

Digital Tallinn 2023



Tallinn

Martin Männil
City of Tallinn



Hanseatic town,
Lübeck rights
since 1248

city
administration
1 500 employees

1000+ startups,
24 enterprises
per 100
residents

population
450 000,
area
159 m²

Fitch AA-stable,
½ of the
country's GDP

budget
1+ bn €

Tallinn 2020-22 awards and recognition

TALLINN
INTELLIGENT
COMMUNITY OF THE YEAR
2020 ICF



31 Tallinn ranked 12th among the 50
smartest cities in the world

Today, Eden Strategy Institute held a web conference to announce the "Top 50 Smart City Governments 2020/2021" ranking of the world's smart cities, in which Tallinn is placed on the 12th position.



Tallinn ranks in top for digital nomads and family living in 2021

Big 7 Travel, with more than 2.5 million social audience, have just recently ranked Tallinn as number 1 destination for digital nomads in 2021.



13 Nice to see Tallinn in Startup Heatmap
Europe Top 10

Tallinn is the 9th most trusted among 75 European startup hubs



United Nations

Department of Economic and Social Affairs

**E-Government
Survey 2022**

HOME OF INNOVATIONS



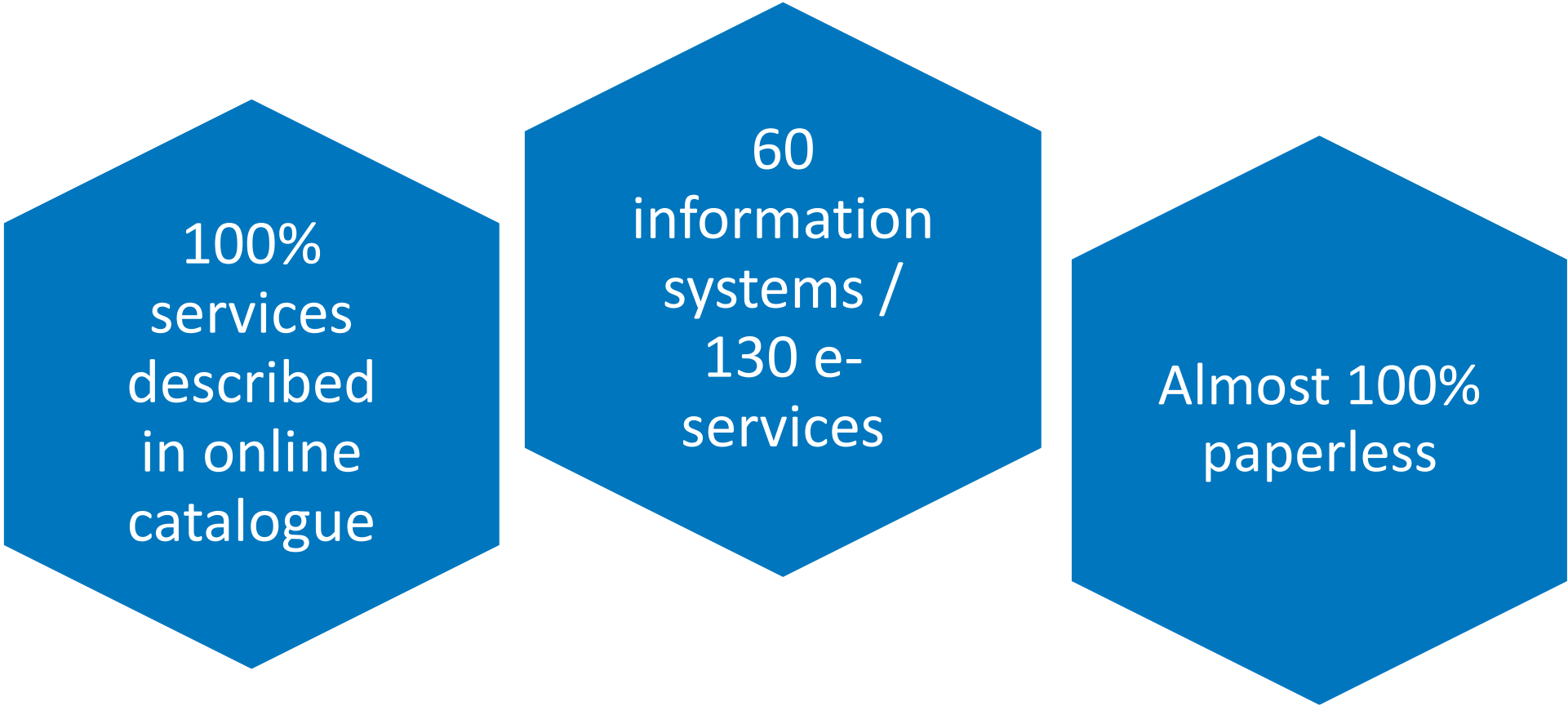
VERIFF



RIDANGO

The most advanced digital society in the world

Source: CNBC



100%
services
described
in online
catalogue

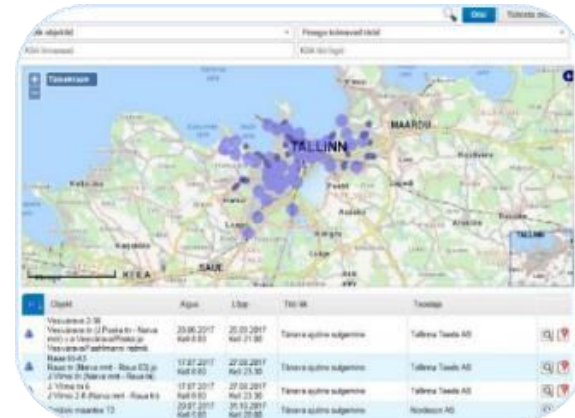
60
information
systems /
130 e-
services

Almost 100%
paperless

TALLINN E-GOVERNANCE



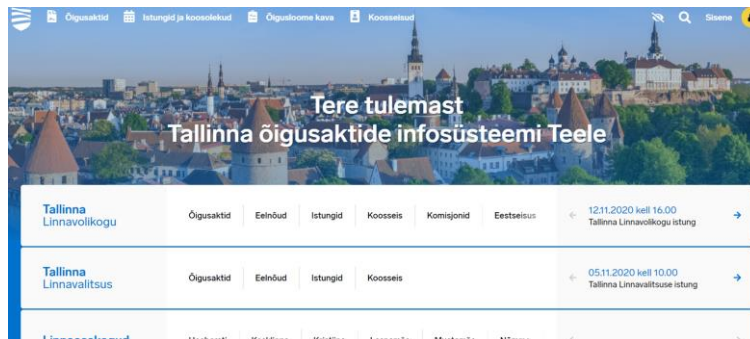
Tallinn Planning Register



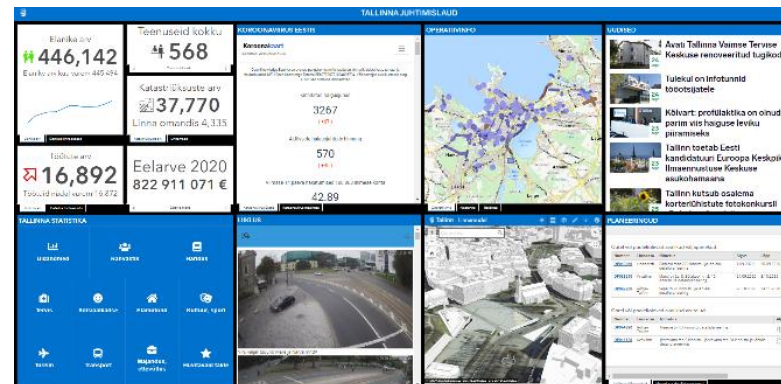
Operational Information System



Parking management



Tallinn City e-democracy solutions



Tallinn Dashboard



Tallinn 3D

Scope of IT-services (1)

- E-services and process mgmt systems
 - 60 information systems
 - 130+ interactive e-services
- Platform services
 - Server administration, networks, identity mgmt
 - Information and data security
- Workplace services
 - 14 600 workplaces

Scope of IT-services (2)

- GIS & 3D
 - maps, models, applications
- Big Data
 - data integration & analysis
 - sensor data
 - Dashboards
 - ML/AI (2023)
- Data Protection Officer
- UX designer

Development principles

- service design, process analysis, UX design
- legal groundwork: RIHA, GDPR, ISO27001 (E-ITS)
- secure authentication & digital signature (ID-card)
- interoperability (x-road), domain driven design
- GIS component
- open data, accessibility, citizen engagement
- user interface guidelines

Failures

- unsustainable innovation projects (Kalaranna street)
- long and overcomplicated processes (Tallinn Planning Register)

Thank you!



Martin Männil

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Social transport service information system

- Open 24/7, comfortable and swift channel for people with disabilities 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.

Clearly defined roles

Process owner - business

Product owner - IT

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
 - 850 organisations are users
 - More than 2300 systems registered
- Information system statute with detailed system description
- GDPR

Data security is provided by using compulsory ISKE (ISO/IEC 27001) standards

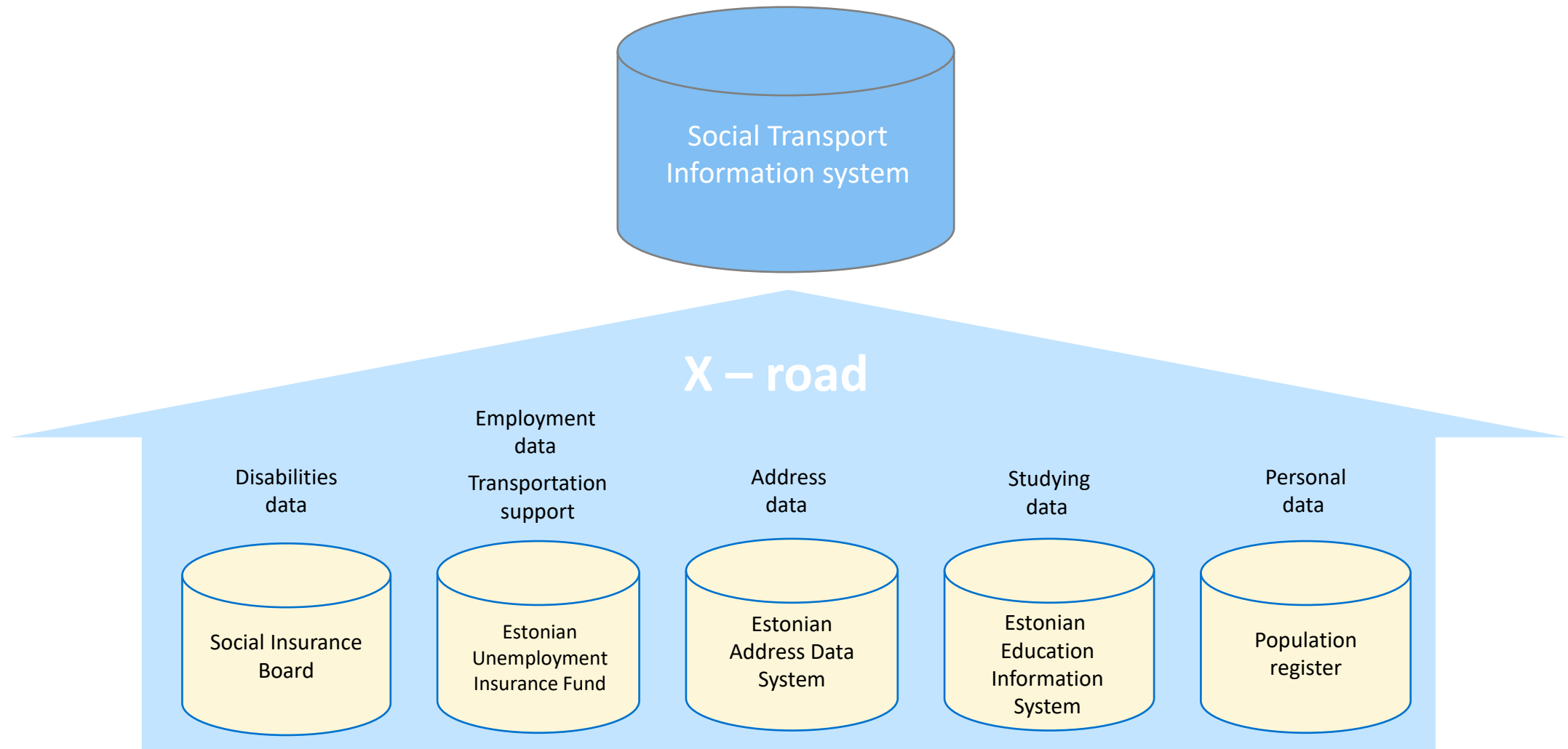
ID – card

- State issued digital identity (authentication and digital signature)
- 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

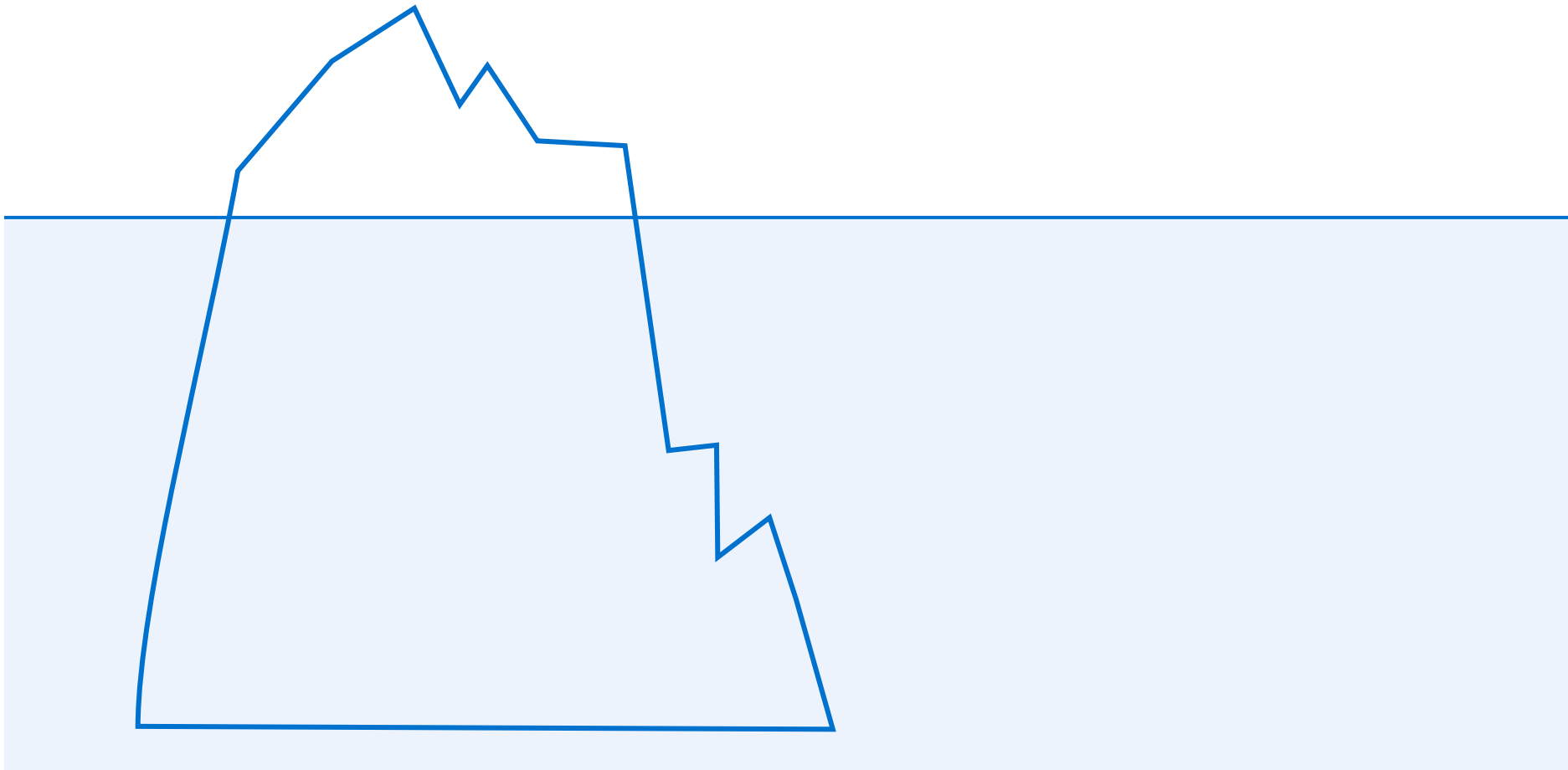
Interoperability

- X-road - technological and organizational environment enabling a secure Internet-based data exchange between information systems (1000+ organizations are using on daily basis).
- 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.

Data Exchange partners



What e-service really means



Minimum data from the end-users

Tallinna linna sotsiaaltasanditeenuse infosüsteem

Vaegsõidajate LIINA KURVITS

Tallinna Sotsiaal- ja Tervishoiuamet

Estimatiivne sotsiaaltasanditeenus

Põhiandmed TEENUSTE ANDMED BÕTUD OLEVADE LIIGID

Põhiandmed LIINA KURVITS

Esita ettepanekkaebus

Põhiandmed

Kontaktandmed ja teie elukoht

Isikuandmed

Eesnimi: LIINA

Perekonnanimi: KURVITS

Isikukood: [redacted]

Registreeritud elukoht: [redacted]

Sidevahendid

E-post: [redacted]

Talifoninumber: [redacted]

Tegelik elukoht: [redacted]

Muuda andmeid

Kontaktisikute andmed

Saad sisestada kuni kahe kontaktisiku andmed. Kontaktisikul on võimalik sotsiaaltasanditeenuse kasutajajärgseks korral esindada.

+ Lisa kontaktisik

Dokumendid

Teenuse vajaduse tõendamiseks on loodud alljärgnevad dokumendid.

Dokumendi liik: [dropdown] Peali nimi: [dropdown] Teotluse number: [dropdown] Loodimise aeg: [dropdown]

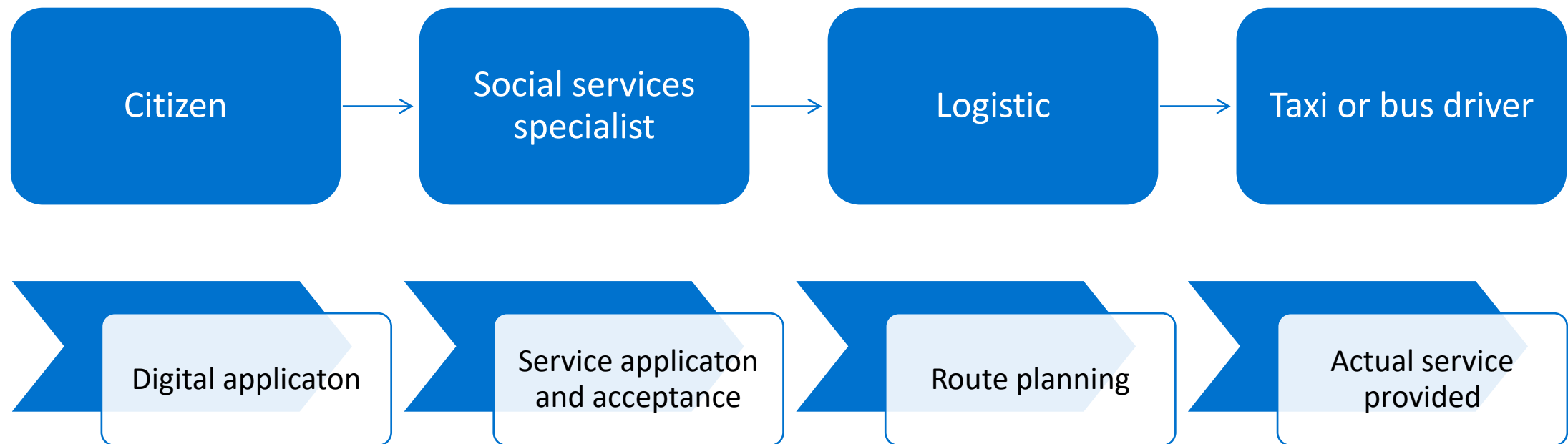
Seotud isikud

Loetelus on välja toodud kõik seotud isikud. Need on tuvastatud päringuteenusel ja süsteemi voiltsuste alusel.

Nimi	Isikukood	Seos	Hoidusdõigus
ANETTE LOVIISA KURVITS	[redacted]	Laps	Täielik isikuhoidusdõigus

- 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

Tallinna linna sotsiaaltransporditeenuse infosüsteem

Vaagnägitabel PII Teenuseosutaja logistik

Tallinna Sotsiaal- ja Tervishoiuamet

Töölaua Planeerimine Tellimused Liinid Suhtlus Anandlus Haldamine

Kolmapäev, 12 detsember 2018 Reede, 15 veebruar 2019 Kehtesta

Päev	Liine	Sõidusoove	Planeerimata	Kogupikkus	Koguaeg	Staatust
12.12.2018						
01.02.2019	1	27	26	39.3	0:50	Kinnitatud
06.02.2019	1	27	25	23.0	0:33	Kinnitatud
11.02.2019	1	25	23	6.4	0:40	Kinnitatud
12.02.2019	2 (1)	23	20	47.9	1:05	Polell
13.02.2019	3 (2)	24	19	41.7	1:07	Polell
14.02.2019	2 (1)	23	19	6.4	0:17	Polell
15.02.2019	2 (1)	25	21	6.4	0:17	Polell

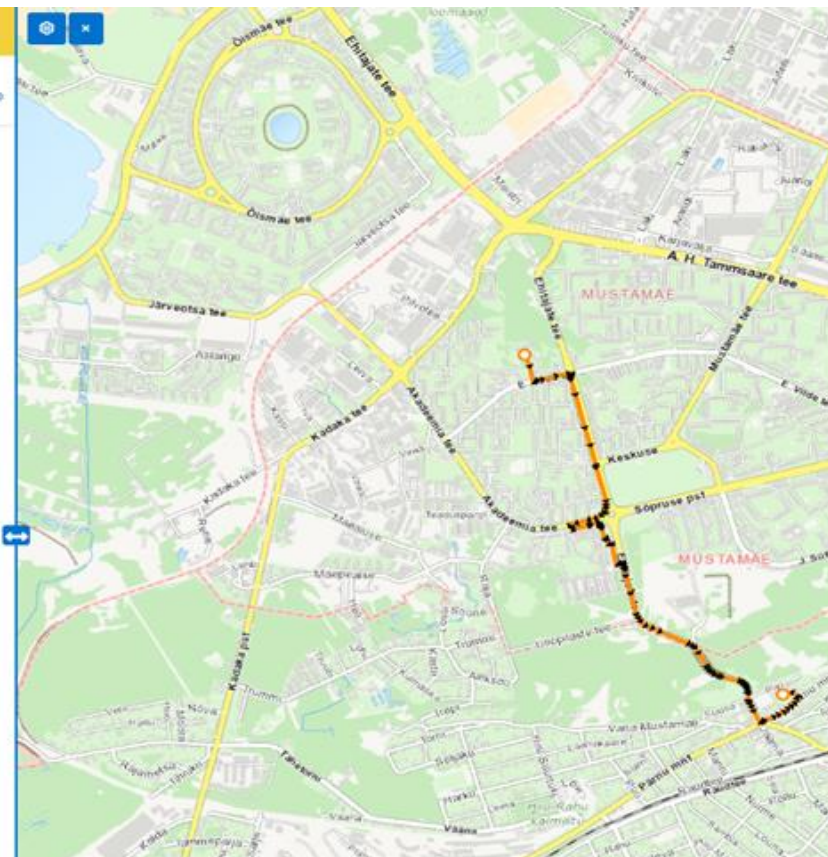
12.02.2019 liinid

OTSING

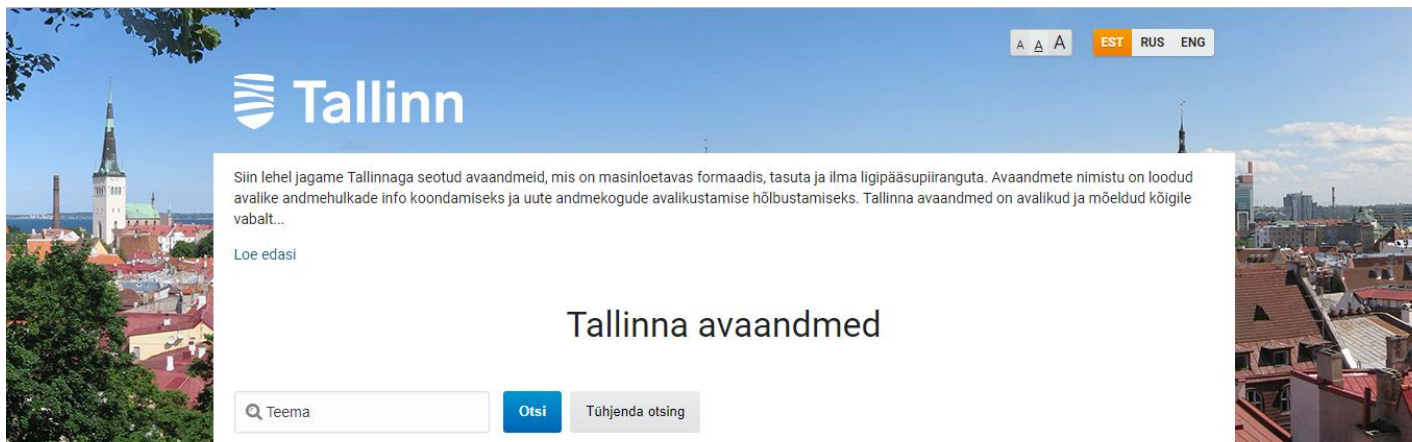
Buss Vali buss Juh Vali juht Tulestafitrid FILTREERI

Nr	Liini nimi	Algpeatust	Algaeg	Lõpp-peatust	Lõppaeg	Reisijaid	Buss	Bussijuht
H001	Mustamäe-Võidjooksu	E. Viide tee 120	15:18	Vana-Pärnu mnt 9a	15:25	1 & 1	567SKL - F	Vali juht
L003	Kesk-Nõmme	Ümera tn 32	6:40	Kadaka tee 153	7:38	2 & 2	062BBG - F	Vali juht

Ekspordi .csv




Open data




The screenshot shows the Tallinn Open Data portal. At the top, there's a header with the Tallinn logo and language options (EST, RUS, ENG). Below the header, a text block explains that the page contains open data from Tallinn, available in machine-readable formats for free. A search bar with the placeholder 'Teema' and buttons 'Otsi' and 'Tühjenda otsing' is present. The main title 'Tallinna avaandmed' is centered. Below it is a table listing various data sets.

Teema ^	Kirjeldus	Vormingud	Uuendamise kuupäev	Lingid
Avalike ürituste load	Jooksva nädalal toimuvad avalikud üritused Tallinnas koos asukohtadega	XML,KML	reaalajas	https://akis.tallinn.ee/kogunemised/xml/23d381ce https://akis.tallinn.ee/kogunemised/kml/23d381ce
Ilutulestike load	Jooksva nädalal toimuvad ilutulestikud koos asukohtadega	XML,KML	reaalajas	https://akis.tallinn.ee/kogunemised/xml/28cef206 https://akis.tallinn.ee/kogunemised/kml/28cef206
Linnaosade trükikaardid	Tallinna Linnaplaneerimise Ameti Geomaatika teenistuse kartograafid on valmistanud 2015 aastal linnosade kaardid. Need on allolevates suurustes ja mõõtkavades ning siit lehelt digitaalselt pdf-ina allalaetavad (failid on suuremahulised). Failide kasutamisel palume kindlasti viidata autorile Tallinna Linnaplaneerimise Amet.	PDF	01.09.2015	http://www.tallinn.ee/est/ehitus/Linnaosade-trukikaardid
Raie load	Kehtivad raie load	XML	reaalajas	http://raie.tallinn.ee/open_xml.php
Services	Tallinn Public Service Database. Tallinna teenuste kataloog inglise keeles	XML	reaalajas	http://www.tallinn.ee/eng/teenused?action=avaandmed
Spordiürituste load	Jooksva nädalal toimuvad suured spordiüritused koos asukohtadega	XML,KML	reaalajas	https://akis.tallinn.ee/kogunemised/xml/32421f85 https://akis.tallinn.ee/kogunemised/kml/32421f85

User interface guidelines (1)

 Tallinn
Infosüsteemide UIG

Otsing 

KOMPONENDID

Raamistik

Tüpoograafia

Värvid

Ikoonid

Nupud

Tüüp

Suurus

Nuppude efektid

Vormid

Autocomplete

Check

Radio

Select

Text area

Text field

Navigatsioon

Leivapuru

Rippmenüü

Päise menüü

Nuppude efektid

PREVIEW HTML CONTEXT INFO

COPY PREVIEW

Primaarne Sekundaarne Kontrastne Tertsiaarne

Hover

PREVIEW HTML CONTEXT INFO

COPY PREVIEW

Primaarne Sekundaarne Kontrastne Tertsiaarne

Active

PREVIEW HTML CONTEXT INFO

COPY PREVIEW

Primaarne Sekundaarne Kontrastne Tertsiaarne

Disabled

PREVIEW HTML CONTEXT INFO

COPY PREVIEW


Primaarne Sekundaarne Kontrastne Tertsiaarne


User interface guidelines (2)


Tallinna linna sotsiaaltransporditeenuse infosüsteem


Vaegnägijatele

LIINA KURVITS

 Tallinna
Sotsiaal- ja Tervishoiuamet

 Esitamata taotlused

 Minu andmed

 Tagasiside andmine

PÕHIANDMED

TEENUSTE ANDMED

SÕITUDE ÜLEVAADE

LIMIIDID

Põhiandmed

LIINA KURVITS
47702040236

Esita ettepanek/kaebus

Põhiandmed

Kontaktandmed ja tegelik elukoht.

Isikuandmed

Eesnimi
LIINA

Perekonnanimi
KURVITS

Isikukood

Sidevahendid

E-post

Telefoninumber

Tegelik elukoht

Tallinnovations for future

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

Thank you!



Martin Männil

martin.mannil@tallinnlv.ee