Overview of Estonian ICT policy coordination:
how to keep costs under control and still achieve the results?

Aet Rahe

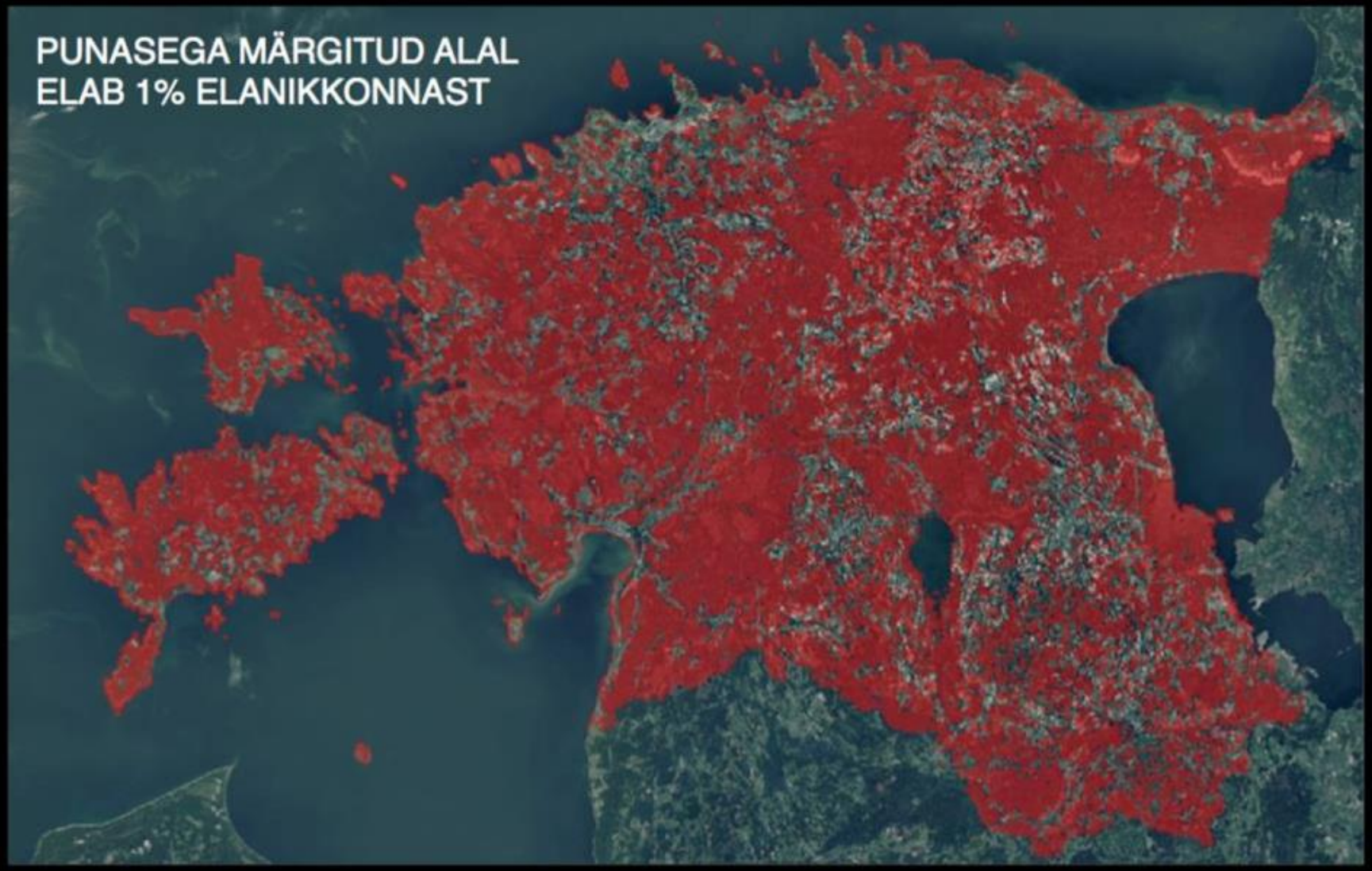
My background

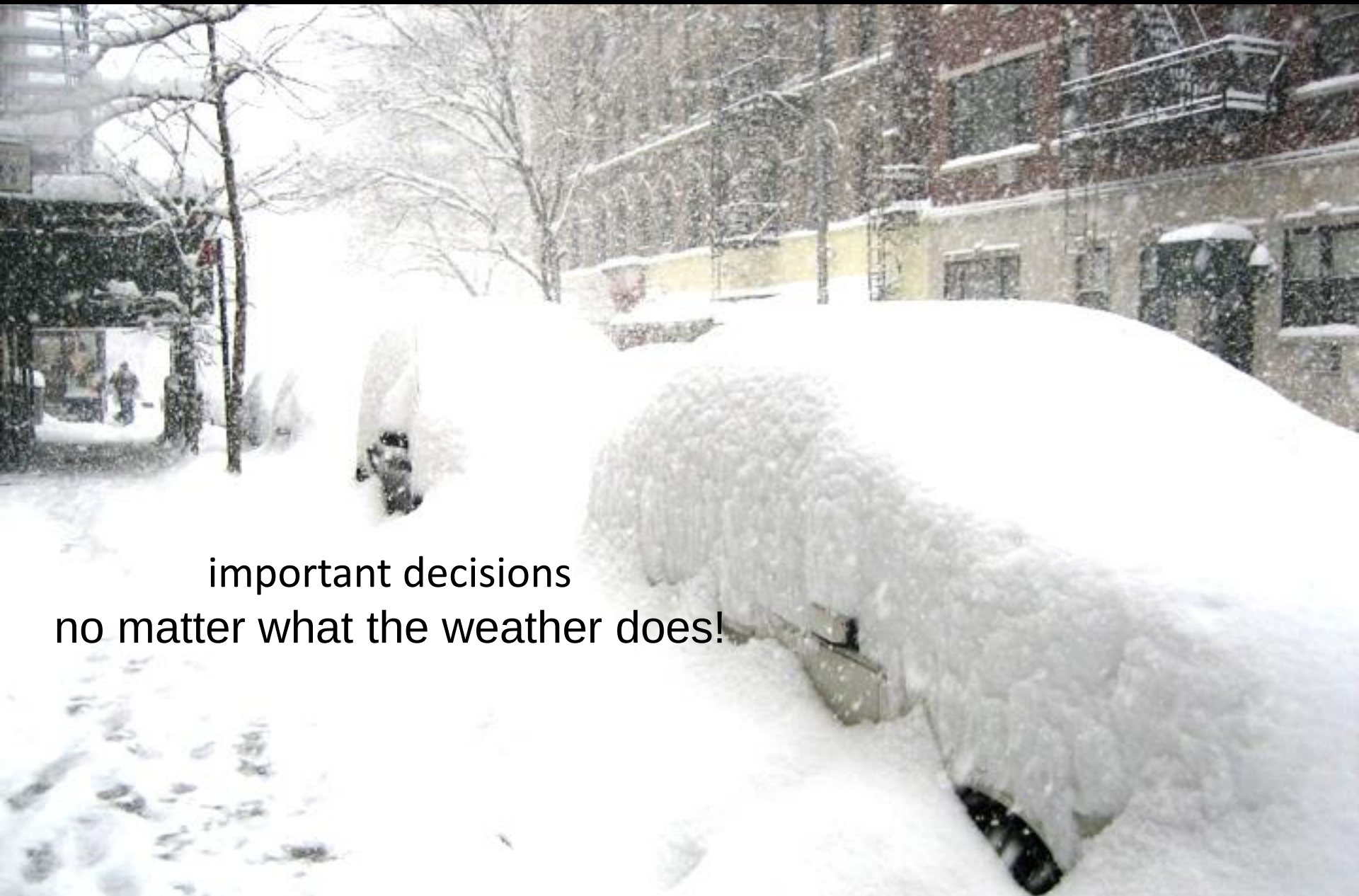
- Currently
  - head State Information Systems department @ Ministry of Economic Affairs and Communications
- Responsibilities
  - IT policy making (Digital Agenda 2020; Cyber Security Strategy 2017)
  - IT investment management
- Previously
  - Business Unit manager at the biggest software development house in Estonia - Nortal

Agenda

- Background of e-Estonia
  - Basic principles
  - Infrastructure cornerstones
- IT coordination mechanisms
  - implementing rules and guidelines
  - Keeping costs under control
- Licencing policy – avoiding vendor lock-in
- What the future holds?
  - No Legacy Policy
  - E-residency

Going digital was not a choice





important decisions
no matter what the weather does!

Digital Agenda for Estonia: General Objective

To create in Estonia the best **environment**

for the uptake and creation

of smart ICT solutions…

… in order to contribute to the **economic growth** and **welfare** of people

Preface: Basic Principles

BIG BROTHER ~~IS~~

ESTONIAN WAY

Human-readable log of medical data

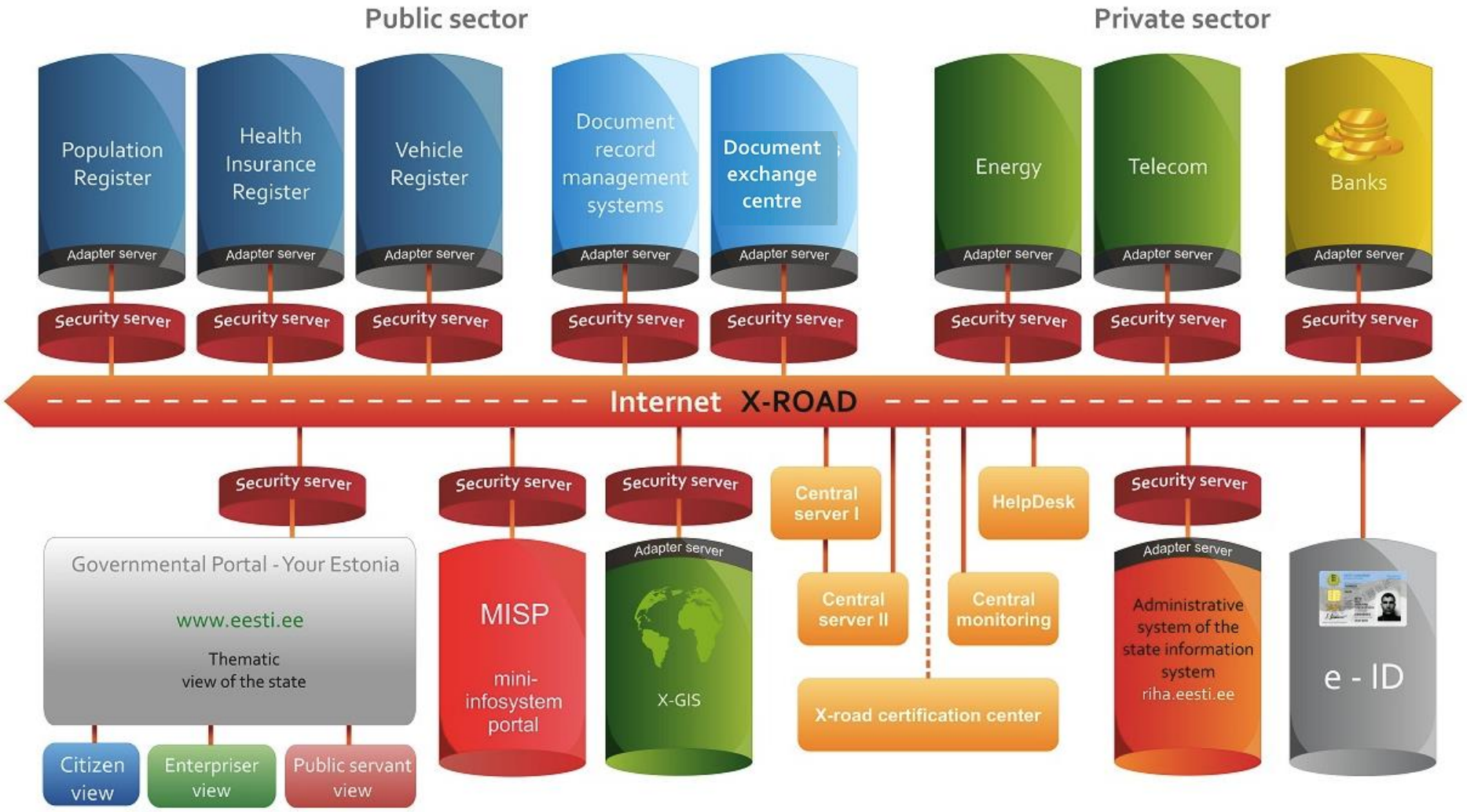
Kuupäev	Andmed	Isiku nimi	Asutus	Põhjendus
27 veebruar 2015 12:11	ac69ebc6-dcd3-490d-9e13-5a2e31633b69 (Dokumendi registreerimine)	Sirje Multram üldõendus N02011	Tallinna Koolitervishoid SA	
12 jaanuar 2015 15:01	612 (Dokumendi registreerimine)	LEENA ANNUS taastusravi ja füsiaatria D03394	SPORDIMEDITSIINI SIHTASUTUS	
30 detsember 2014 00:32	(Päringud)	AET RAHE	Eesti E-Tervise SA	

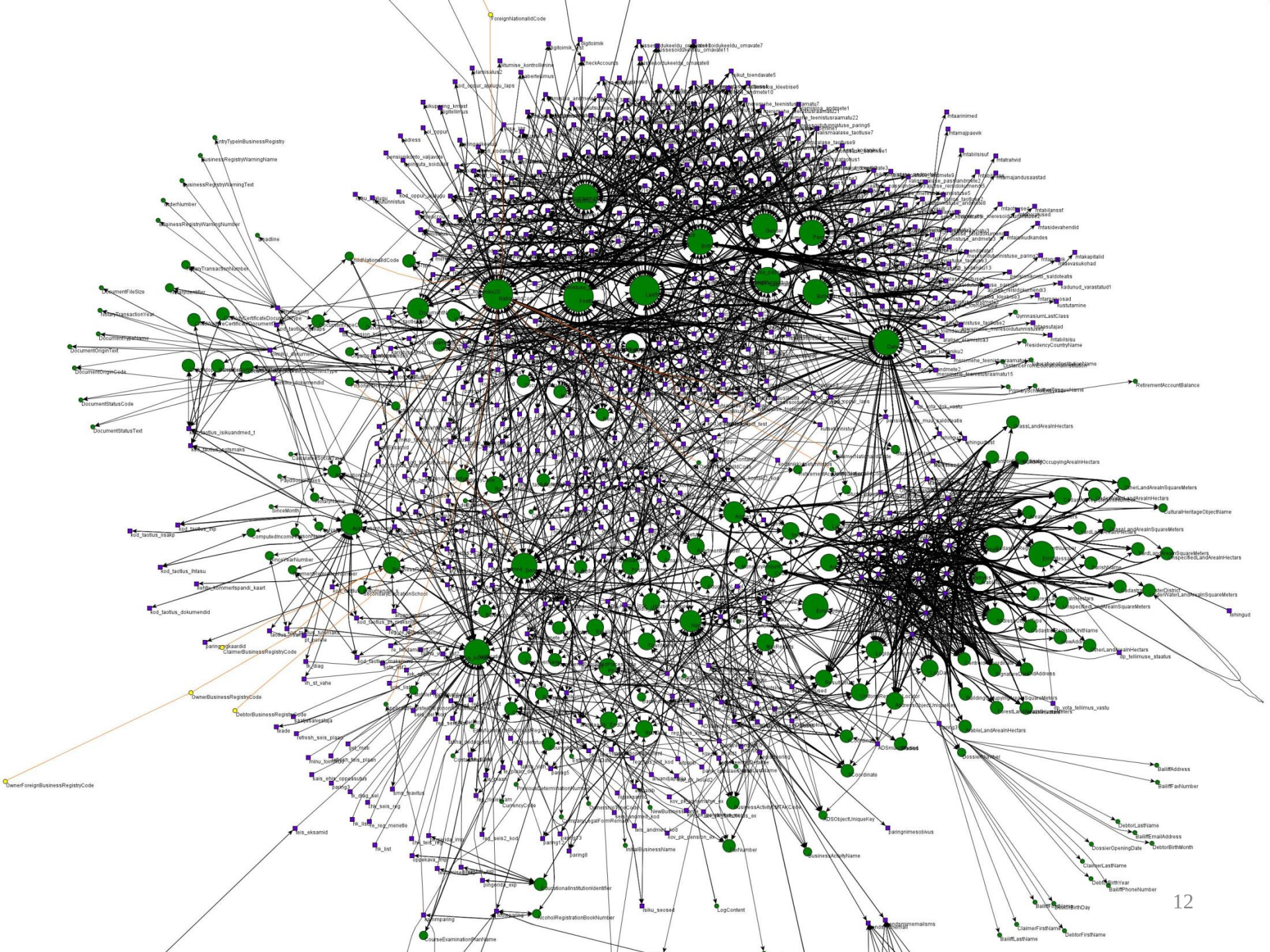
Coordination model

- Distributed architecture = every silo responsible for their own projects

- Central coordination and investment management - „Carrots and sticks“
  - guidelines, rules, trainings,
  - Investments as baby-steps
  - central infrastructure
  - cyber security

X-road


Public sector
Private sector
Population Register
Health Insurance Register
Vehicle Register
Document record management systems
Document exchange centre
Energy
Telecom
Banks
Adapter server
Security server
Internet X-ROAD
Governmental Portal - Your Estonia
www.eesti.ee
Thematic view of the state
Citizen view
Enterpriser view
Public servant view
MISP
mini-infosystem portal
X-GIS
Central server I
Central server II
Central monitoring
HelpDesk
X-road certification center
Administrative system of the state information system
riha.eesti.ee
e - ID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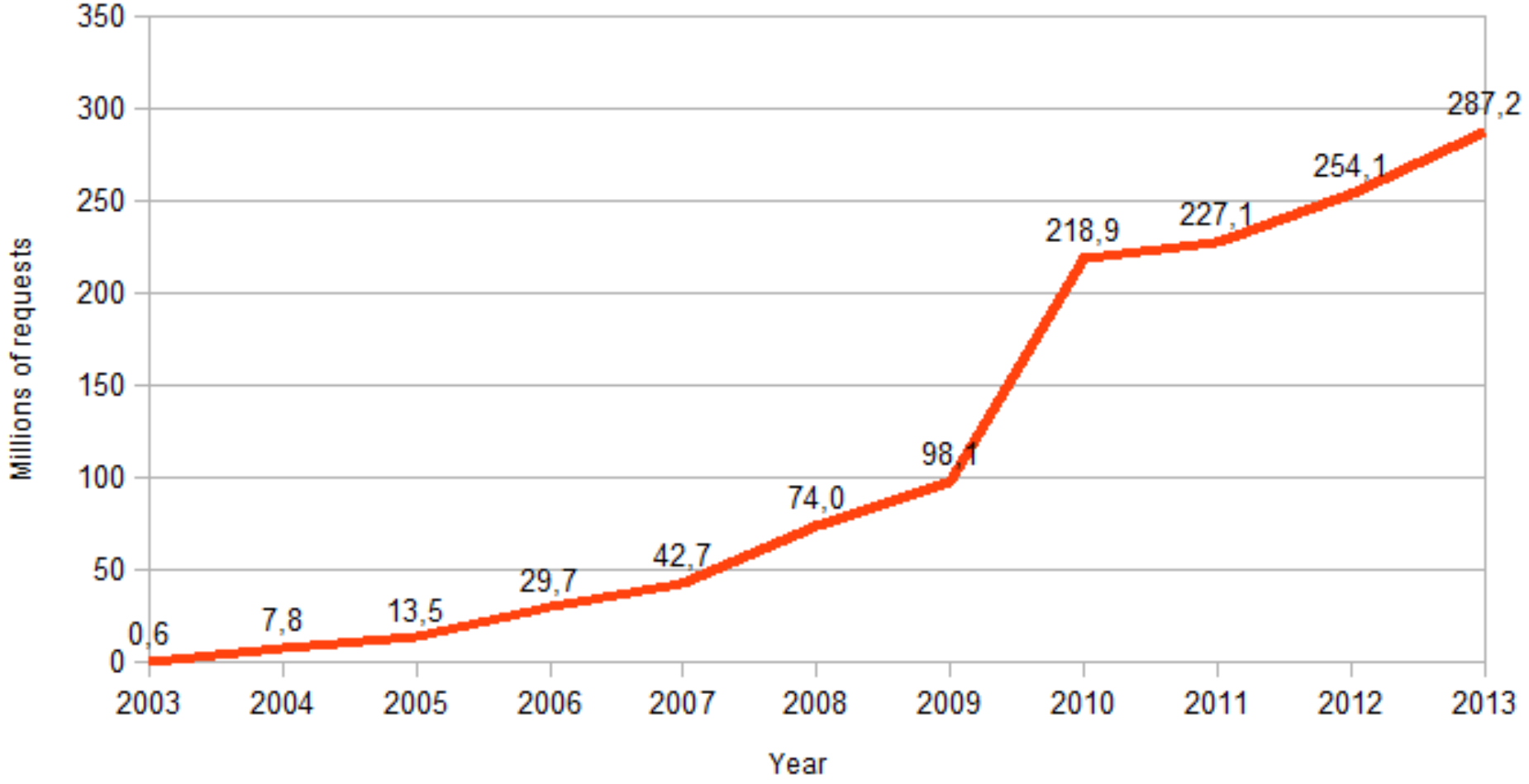
EntryTypeInBusinessRegistry
BusinessRegistryWarningName
BusinessRegistryWarningText
OrderNumber
BusinessRegistryWarningNumber
Deadline
ChildNationalIdCode
DocumentFileSize
NotaryTransactionYear
DocumentTypeName
DocumentOriginText
DocumentOriginCode
DocumentStatusCode
DocumentStatusText
OwnerForeignBusinessRegistryCode
OwnerBusinessRegistryCode
DebtorBusinessRegistryCode
ClaimerBusinessRegistryCode
InitialBusinessName
BusinessActivityName
DSObjectUniqueKey
Coordinate
BailiffAddress
BailiffFaxNumber
DebtorLastName
BailiffEmailAddress
DossierOpeningDate
DebtorBirthMonth
ClaimerLastName
DebtorBirthYear
BailiffPhoneNumber
BailiffFirstName
BailiffBirthDay
ClaimerFirstName
DebtorFirstName
BailiffLastName
RetirementAccountBalance
GymnasiumLastClass
ResidencyCountryName
CulturalHeritageObjectName
LogContent
AlcoholRegistrationBookNumber
CourseExaminationPlanName
InstitutionalInstitutionIdentifier


350
300
250
200
150
100
50
0
Millions of requests
0,6
7,8
13,5
29,7
42,7
74,0
98,1
218,9
227,1
254,1
287,2
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
Year

Open data vs x-road

Open Data

X-Road

Infrastructure: key points

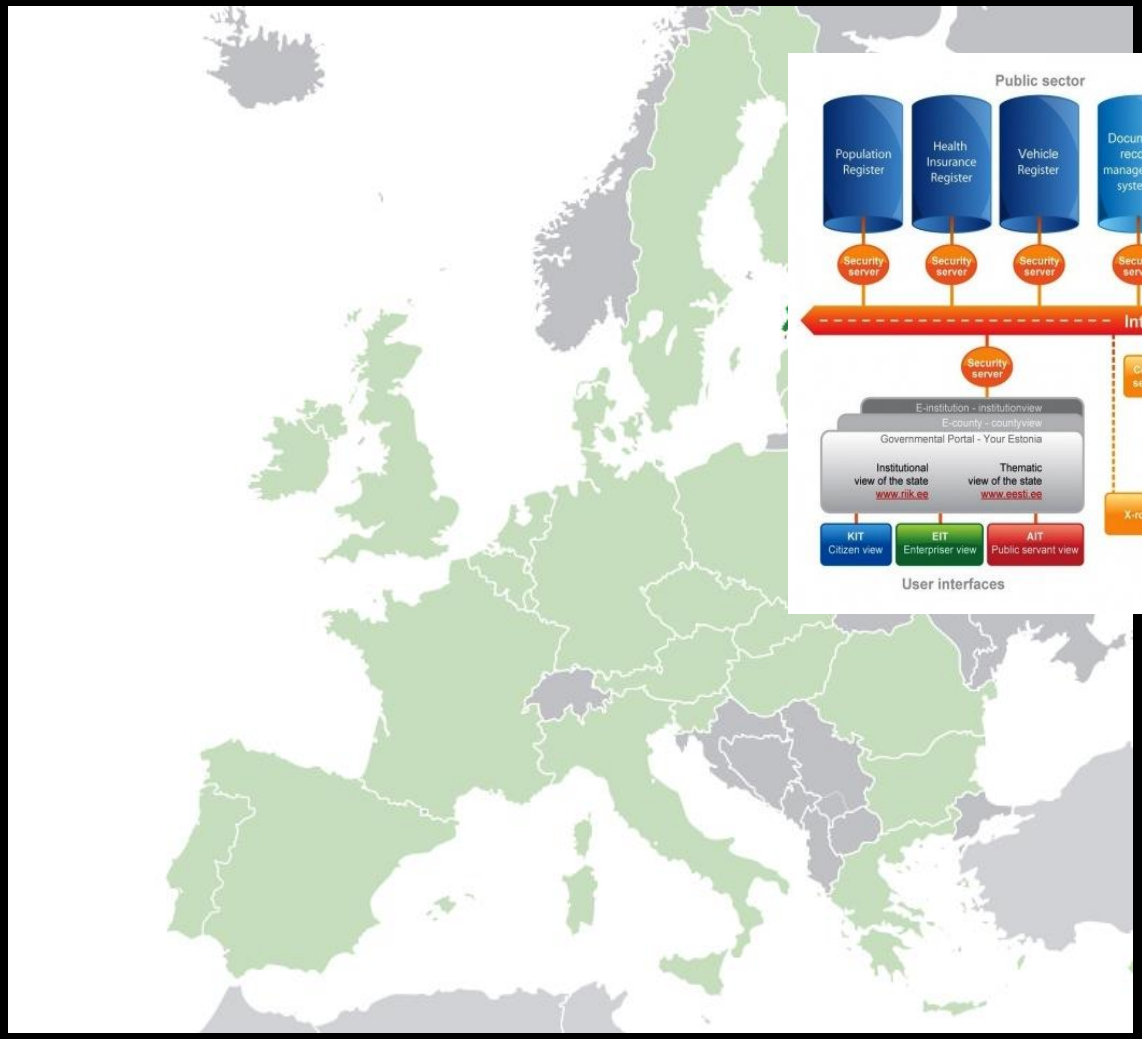
- **Shared** in public and private sector
  - eID and digital signature, x-road

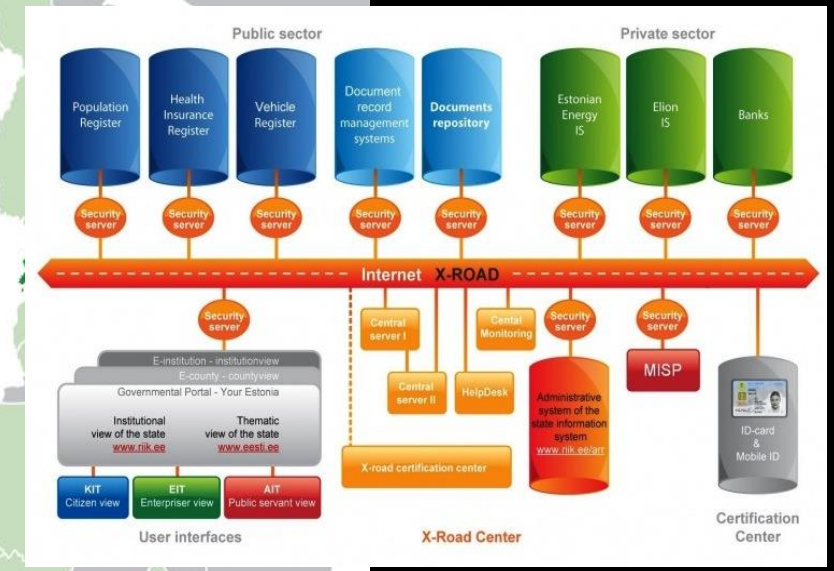
- Strong cooperation with private sector in implementation and awareness raising

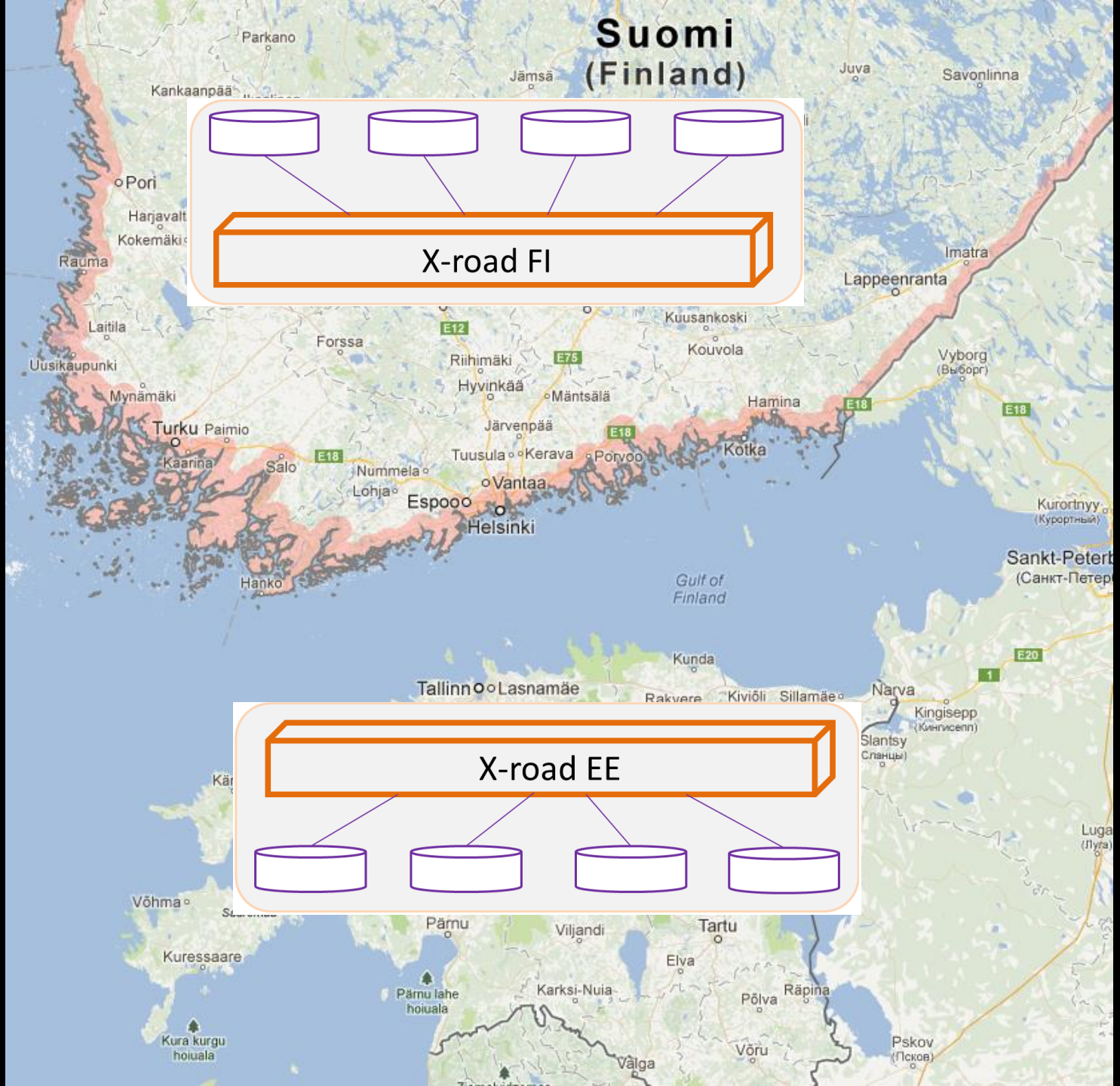
IP principles

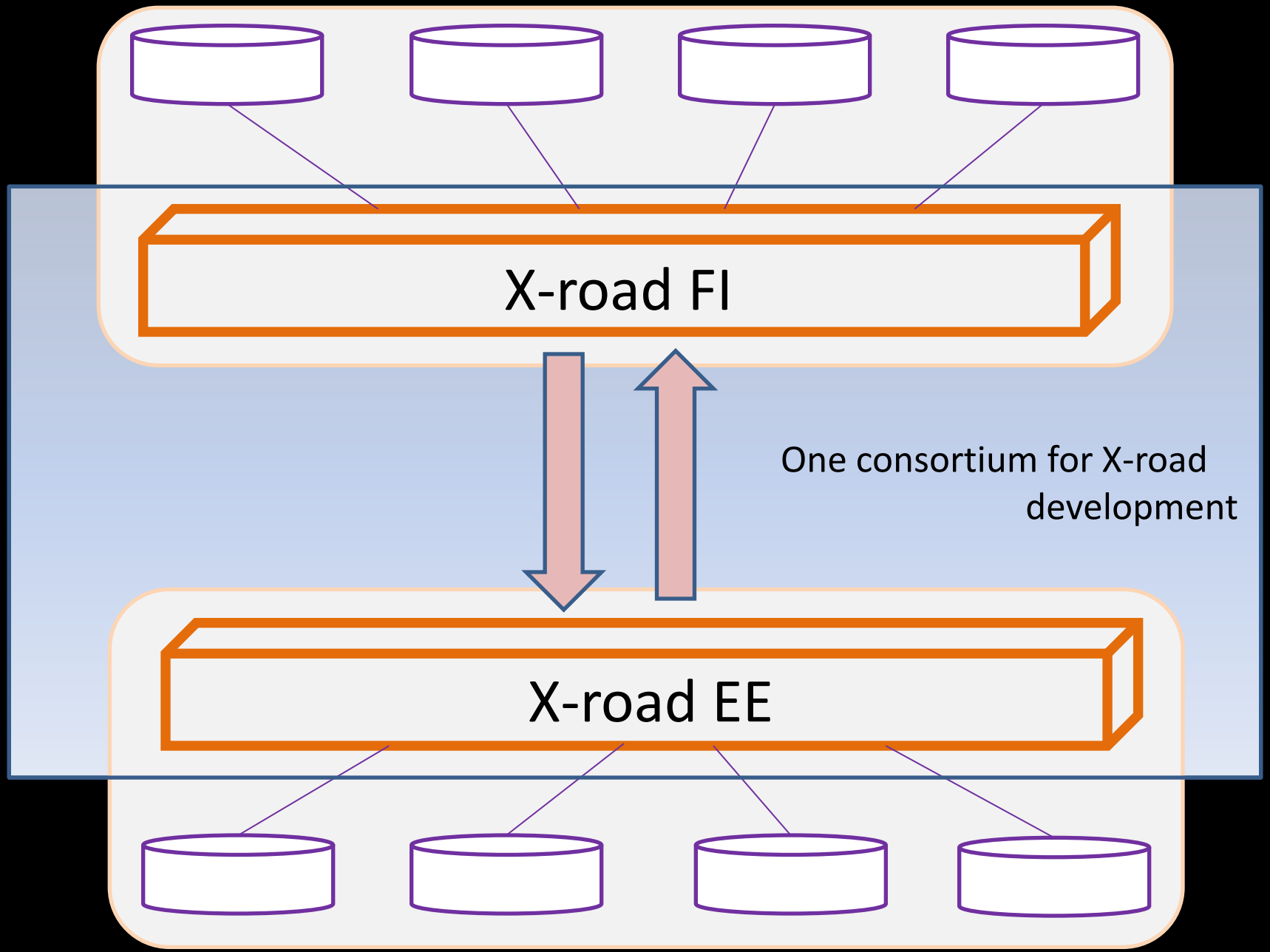
- **IP should be shared** with private sector
  - Exceptions (exclusive license allowed): national defence, Basic infrastructure (eID, x-road, RIHA, etc.)
- Don’t exclude commercial software, but…
- IP should be given out to all who are interested
  - Supporting additional business opportunities
  - Avoiding vendor lock-in
- Sharing government software with other countries

Nordic Institute






Suomi
(Finland)
X-road FI
X-road EE
Parkano
Jämsä
Juva
Savonlinna
Kankaanpää
Pori
Harjavalta
Kokemäki
Rauma
Imatra
Lappeenranta
Laitila
Kuusankoski
Forssa
Kouvola
Riihimäki
Vyborg
Uusikaupunki
Hyvinkää
Mäntsälä
Mynämäki
Hamina
Turku
Paimio
Järvenpää
Kaarina
Salo
Tuusula
Kerava
Porvoo
Kotka
Nummela
Vantaa
Lohja
Espoo
Helsinki
Kurortnyy
Hanko
Gulf of
Finland
Sankt-Peterb
Kunda
Tallinn
Lasnamäe
Rakvere
Kiviõli
Sillamäe
Narva
Kingisepp
Slantsy
Võhma
Pärnu
Viljandi
Tartu
Kuressaare
Elva
Pärnu lahe
hoiuala
Karksi-Nuia
Põlva
Räpina
Kura kurgu
hoiuala
Võru
Pskov
Valga


X-road FI
One consortium for X-road development
X-road EE

What the future holds?

No Legacy Policy

PAPERLESS

10 million Estonians?

„Kiss me and I'll
turn you into
an e-Estonian"

Digi-ID card for E-residents

About the intrest

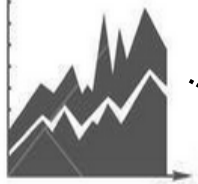
- Issuing started 1.12.2014
- Pre-registration:
  - 5 000 pre-registered e-residents with first 24 hours
  - 18 000 in a waiting list (from168 different countries)
- Over 2500 applications in first 6 months
- Main interests
  - Bringing business to Estonia
  - It’s cool, early adopter of new technology
- Since may 2015 – application process online
  - https://apply.e-estonia.com/

e-Residency

BORDERLESS DIGITAL SERVICES

Private sector e-Services

- ✓ Banking
- ✓ Telekom
- ✓ eID start-ups



Open platform

- ✓ Startup platform
- ✓ ERP integration
- ✓ Government as a Service

Built-in Transparency

- ✓ Real-time economy
- ✓ Open data governance
- ✓ Inquiry notifications

e-Residency Community

- ✓ e-Estonian friends club
- ✓ Community of engineers
- ✓ Community of corporations

Hassle-free e-Government

- ✓ Incorporation & Management
- ✓ Tax & Customs
- ✓ Healthcare & Insurance

Access anywhere

- ✓ Smart ID card
- ✓ Mobile ID
- ✓ NFC devices

Digital Identity by Government

- ✓ Authentification
- ✓ Digital signing
- ✓ Encrypted file-sharing

User-centric security

- ✓ Encrypted data exchange layer
- ✓ Distributed data embassies
- ✓ Central reinforcement

www.e-estonia.com

Go and check *e*-Estonia out yourself!

~The~
~End~