

E-society as foundation for personalised medicine

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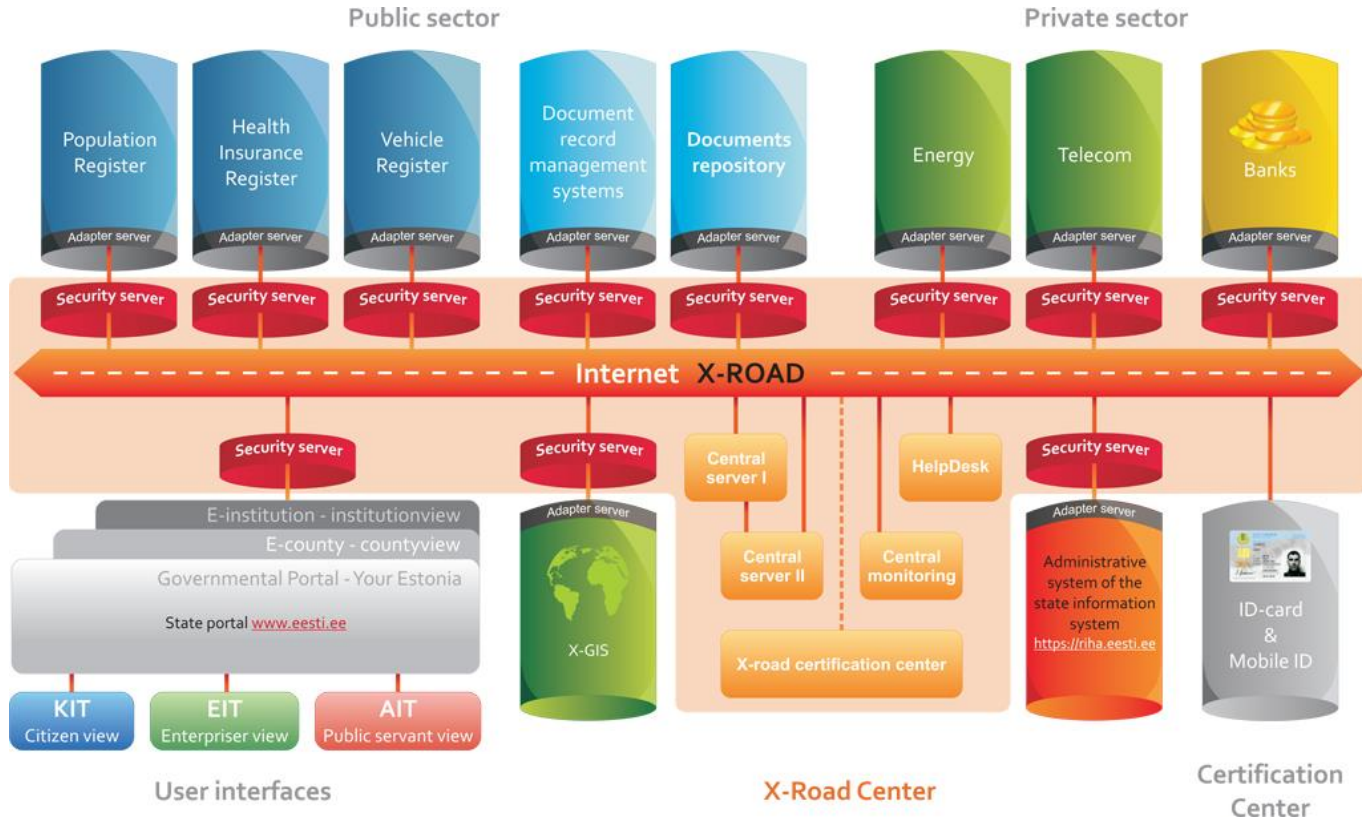
estonian genome center
university of tartu

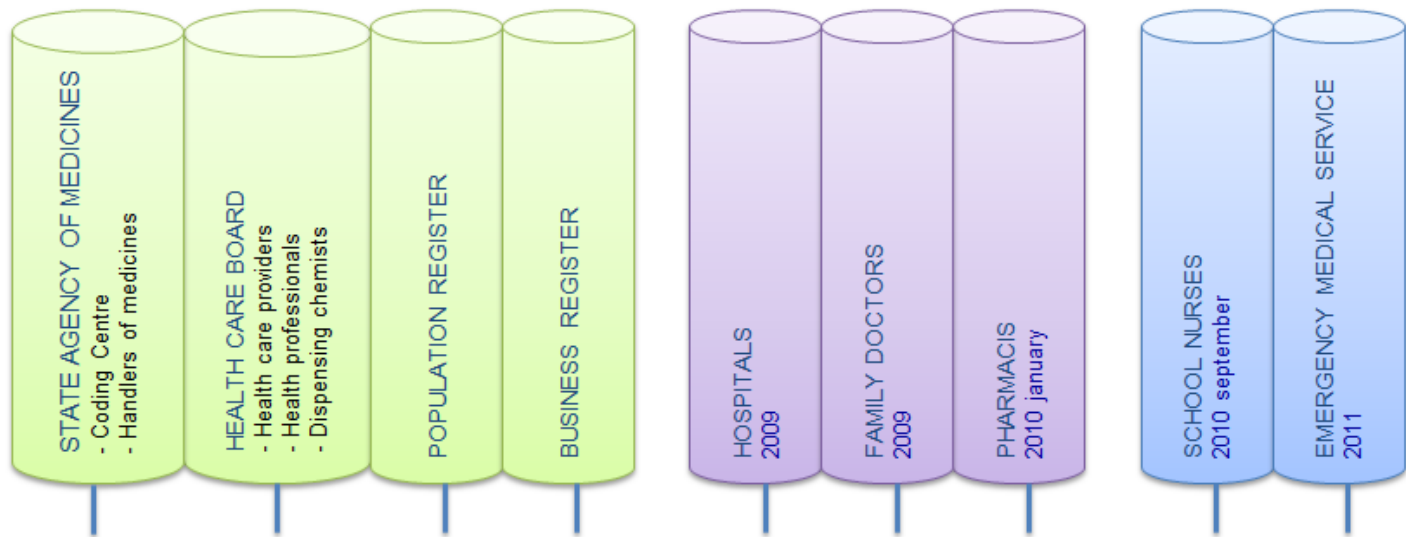
Estonian E-services

- 99% of bank transfers are performed electronically
- 94% of income tax declarations made via the e-Tax Board
- 30,5% of votes were cast over the internet on 2015
- 62% persons have completed the e-census 2012
- 2000: Launch of e-Tax Board
- 2000: Launch of m-Parking
- 2002 : Introduction of national electronic ID-Card
- 2005: i-Voting was introduced
- 2007: Introduction of m-ID
- 2007: Launch of e-Police system
- 2008: Launch of e-Health system
- 2010: Launch of e-Prescription
- 2012: e-census
- 2014: e-residency

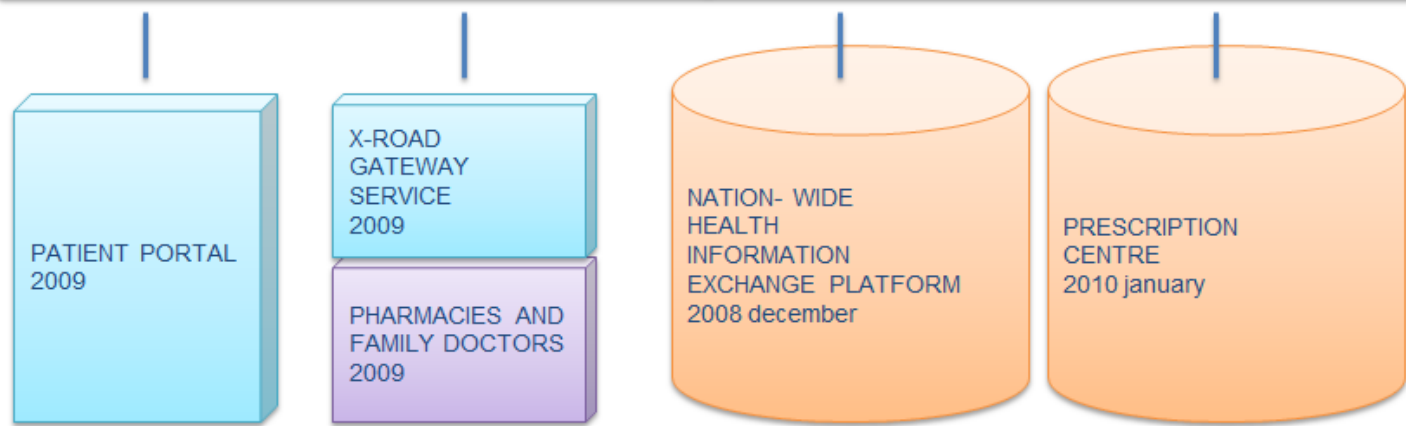


Estonian information system





X-Road, ID-card, State IS Service Register



The Estonian ID card

- The ID card is a **mandatory** ID document for all Estonian residents from the age of 15
 - Estonia has been issuing electronic ID cards from January 1st 2002
- Enables secure digital authentication and signing
- A digital signature has the same legal consequences as a handwritten signature
- Does not have any additional information
 - No bank account, no health information etc.
- Active cards: **1 258 358** (28.10.2015)
 - Estonian Population 1 286 540 (census 01.01.2013)



National Patient Portal

The screenshot displays the National Patient Portal interface with several functional tiles:

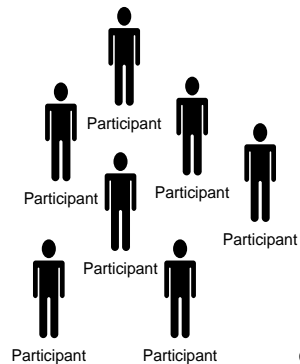
- Minu andmed**: Personal health information tile showing ID number 14212128025, status **KINDLUSTATUD**, and primary care physician **Perearst: Nimi ja perenimi**. Includes an **Ava** button.
- Terviseandmed**: Health records tile with a logo and a list of services: **Saatekirjad**, **Uuringute vastused**, **Epikriisid**, **Diagnoosid**, **Terviseteatis**, **Vaktsineerimise pass**, and **Raviarved**. Includes a refresh icon.
- Tahteavaldused**: Advance directives tile with a lock icon.
- Esindatavad**: Representative list tile showing names and ID numbers: **KATY CUUSK** (45002280288), **CARL KUUSK** (34908027790), **JANEC CUUSK** (39107077773), and **JANEC CUUSK** (39107077773). Includes a refresh icon.
- Uuringud ja analüüsid**: Tests and analyses tile with sub-sections **Uuringute vastused** and **Analüüside vastused**, and a landscape image. Includes a refresh icon.
- Vakneerimine**: Vaccination tile with a refresh icon.
- Esindajad**: Representative tile showing **KATY CUUSK**.
- Retseptid**: Prescriptions tile with a refresh icon.
- Broneeri vastuvõtu aeg**: Book appointment tile with a refresh icon.

A callout box with a green border is overlaid on the right side, containing the text:

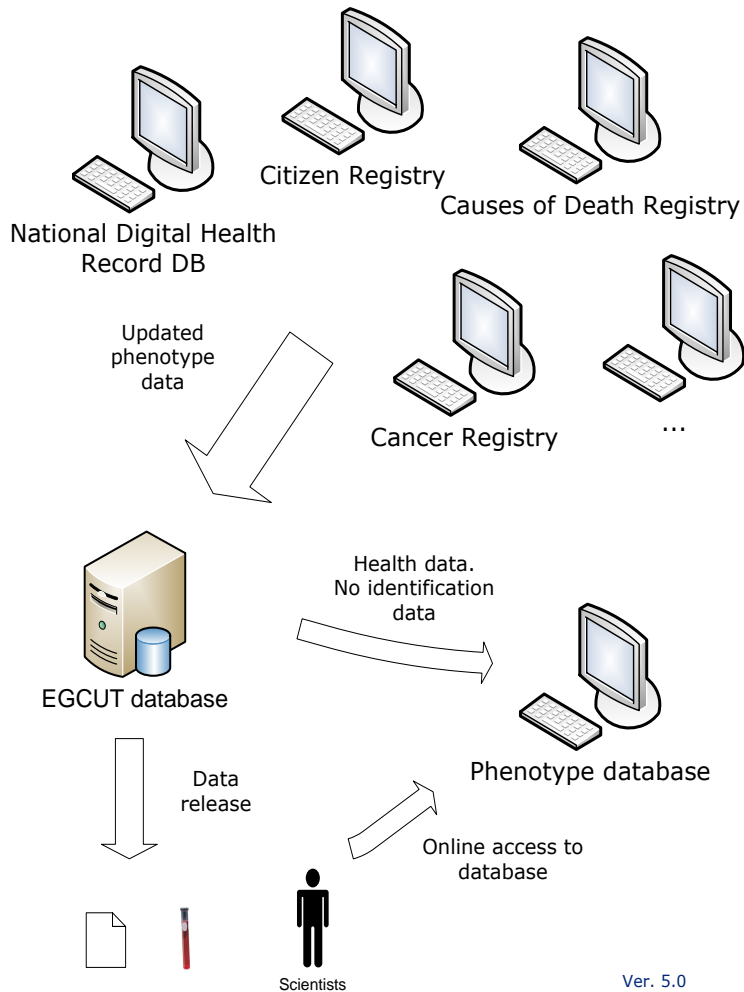
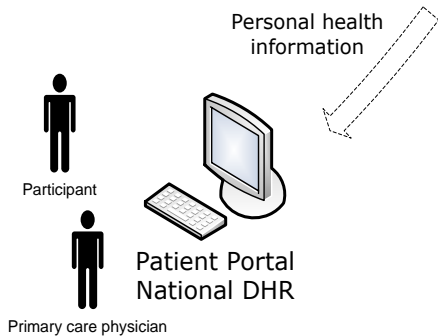
Genomic information

To be added...

Estonian Genome Center, UT IS 2011-2015



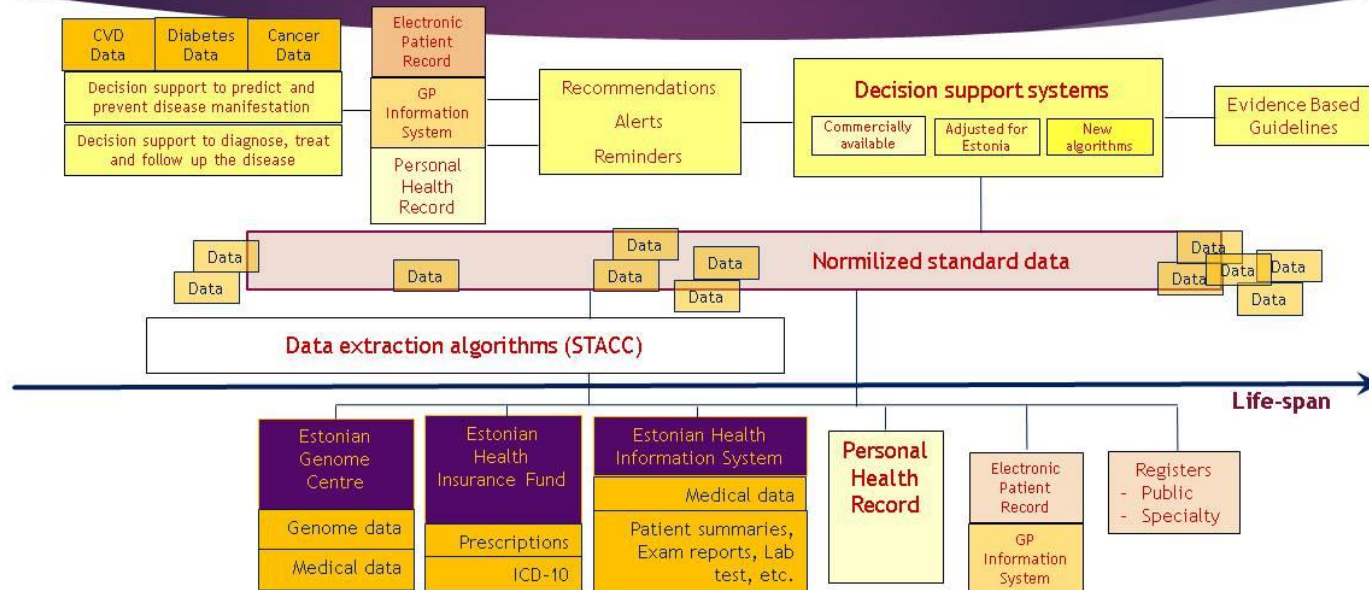
Additional questions.
Timeline data



Digital Decision Support Pilot

Personaalmehitsiini rakendamiseks digitaalsete otsustustoe lahenduste arendusuuring.

Feasibility study for the implementation of decision support systems in personalized medicine



e-Residency

- The Republic of Estonia is the first country to offer e-Residency — a transnational digital identity available to anyone in the world interested in administering a location-independent business online
 - <https://e-estonia.com/e-residents/about/>



Estonia as e-society pilot

- 98% of population has government-issued digital identity
 - Fast growing e-residency
- One universal national identification code
 - Registries and databases use same code to uniquely identify persons
- Simple and secure national framework X-road for data exchange
- People have and expect mature e-services
 - Healthcare technology and services one of three priority areas
- High public acceptance and trust
 - No public incidents or misuses (13 years)



President Barack Obama

03.09.14 in Tallinn:

- „ ... With their digital IDs, Estonians can use their smart phones to get just about anything done online — from their children’s grades to their health records. **I should have called the Estonians when we were setting up our health care website“**



Thank you!

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