



Opportunities and Challenges for Data- Based **Smart City Solutions**

Guna Dātava

Tet New Business Development Manager

IMD Global Smart City Index 2023

- 1 Zurich
- 2 Oslo
- 3 Canberra
- 4 Copenhagen
- 5 Lausanne
- 6 London
- 7 Singapore
- 8 Helsinki
- 9 Geneva
- 10 Stockholm

32
Tallinn

65
Vilnius

83
Riga



Baltic States in Smart City Index 2023



32
Tallinn



65
Vilnius



83
Riga

#32 Tallinn

Human Development Index

Estonia: **0.88** Tallinn: **0.93**

High score

- Online scheduling and tickets for public transport
- Online tickets for culture
- Online voting
- Online document processing
- Online job listing

Medium-low score

- Residents' access to monitoring of air pollution
- Online solutions for available parking spaces
- Bicycle hiring to reduce congestion
- Online public access to city finances

Low score

- Information on traffic congestion via cell phones
- Finding affordable housing considering salary
- Car-sharing that reduces congestion

#65 Vilnius

Human Development Index

Lithuania: **0.88** Vilnius: **0.91**

High score

- Online scheduling and tickets for public transport
- Online tickets for culture
- Online exchange of unwanted items
- Online job listing
- Internet speed, reliability

Medium-low score

- Car-sharing that reduces congestion
- Bicycle hiring to reduce congestion
- Online voting

Low score

- Online public access to city finances
- Finding affordable housing considering salary

#83 Riga

Human Development Index

Latvija: 0.86 Rīga: 0.93

High score

- Internet speed and reliability
- Online tickets for culture and entertainment
- Online job listing

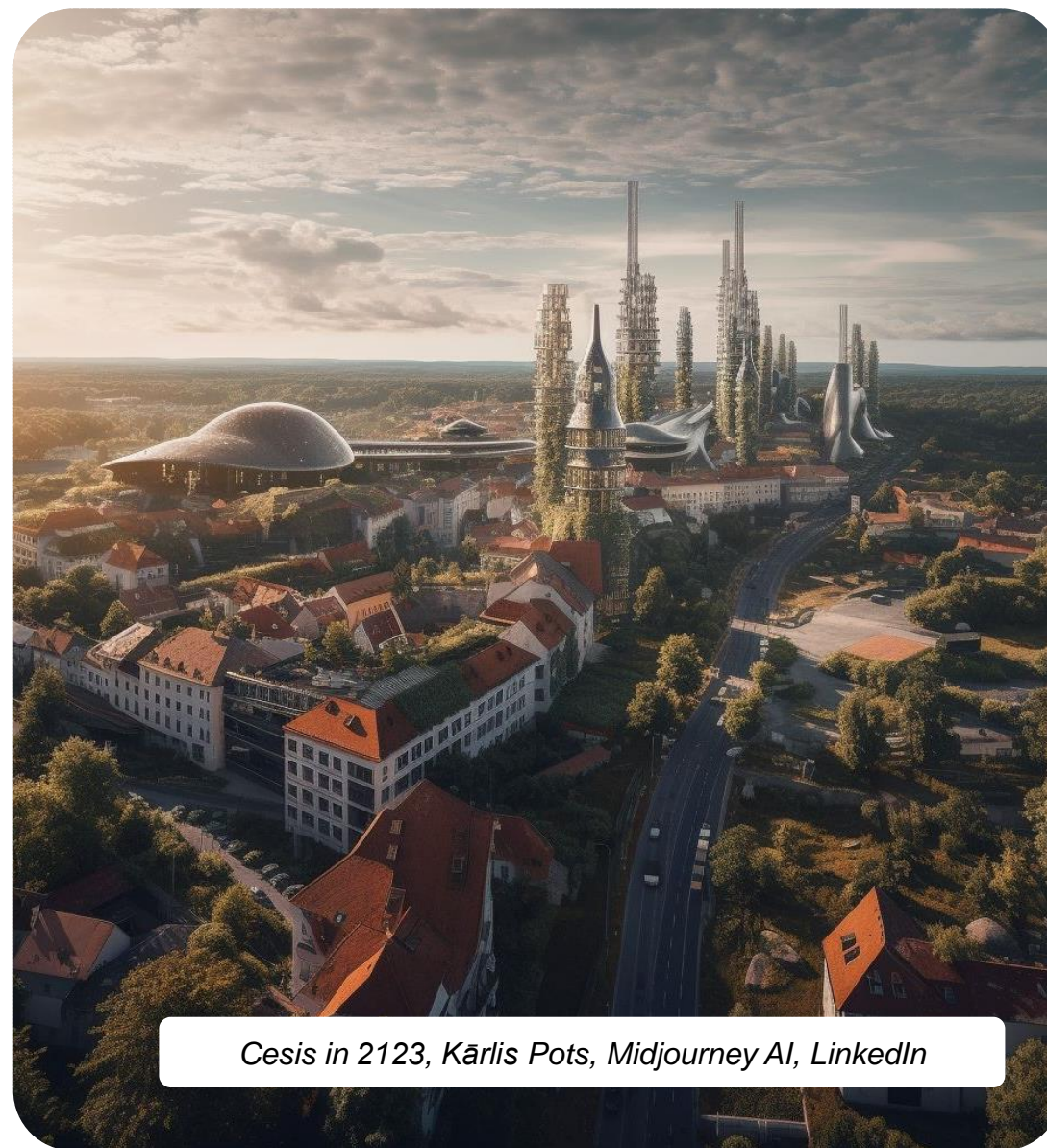
Medium-low score

- Residents' access to monitoring of air pollution
- IT skills at schools
- Online voting
- Online solutions for available parking spaces
- Car-sharing that reduces congestion

Low score

- Online public access to city finances
- Finding affordable housing considering salary
- Information on traffic congestion via cell phones
- Residents' engagement

**Acquiring
knowledge and
skills through
experience**



Cesis in 2123, Kārlis Pots, Midjourney AI, LinkedIn

Systems Thinking Approach



Enablers

High-speed reliable internet and data transfer

Data storage

Cybersecurity and data security

Digital skills

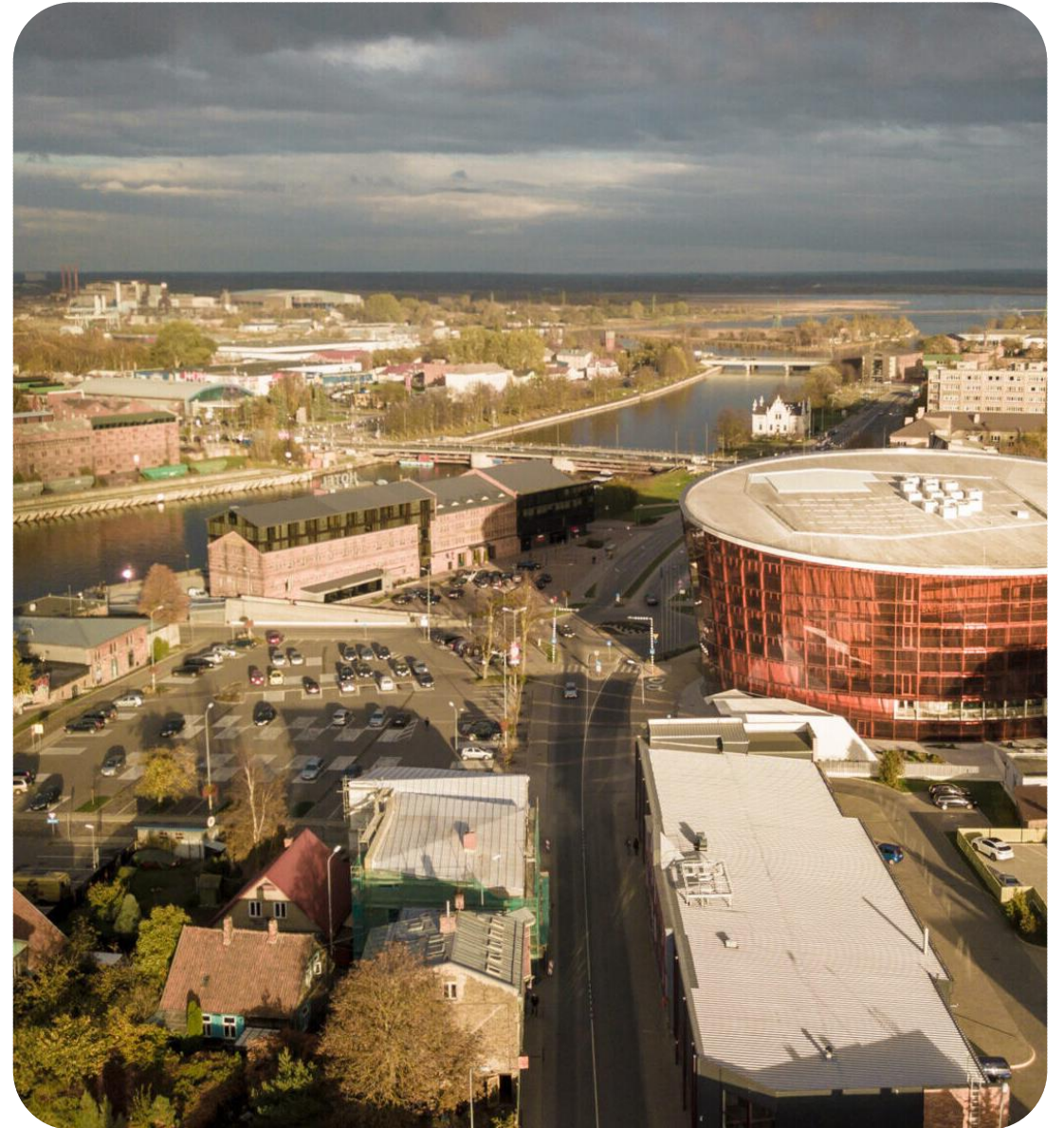
Kīpsala: Smart City Pilot Area

- Smart street lighting
- 60 GHz wireless data transfer
- Cameras with AI
- Environment and air quality sensor system
- Permanent power supply

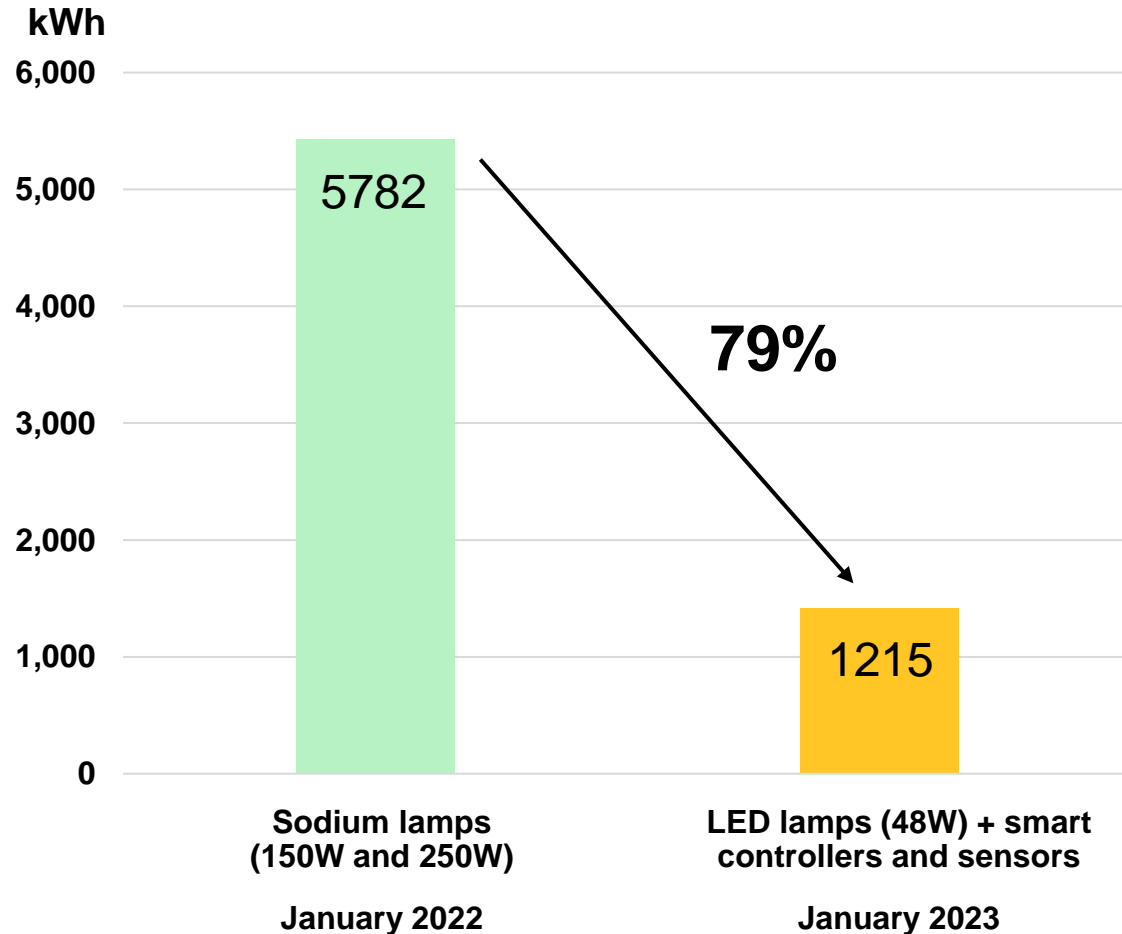
R&D: smart grid and electricity balancing



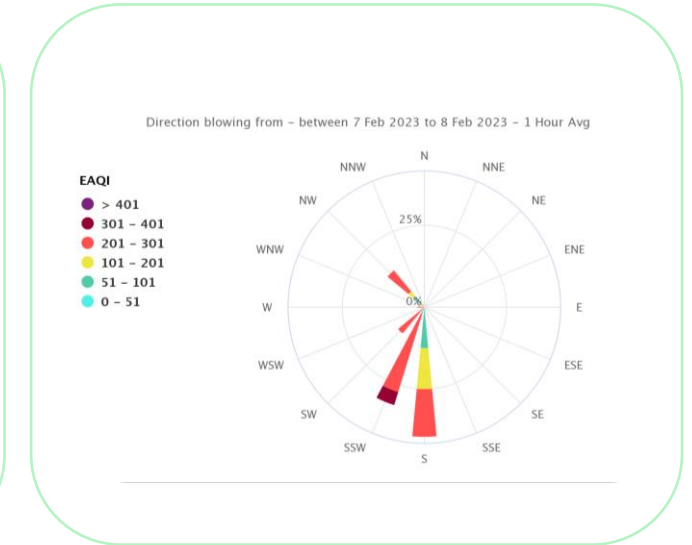
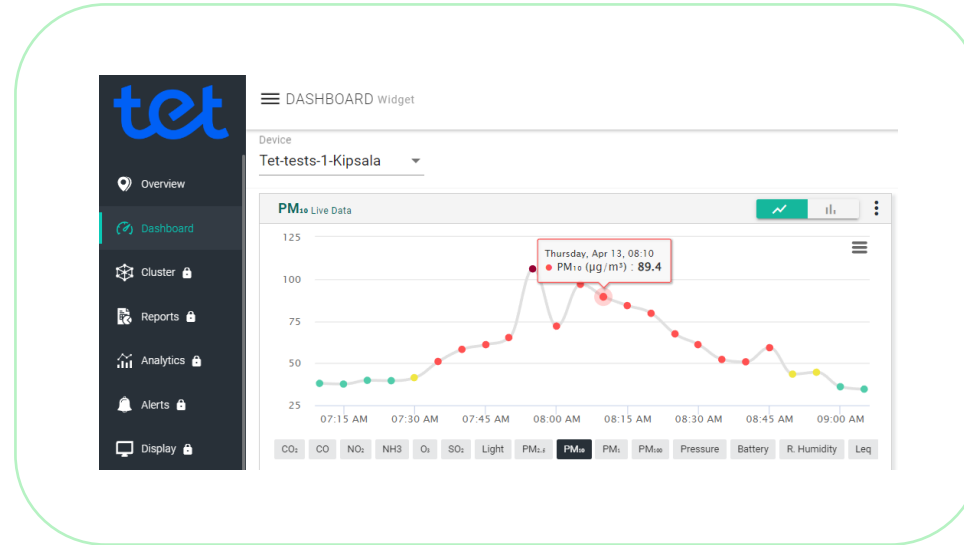
Applications



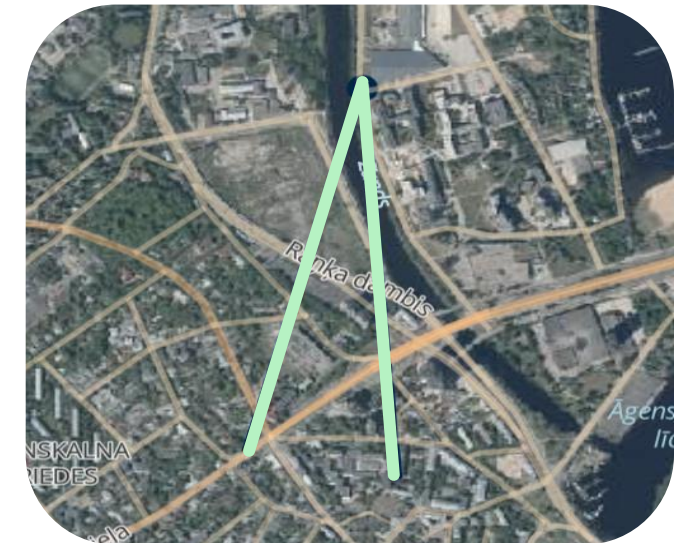
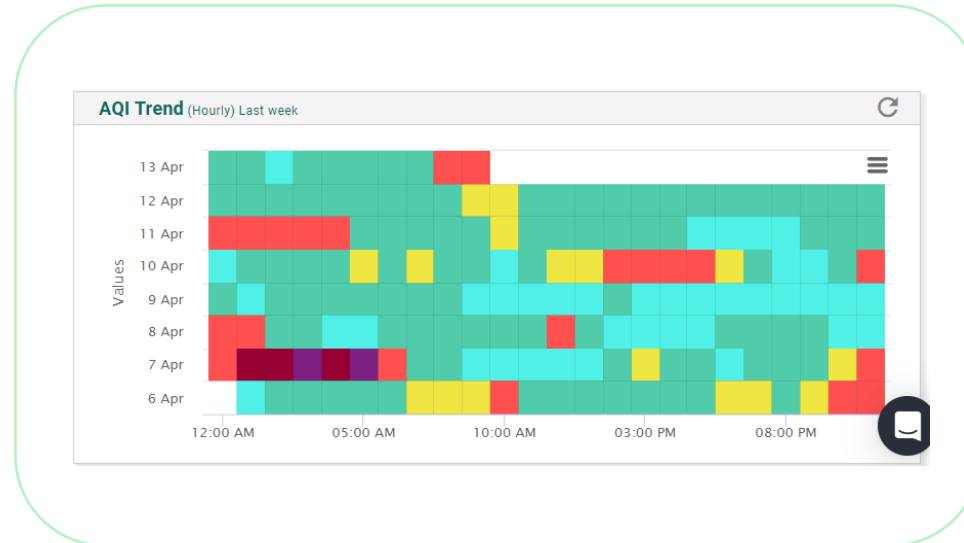
Smart Street Lighting



Environment and Air Quality Data



- Measurements according to European Air Quality Index
- Noise
- Wind and emitters directions
- Odors



Energy Balancing for Buildings



Energy consumption model

Renewable energy sources

Energy storage

Smart lighting

Data – power market, meteo,
consumption calendar

Machine learning based balancing of energy consumption, supply and demand

Smart Grid Development



Hague



Amsterdam

tet

Thank you!

Guna Dātava

New Business Development
Manager

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acce