City of Tallinn's Roadmap to Process Automation and e-Services

Tallinn

Martin Männil

CIO of the City of Tallinn

City of Tallinn

Area
159 m^2

Population
441 245

Budget
787 ml €

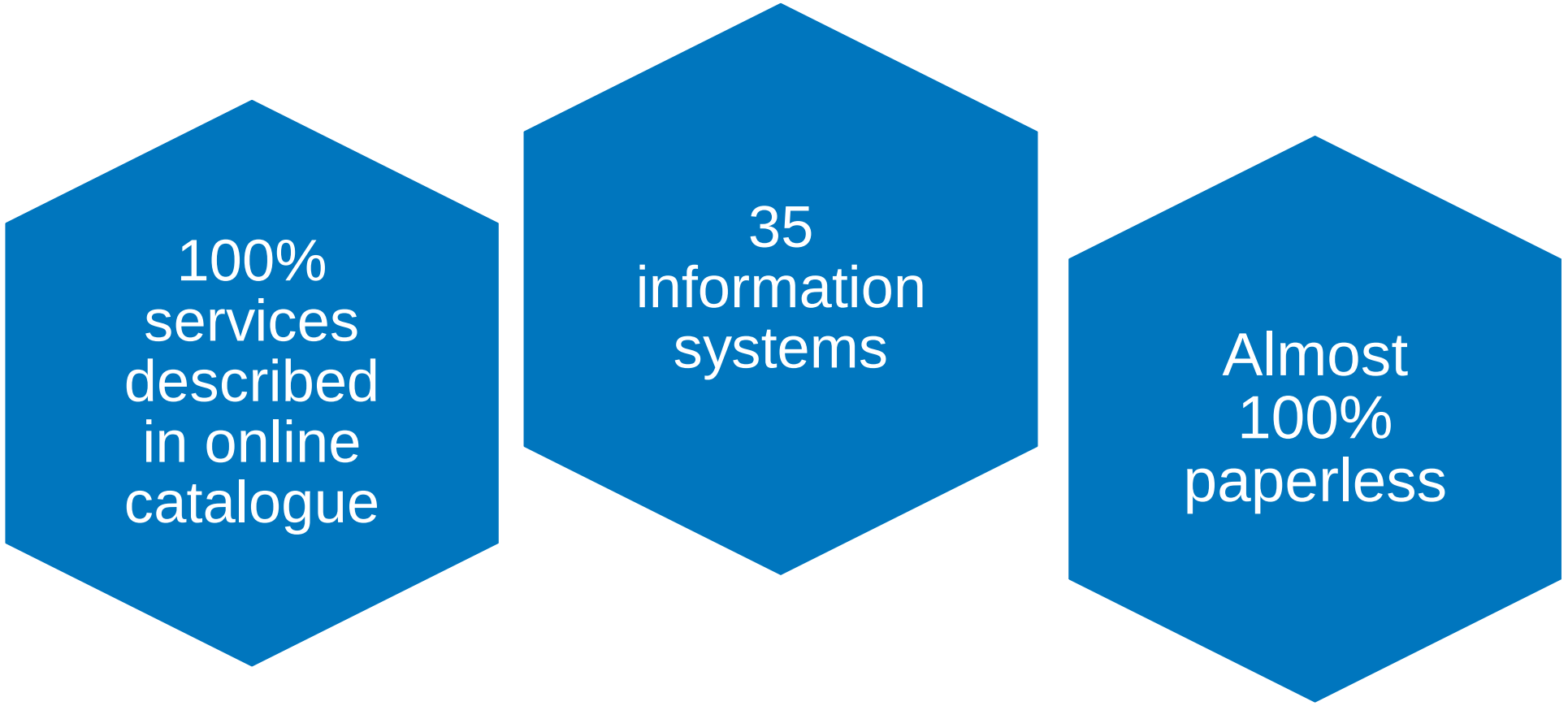
21 000
employees in
total

City
administration
1 500

ICT
department
35

The most advanced digital society in the world

Source: CNBC



Development principles

- Service design and process analysis
- Legal groundwork, GDPR and open data
- Interoperability
- Minimal data from the end-users
- Secure authentification
- GIS component
- User interface guidelines - UIG

Social transport service information system

- Open 24/7, comfortable and swift channel for people with disablities to organize their everyday need for transport more efficiently.
- Faster and better planning system for city officials and logistic companies to offer improved service.
- System can be taken into use by all local governments in Estonia.

Service design and process analysis

Process analysis and customer research is the first and most important step

Social transport IS:

- Described customer journeys
- Service process as-is and to-be
- Minimized input from client
- 100% digitalized

Legal groundwork

- RIHA – state and local information systems' catalogue
- Information system statute with detailed system description
- GDPR
- Data security is provided by using compulsory ISKE standards

ID – card

- State issued digital identity
- The chip on the card carries embedded files, and using 2048-bit public key encryption, it can be used as definitive proof of ID in electronic environment
- Mobile-ID allows people to utilize a mobile phone as a form of secure digital ID

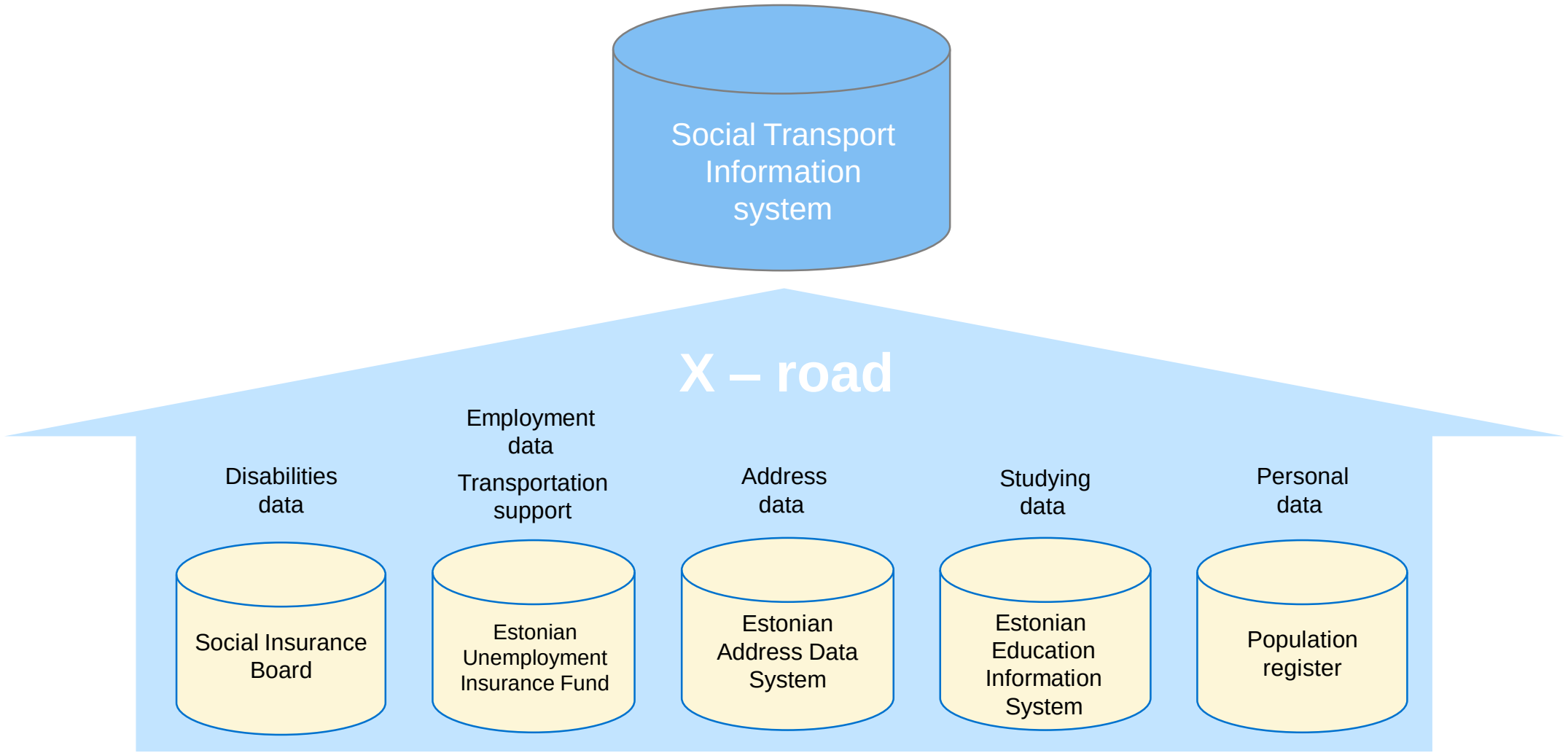
Interoperability

- Most of the e-services are provided by using some data from the state systems: e.g *Population Register, E-Business Register, Land Register* etc
- Local information systems make necessary real-time queries to state systems through X-road
- The city information systems only collect and store a minimum amount of data from the state systems

X-road

- Technological and organizational environment enabling a secure Internet-based data exchange between information systems
  - authentication,
  - high-level system for processing logs,
  - data traffic that is encrypted and signed
- Over 1000 organizations and enterprises in Estonia use X-road daily

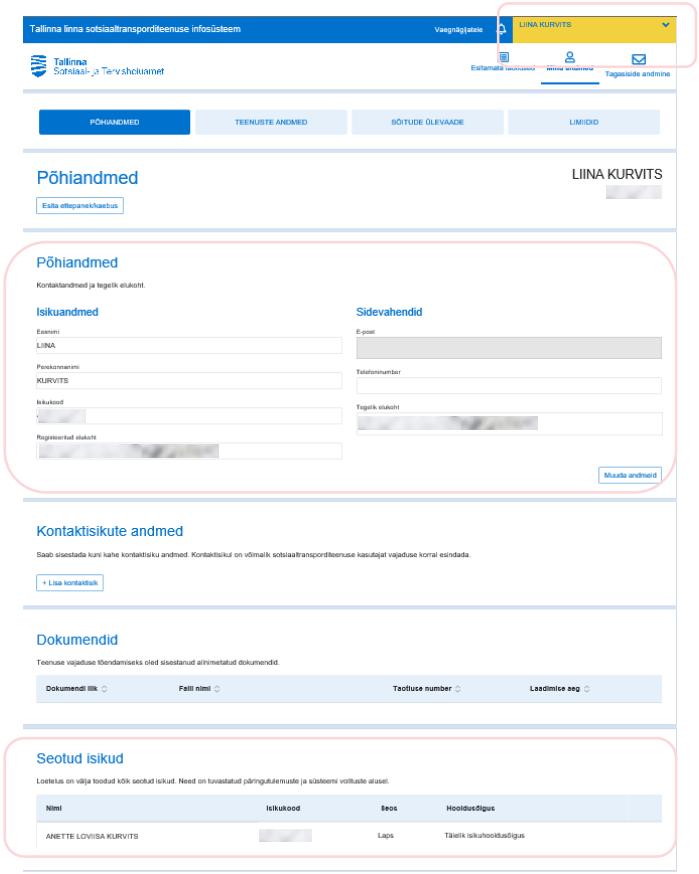
Data Exchange partners



What e-service really means

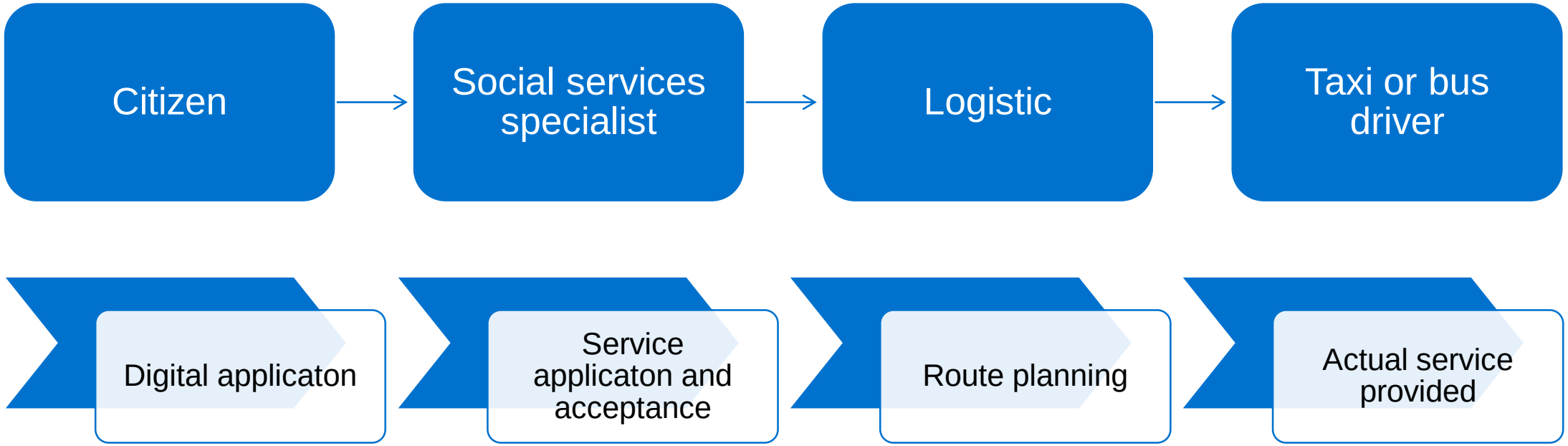
Tallinn

Minimum data from the end-users

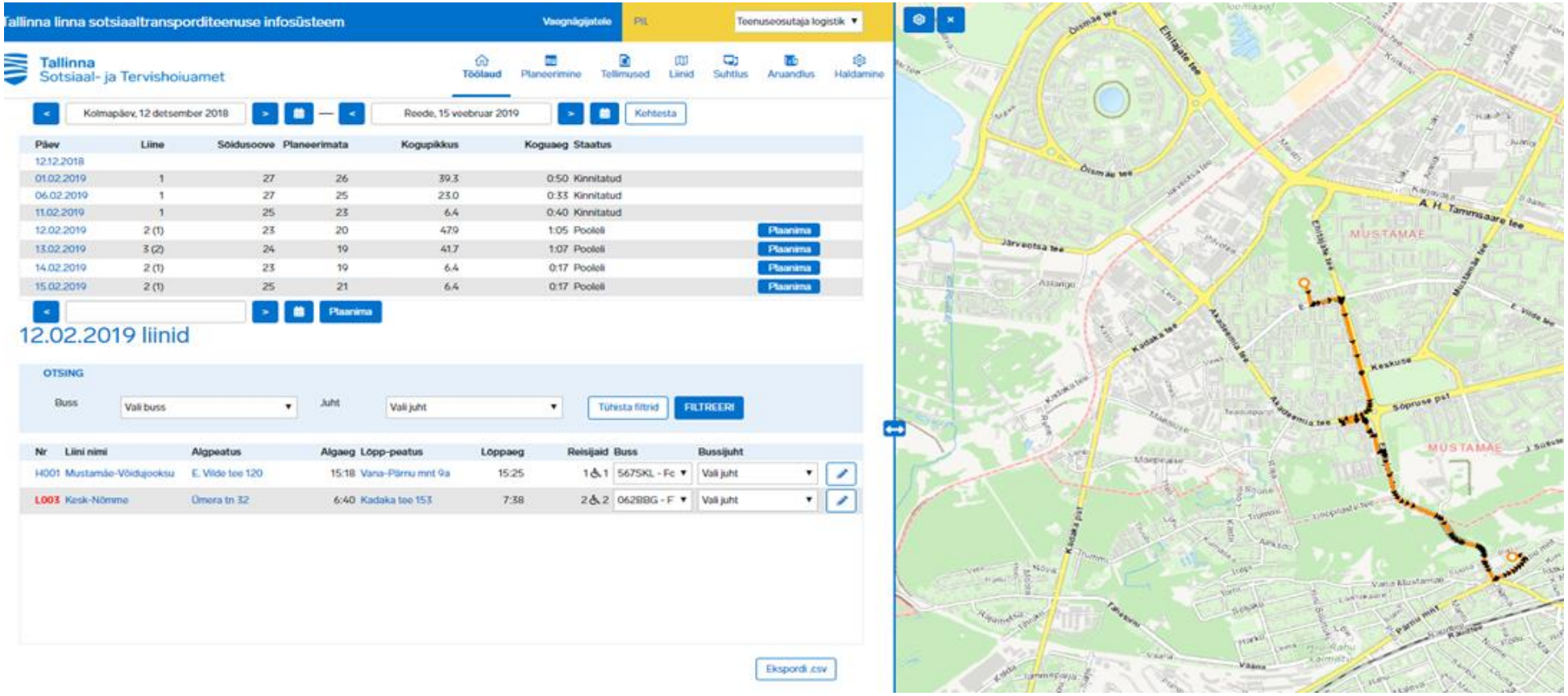


- Data from *Population Register, Education Register, Address Register ect.*
- Prefilled application
- The city information systems only collect and store minimum data from the state systems

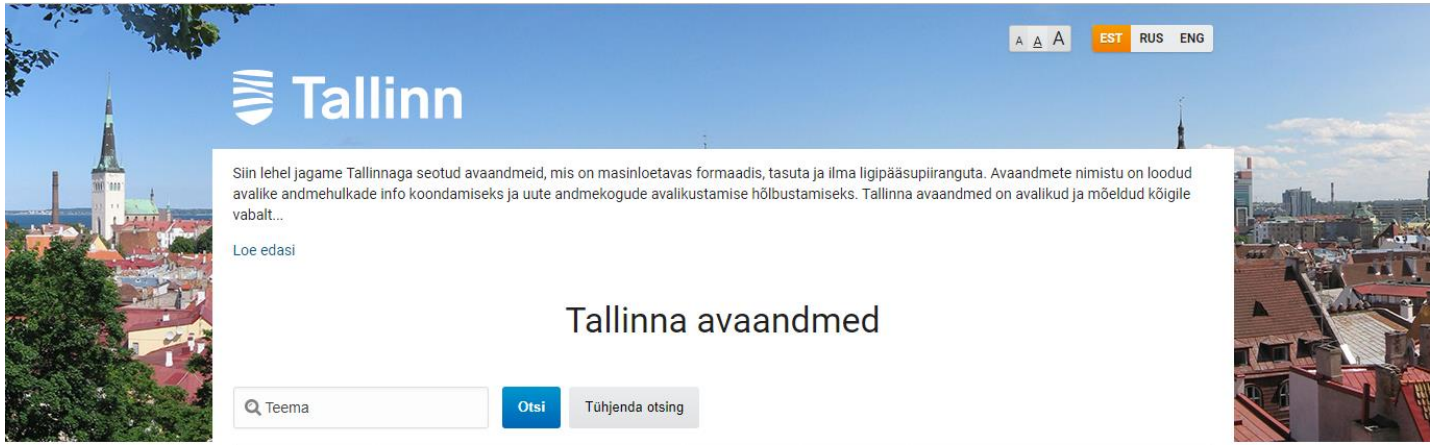
Process is 100% digital, whole process and documentation within the same system



GIS component



Open data



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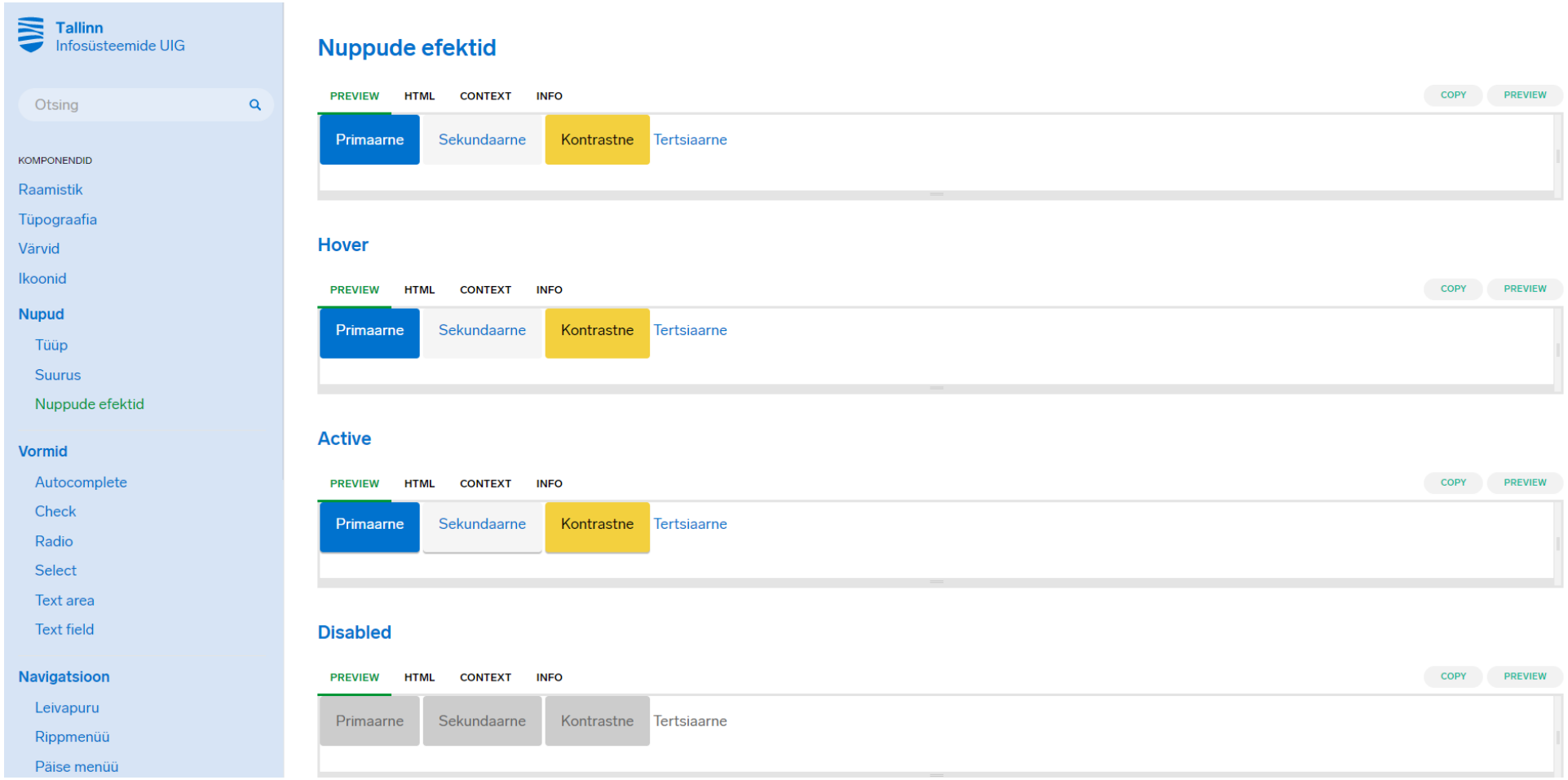
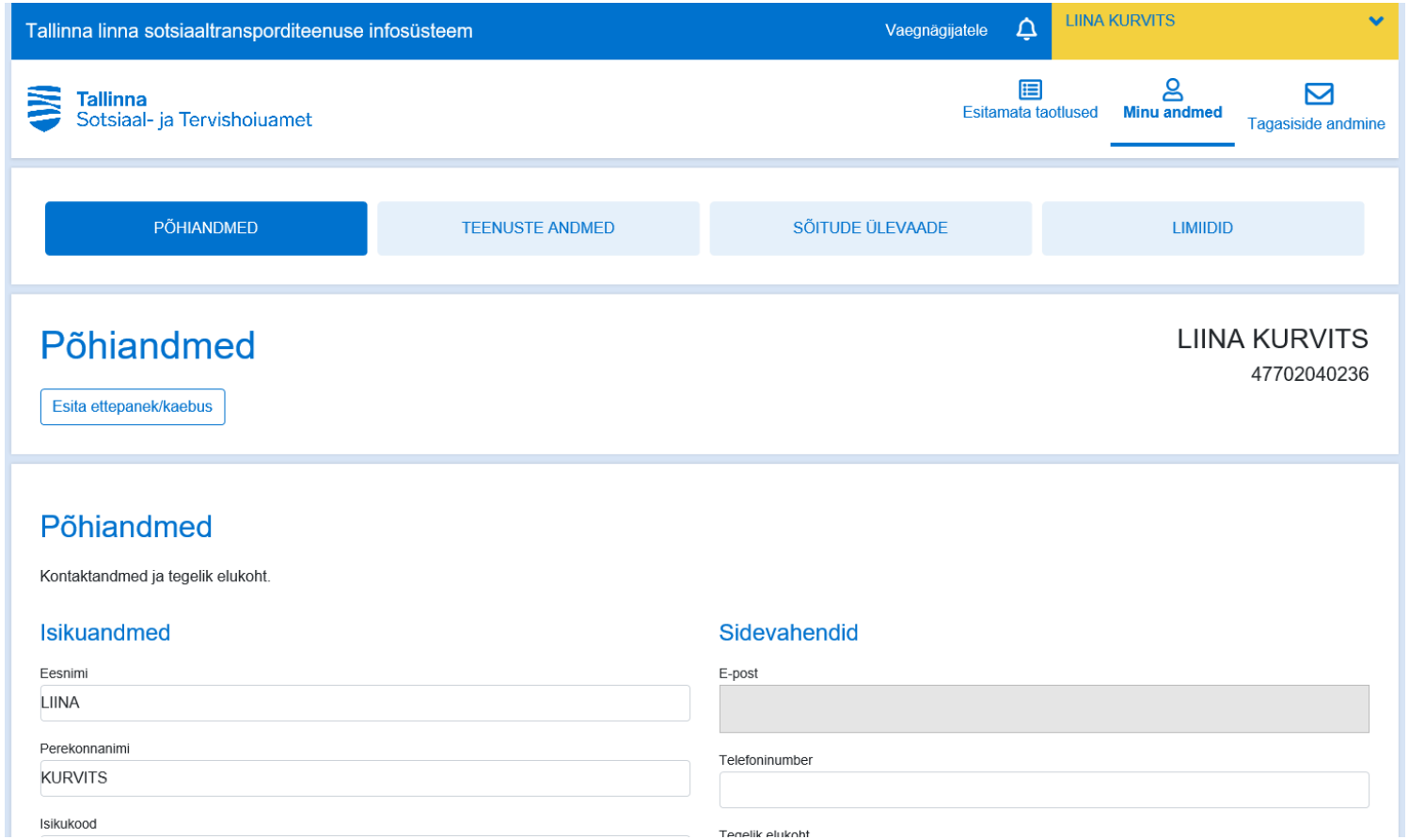
User interface guidelines (1)



User interface guidelines (2)



Tallinnovations for future

- zero-bureaucracy - invisible services
- cross-border digital governance
- focus on cyber security for cities
- real-time economy and predictive analytics
- AI Strategy and 5G action plan

Thank you!

Tallinn

Martin Männil

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MOSCOW: SMART CITY

Shutenko Oleg
Deputy Minister, Department for external Economic and International Relations of Moscow

MOSCOW DIGITAL CITY

2 500 km²
area

12,5 mln
citizens

2 000
public institutions

+ **80%**
use smartphones

+ **73%**
use online services

+ **61%**
making online payments everyday

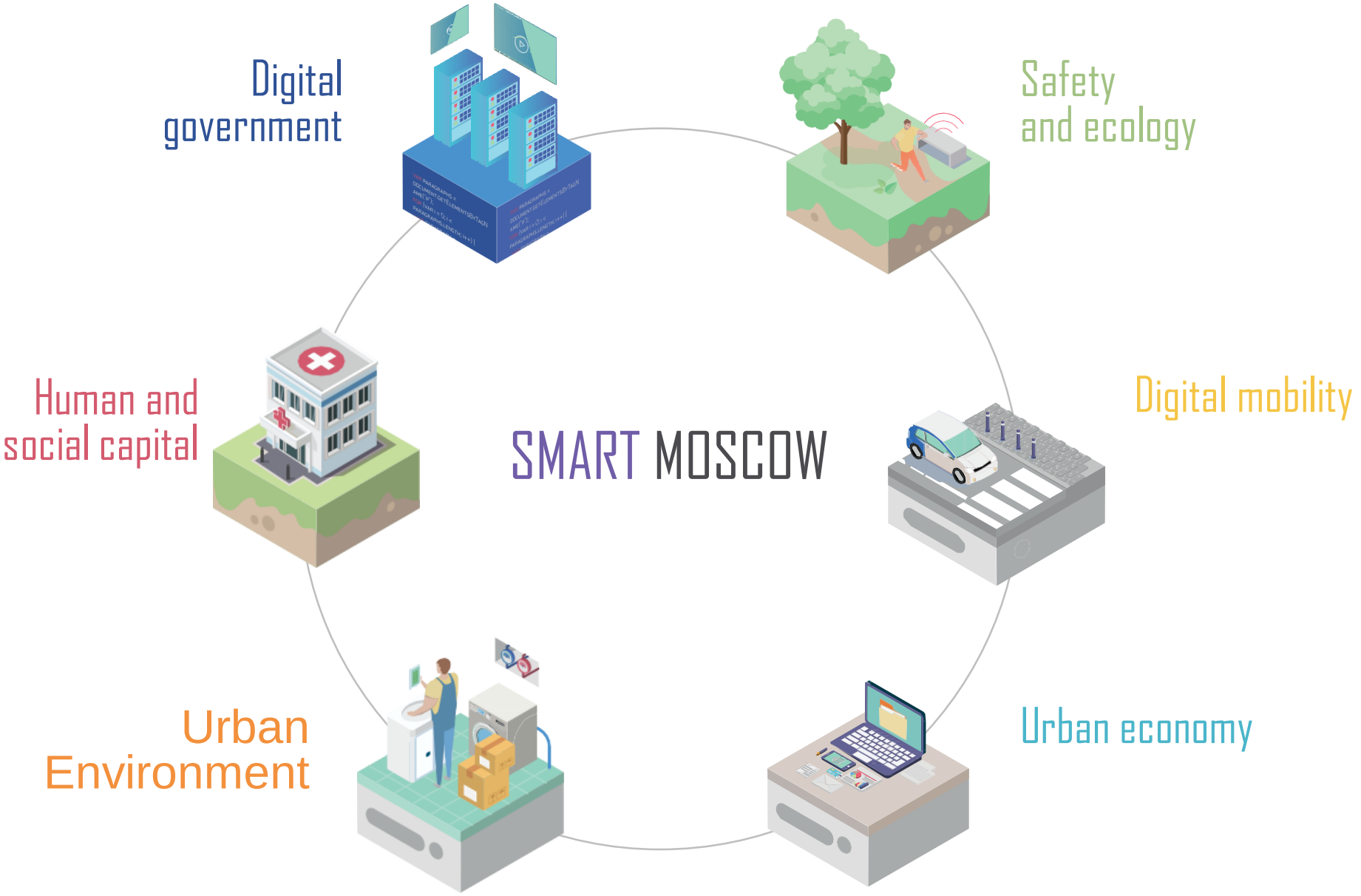
99% of territory covered by
4G at 7+ mbs

23 Mbit/s
Average speed of mobile internet

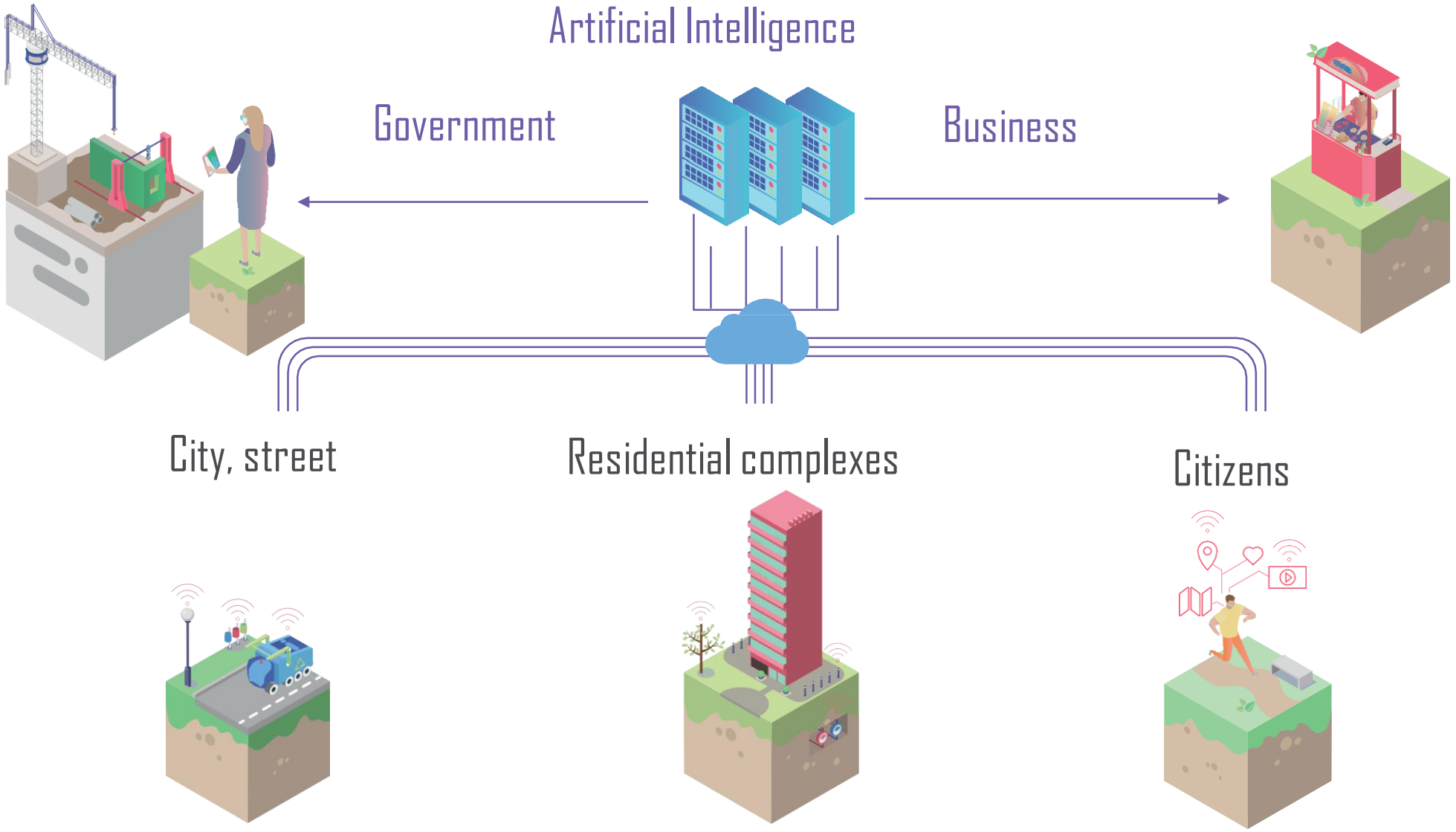
330 km
Free Wi-Fi in metro

15.5 km²
Free Wi-Fi in city center

1 100
Free public hotspots

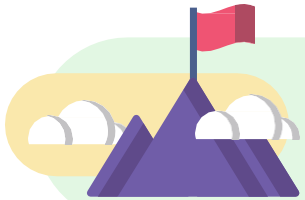

Digital government
Safety and ecology
Human and social capital
SMART MOSCOW
Digital mobility
Urban Environment
Urban economy

DIGITAL GOVERNMENT



HUMAN AND SOCIAL CAPITAL

Moscow electronic school and Uniform medical information and analytical system (EMIAS)



RESULTS

15% increase of schools performance

$ 38 mln UMIAS saves annually

35 000
lessons scenarios online

100%
of schools equipped by gadgets

500 mln
appointments to the doctor

9 mln
online medical records

FACTS

URBAN ENVIRONMENT

E-services for online interaction between citizens and city government authorities – Active Citizen, E-government, portal "My city"

RESULTS

100 mln hours of citizens personal time saved

95% of online services users are satisfied by service quality

260 online services

10 mobile apps

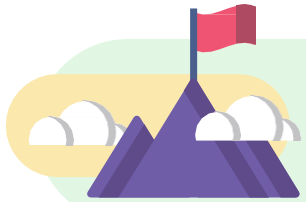
8,5 mln users

30 000 services every hour

FACTS

SAFETY

Intelligent video surveillance systems



RESULTS

3 000
crimes were detected by camera footage

by 25%
time of response to incidents reduces

160 000
cameras

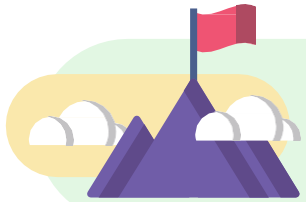
3 500
police officers

24/7
control over city

FACTS

DIGITAL MOBILITY

Intelligent transport system (ITS) – system of fixed and telescopic traffic cameras, mobile surveillance stations and road network sensors



RESULTS

16% increase in the average traffic speed

59% reduction in traffic accidents

34% reduction in road fatalities

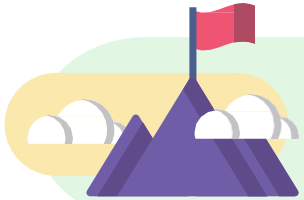
40 000
traffic lights

2 060
CCTV cameras

3 700
detectors

1 950
photo & video recorders

FACTS



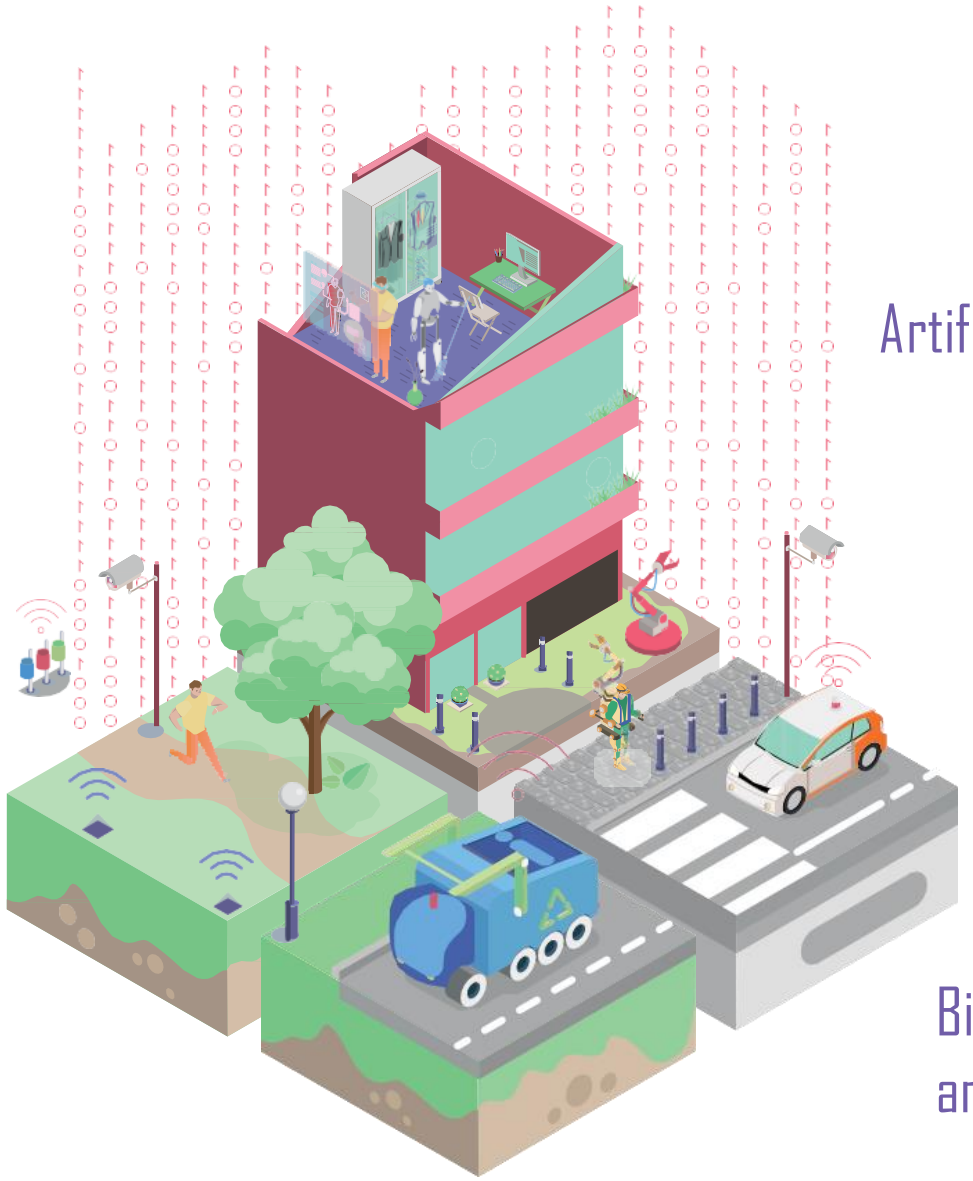
ACHIEVEMENTS

1st place	eastern European cities of the future
1st place	integrated development of transport system (UITP)
1st place	organization of paid parking space (TOMTOM)
1st place	organization of urban transport system (Sus-tainable transport Award)
1st place	UN E-government survey
special award	provision of state services in electronic form (WeGo)
TOP-5	attractive European cities for the investors (Financial Times)
TOP-5	city ready for future technologies (PwC)

FUTURE OF SMART MOSCOW

5G technologies

Artificial Intelligence



Internet of things

3D printing

Neural interface

Blockchain

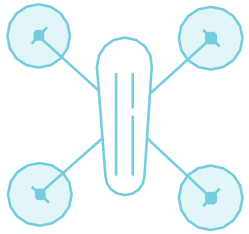
VR, mixed and augmented reality

Big Data and predictive analytics

5G TECHNOLOGIES IN MOSCOW

Internet of things

Telemedicine



Transport

VR/AR

Safety

Smart city digital architecture

Customers and interfaces

Services

Data

Infrastructure

High data rate

10-20 Gbit / s

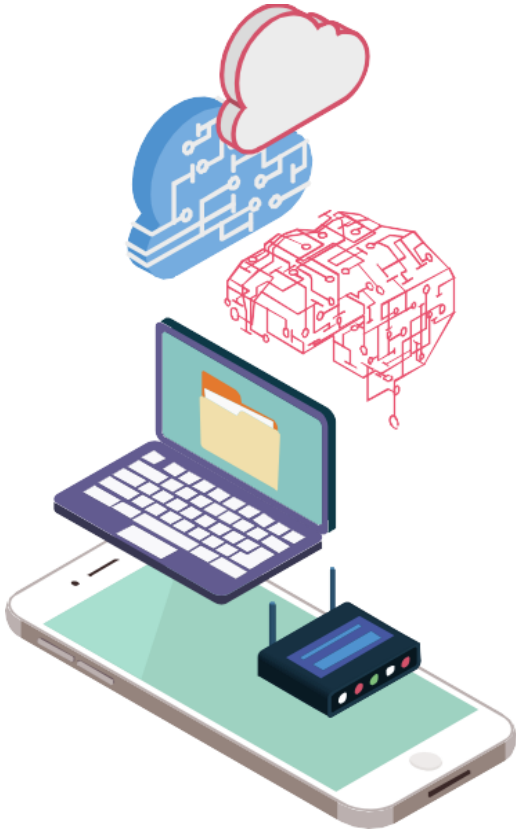
Minimum signal delay

1-5 Milliseconds

High network capacity

Up to 1 mln devices per km^2

5G TECHNOLOGIES IN MOSCOW



High data rate

10-20 Gbit / s

Minimum signal delay

1-5 Milliseconds

High network capacity

Up to 1 mln devices per km^2

Russia's firs pilot 5G zone

Live broadcast of the FIFA 2018 Football World Cup in VR format

Telemedicine

Technologies of remote ultrasound and genetic analysis in 5G network