

Easy

e-Solutions simplify and benefit our lives.

EASY BUSINESS IN 18 MINUTES

I - VOTING 30% COME ONLINE

E- CABINET: 5 HOUR TO 30 MIN

99% OF STATE SERVICES - ONLINE

BANKING IS ONLINE 99.8%

E- TAXES 98% IN 3 MINUTES

E-PRESCRIPTIONS 99%

INVISIBLE GOVERNANCE

Efficient

Time-efficient electronic solutions save money

- ▶ DIGITAL SIGNATURE SAVES 2% OF GDP PER YEAR
- ▶ 50 TIMES MORE EFFICIENT POLICE
- ▶ I-VOTING IS 2.5 TIMES CHEAPER
- ▶ 1/3 LESS QUEUES IN THE HOSPITALS

Economical

State budget optimized



UK

20 bln EUR per year



Finland

2 bln EUR per year



Estonia

50 mln EUR per year



The background of the slide is a photograph of a tree trunk. A blue pipe is attached to the tree, and a blue bucket is hanging from it. The text is overlaid on the left side of the image.

Everywhere

Internet is a social right

- ◀ BROADBAND IN 88% OF HOMES, 100 MB BY 2018
- ▲ 3G, 4G COVER THE WHOLE COUNTRY, 5G PILOT IN 2018
- ▶ WIFI AREAS ALL AROUND

e-IDENTITY

It all relies on collaboration through engagement.

ID-card penetration is over 94%

Mobile-ID 10%



IDENTIFICATION



TRAVELLING



DIGITAL SIGNATURE



STATE SERVICES



HEALTHCARE



I-VOTING



BUSINESS; BANKING



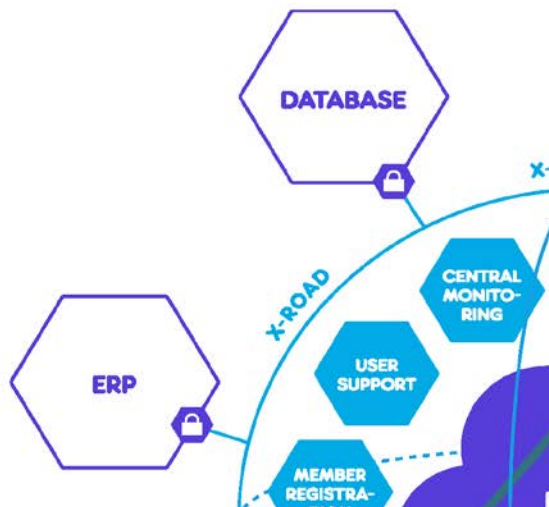
DRIVING LICENSE



PUBLIC TRANSPORT CARD



LOYALTY CARD



X-ROAD

Endangerment

Technology is never perfect.

- ◀ CYBER THREATS
- ▲ DATA PROTECTION
- ▶ RIGHT BALANCE



Breach

Detection

205 DAYS

AVERAGE DWELL TIME OF ATTACK



Traditional approach to security

Fence around the data has fundamental flaws...

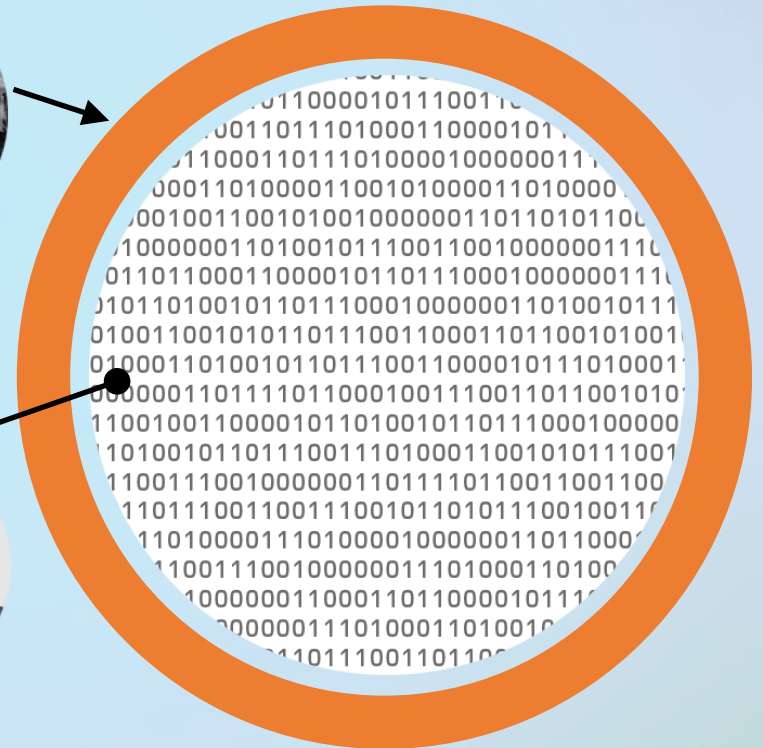
- ▶ YOU CAN'T BE 100% SURE IT WORKS
- ▶ NO TRANSPARENCY
- ▶ CLOUD COMPUTING MEANS NO PERIMETER
- ▶ OVER 50% OF ELECTRONIC FRAUD IS CONDUCTED BY INSIDERS



ATTACKER



INSIDER



Confidentiality

ID-card Mobile-ID

Preventing the disclosure of information to unauthorized individuals or systems.

Security Model

Availability

X-ROAD

Making sure that the computing systems, the security controls, and the communication channels are functioning correctly.

Integrity

KSI Blockchain

Maintaining and assuring the accuracy and consistency of systems and data.

(r)Evolution

The story of Estonia



e-Tax Board



m-Parking



e-School



Digital
Signature



ID Card



i-Voting

2000

2001

2002

2003

2005

2007



Population
Registry



X-road



ID bus ticket



e-Land Registry



Mobile-ID



Keyless Signature
Infrastructure



e-Police system



e-Health
system



Smart Grid



X-Road Europe

2008

2010

2011

2012

2013

2014



e-Prescription



Country-wide
EV quick
charging
Network



e-Residency

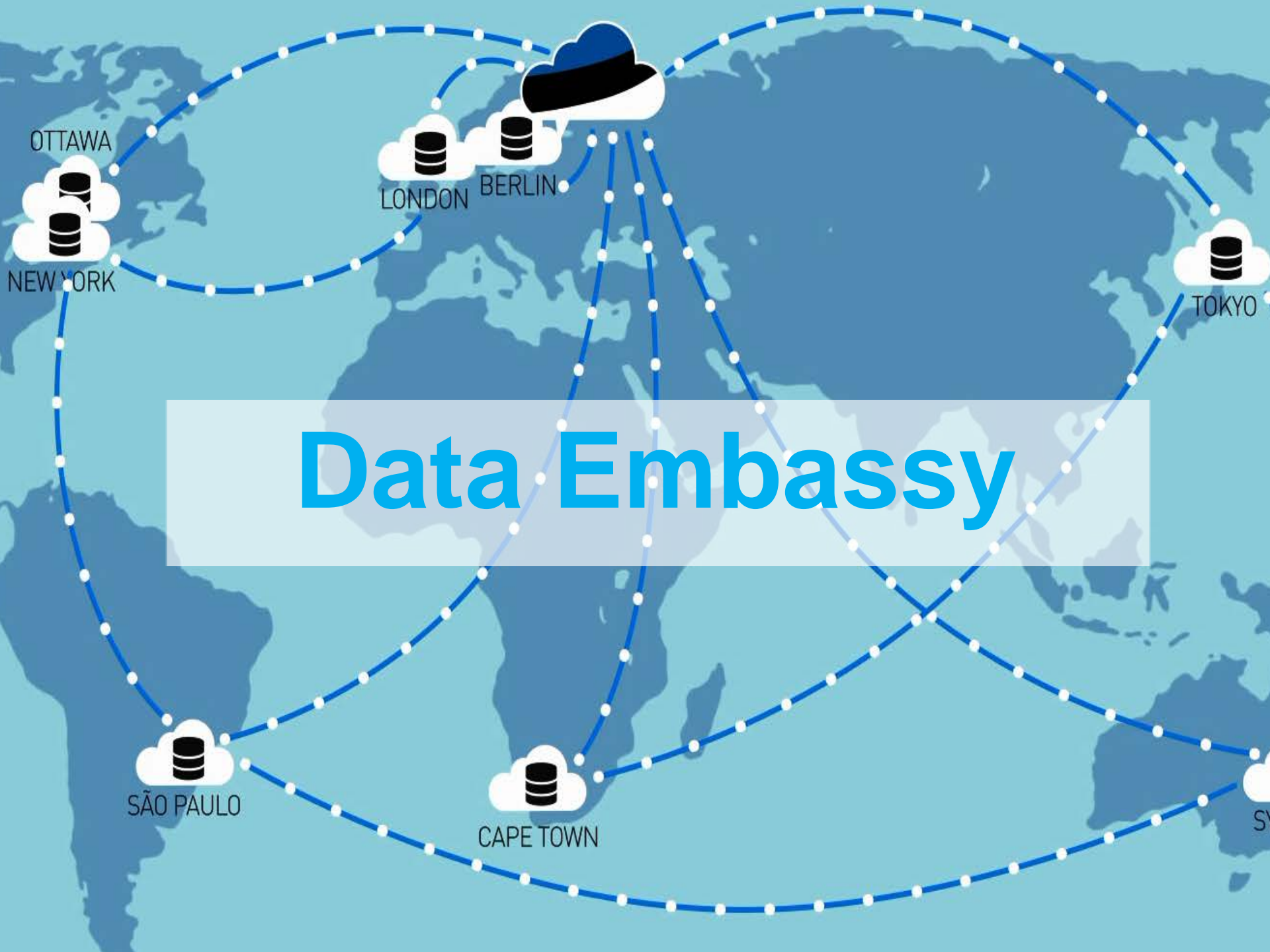


Data Embassy

e-Residency

Become an e-Resident like 16 000 others
Over 1500 new companies established in 2 years!





Data Embassy

Epoch

The future starts with „E“



SMART CITY

INVISIBLE GOVERNANCE

E-RESIDENCY

CROSS-BORDER X-ROAD

REAL-TIME ECONOMY

DATA EMBASSY



THANK YOU!

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