I&R through the X-road

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ESAVA LEMMIKLOOMAREGISTER, ESTONIA
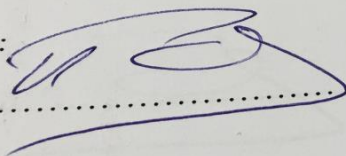
What's this?

Yesterday!

X-road
e-Estonia.com

▶ The 21st century citizen-centred state and service-oriented society requires information systems to function as an integrated whole to support citizens and organisations. There must be interoperability between different organisations and information systems.

▶ In other words they must be able to work together and data only needs to be requested from the citizen once. Estonia's solution for maintaining a modern State is X-Road, which saves Estonians 1400 years of working time every year.

X-road
e-Estonia.com
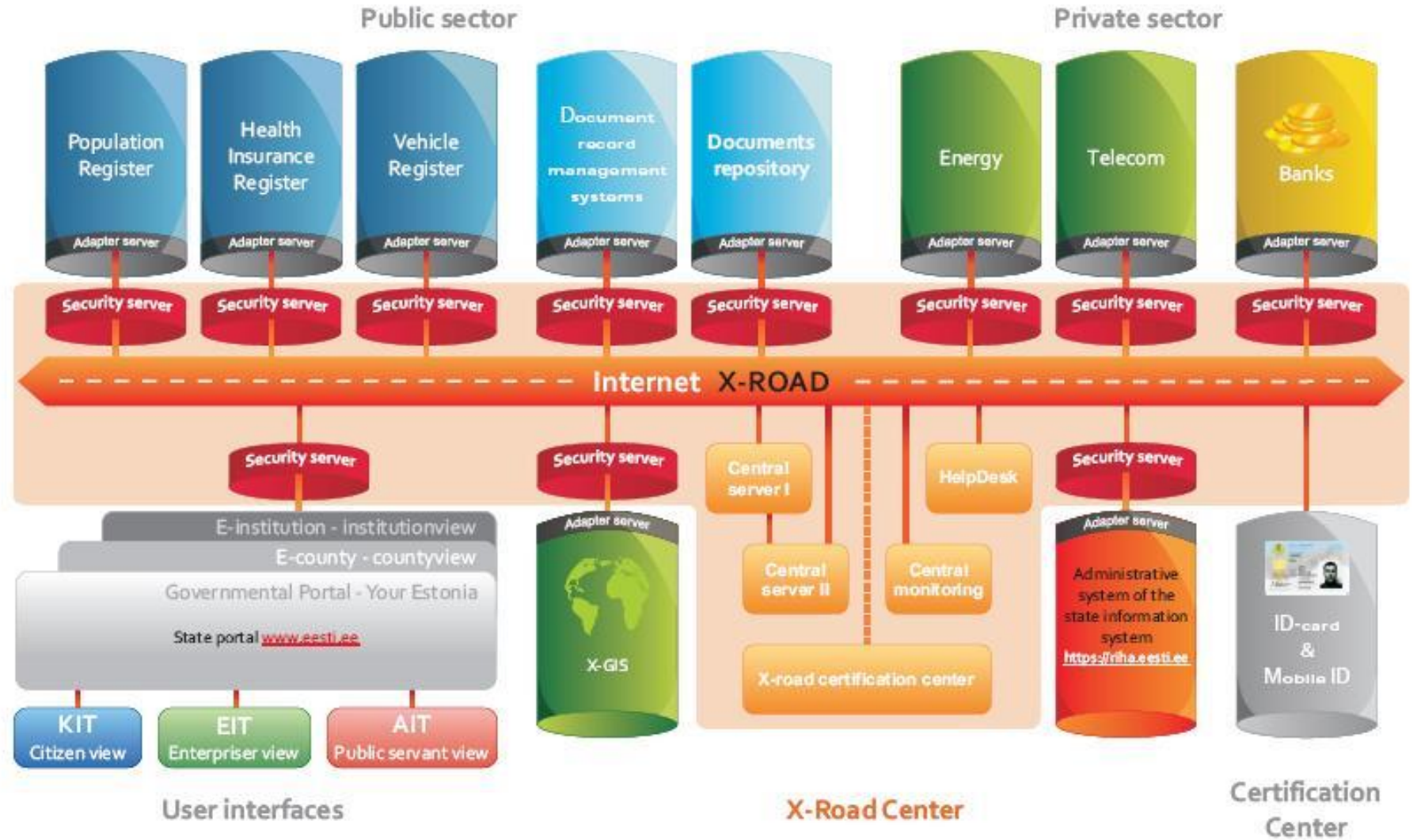
eIDAS

The Council of the European Union and the European Parliament have adopted the eIDAS regulation (regulation for trust services necessary for electronic identification and electronic transactions) with the purpose of simplifying cross-border use of electronic services. This facilitates the achievement of a common digital market and a functioning digital economy. The regulation mainly addresses public electronic services.

The eIDAS regulation aims to create a level of trust in the digital world that would equal that of the physical world. To achieve that, common principles on the acknowledgment of electronic identity and digital signatures were established for European public institutions. The comparability, recognition, and common grounds for operation are also ensured for trust services.
Pursuant to the regulation, all Estonian state and local government institutions and private companies who provide public services must recognise digital signatures from all EU members as of 1 July 2016.

Similarly, other public sector institutions of EU Member States must accept digital signatures provided by Estonian citizens. Digital signatures of EU citizens that are equal with nationally used digital signatures must be accepted.

X-TEE

EST **ENG**

Requests this month*

As of 1 Oct 2019

53,449,727

Latest month*	Previous year	Requests to date*
180,855,017	985,878,107	5,370,032,807

706 consecutive days of smooth X-Road experience in Estonia*

As of 2001, the protocol has been amended only 4 times

* Based on data from 1 Oct 2019

The X-Road in Estonia has:

487	institutions and enterprises
151	public sector institutions
ca 52,000	organizations as indirect users of X-Road services
1,229	interfaced information systems
244	security servers installed by members

Number of services that can be used via the X-Road

2,810

Every party who provides services offers 6 services on average

Designed to be secure

Traditional attacking vectors cannot be used with the X-Road due to its structure and architecture

X-Road implements the following security technologies

XAdES, ASiC, VPN, RSA, TSL, RFC3161, OCSP, PKI

5 most popular* service providers

10,292,462	EE/GOV/74000091/rets
10,050,450	EE/GOV/70000349/tor
9,765,239	EE/GOV/70009770/digilugu
8,466,752	EE/GOV/70000310/arireg
7,688,148	EE/GOV/70008440/rr

* By query count towards the service provider in last month

Most popular platforms of information systems that have been interfaced with the X-Road

Progress PHP
Python NodeJS
QT SAP
JavaNET

Current conventional DB

- Username
- Password

Better than nothing. Works well for pet&owner reunion

Secure?

International puppy trade?

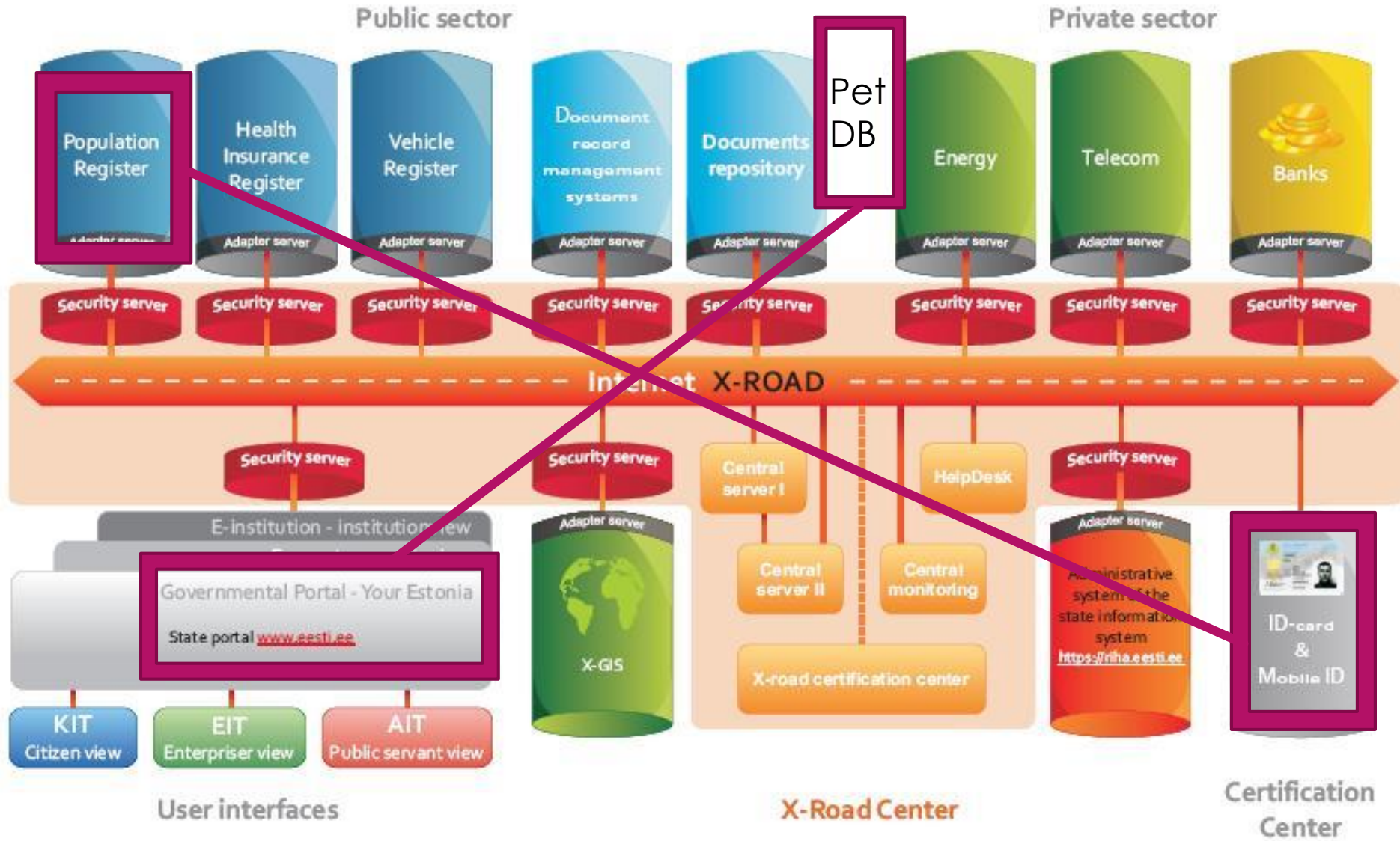Travelling?

X-road

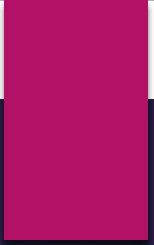Estonian Informatics Centre

Estonian information system

Digital signature-are we there yet?

- Mobile ID
- Smart ID
- ID card
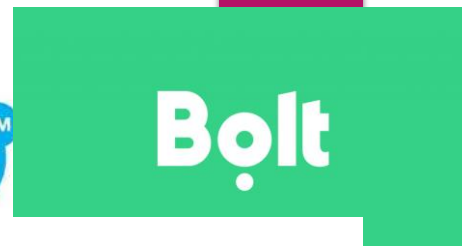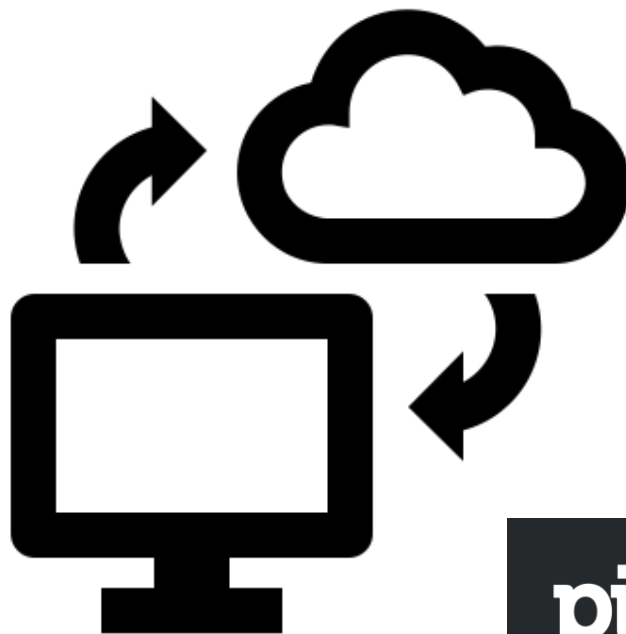
- E-passport
- PanEuropean digital track (X-roadish something…)
- Centralized DB - EuroPetNet
- Mandatory I&R
- Keep looking for new solutions

Who's most dangerous on that slide?

What else do we have in Estonia?

What else do we have in Estonia?

Thank You!