Building Blocks for Fair Data Economy

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1001 Lakes


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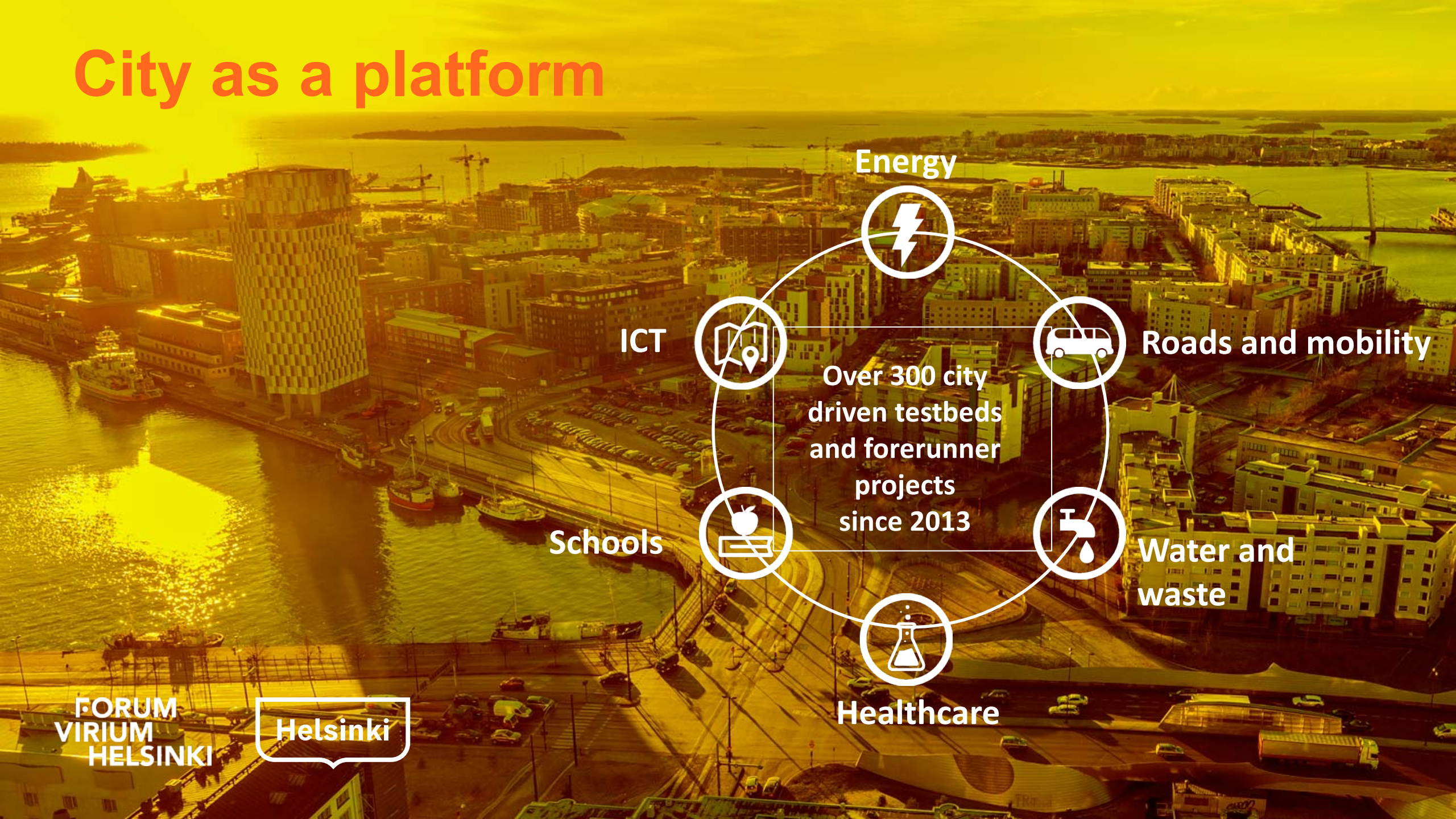
Helsinki

The most functional city in the world through design, digitality and dialogue

City as a platform



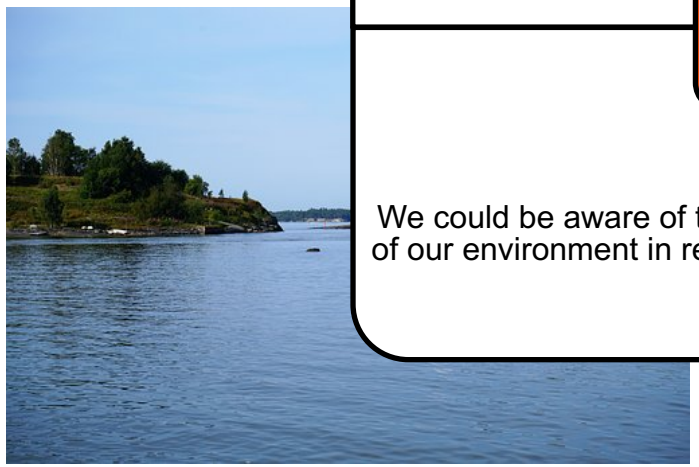
FORUM VIRIUM HELSINKI

Helsinki

We could choose routes based on their air quality?

People with baby pram could discover vacant pram spots in trams?

What if



We could be aware of the state of our environment in real-time?

Spaces would adapt heating and AC according to their usage?

FORUM VIRIUM HELSINKI

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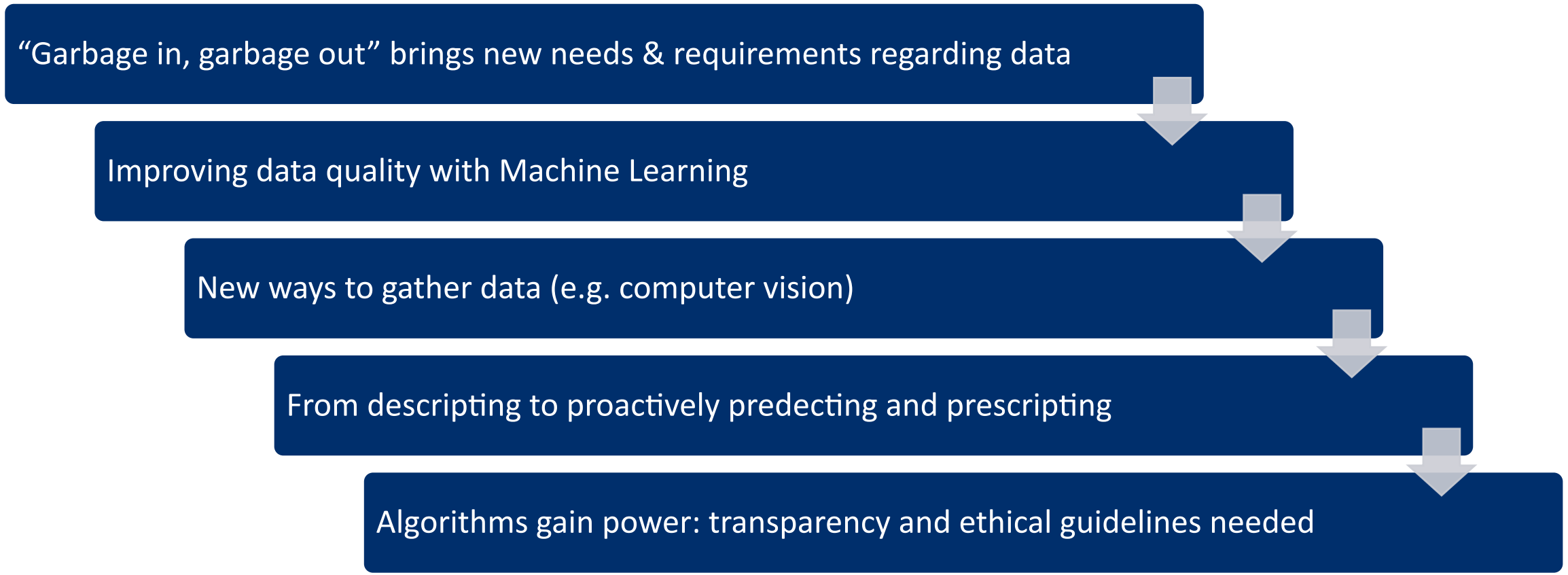
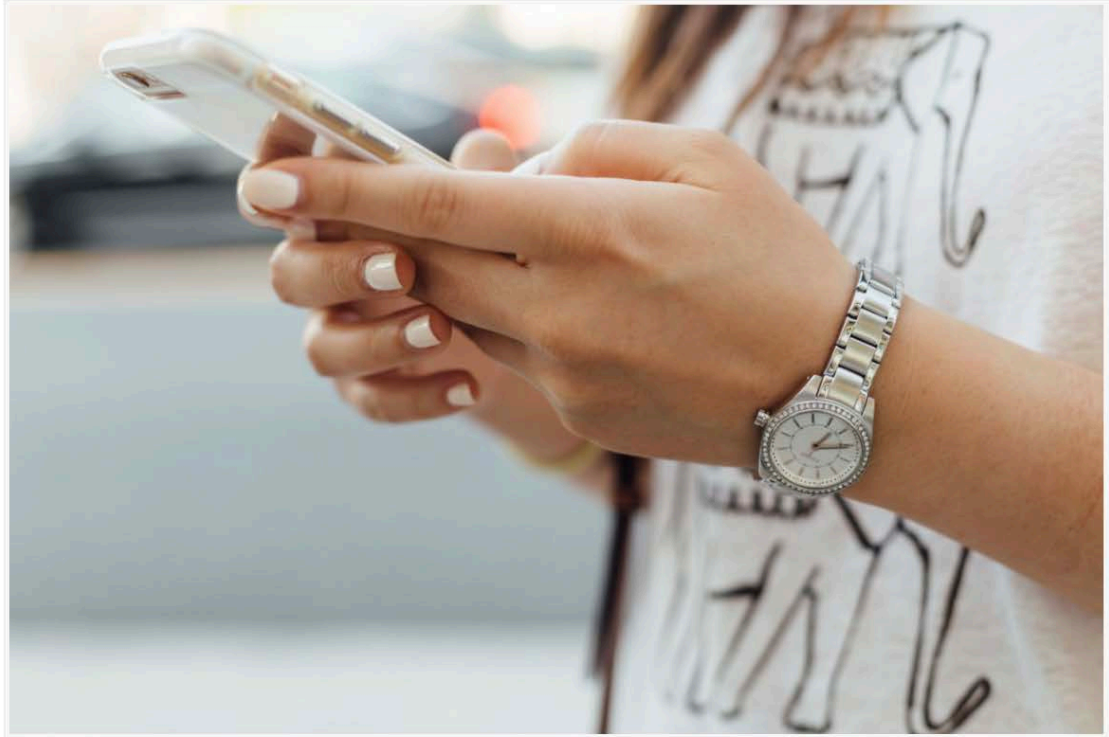

“Garbage in, garbage out” brings new needs & requirements regarding data
Improving data quality with Machine Learning
New ways to gather data (e.g. computer vision)
From descripting to proactively predecting and prescripting
Algorithms gain power: transparency and ethical guidelines needed

Helsinki to give citizens control of their personal data

17th February 2021 Sarah Wray



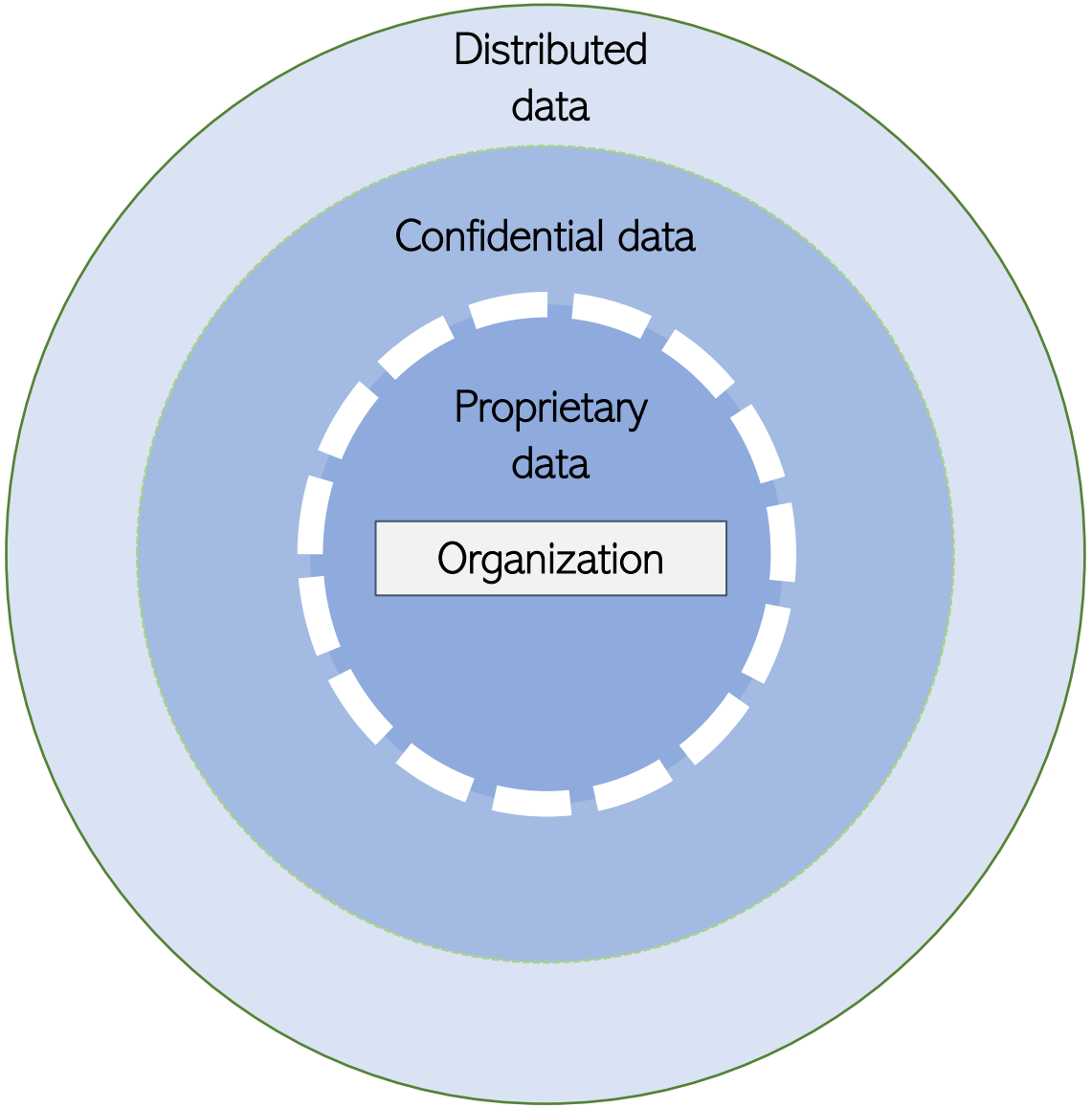
Helsinki selected Vastuu Group as its MyData operator

In a bid to offer more predictive, personalised digital services, the City of Helsinki is taking steps to ensure it can use citizens' data in a trusted and secure way.

A key aspect of this is allowing citizens to manage their own data, including how it is shared with different services in the city as well as between organisations or other cities.

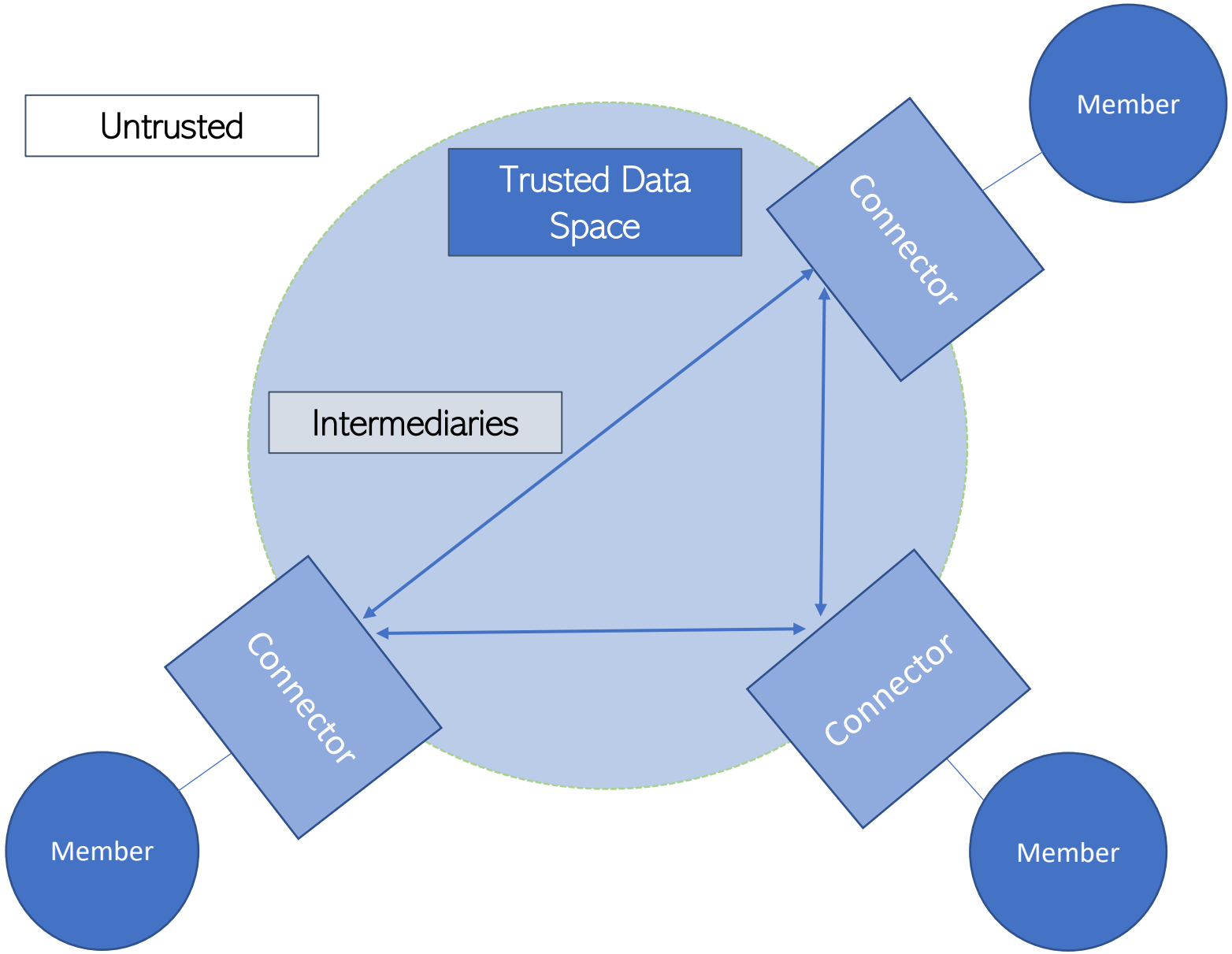
FAIR DATA ECONOMY

Organization-centric view on data



Open data

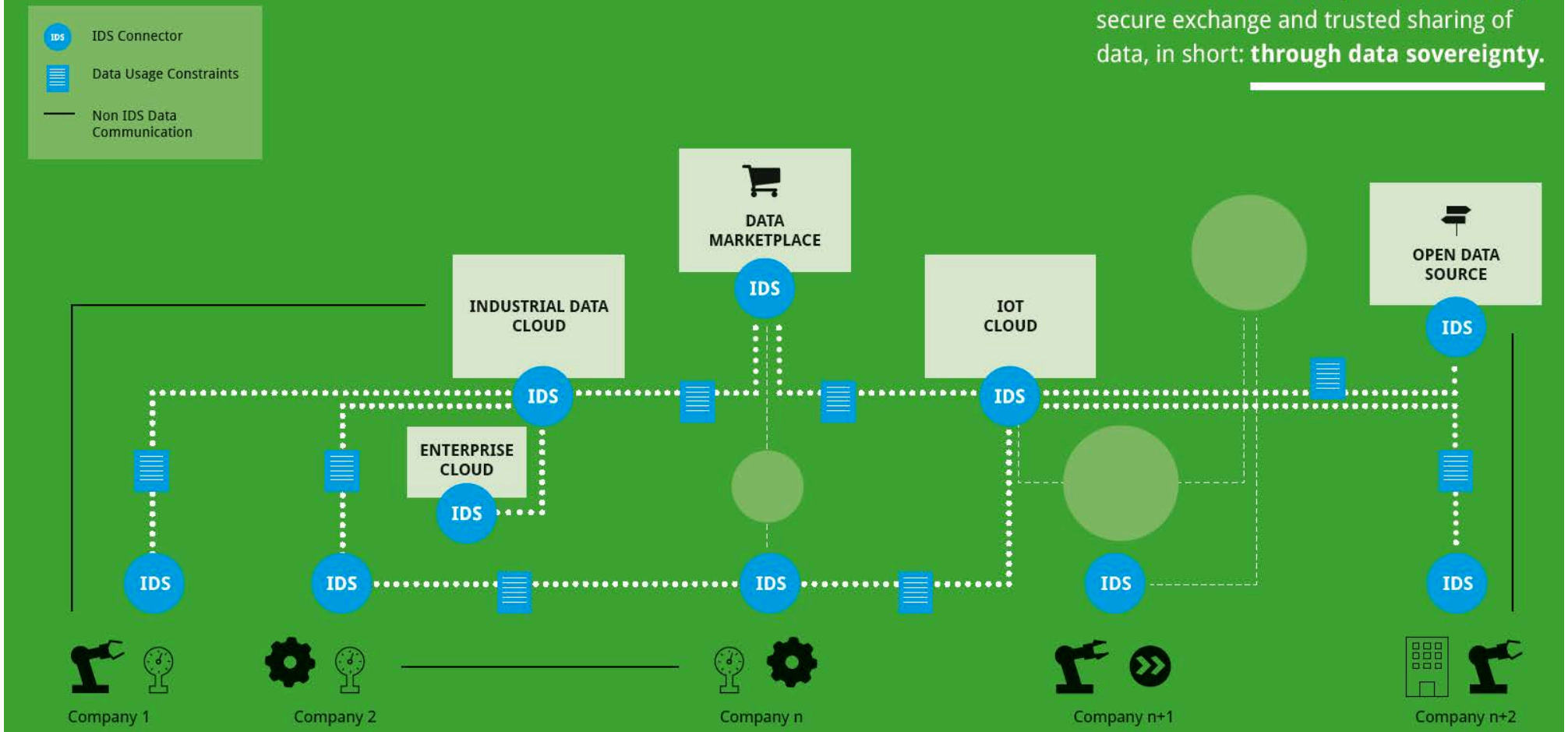
Network-centric view on data



THE INTERNATIONAL DATA SPACES APPROACH

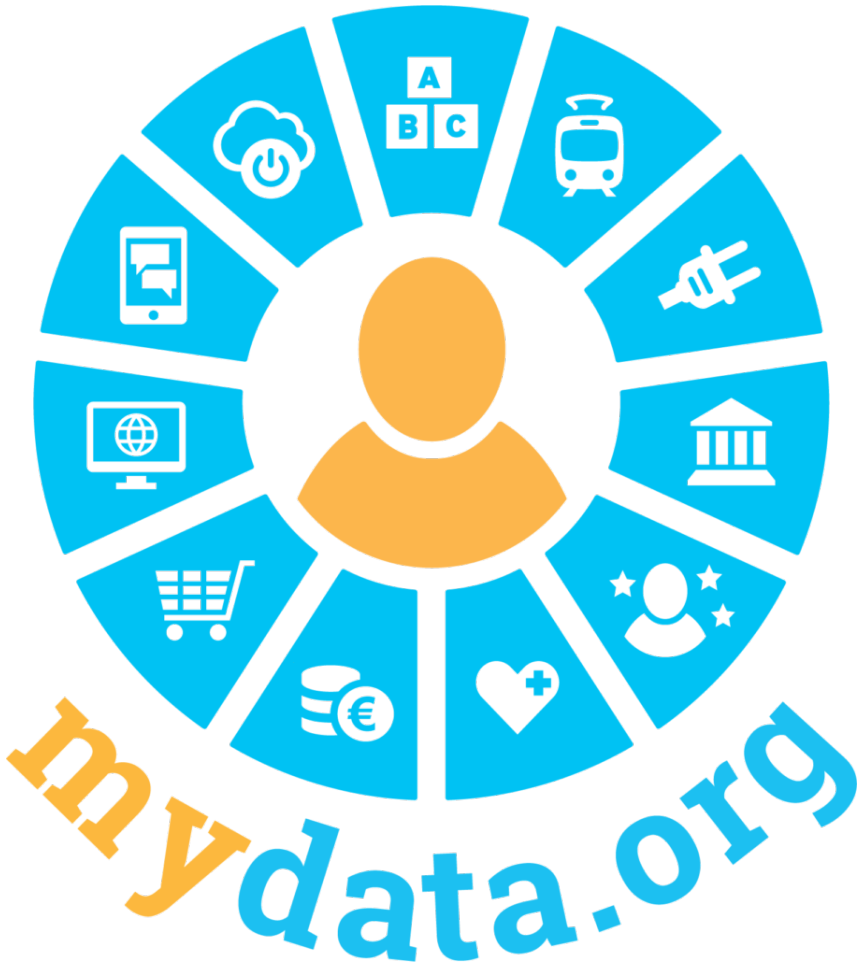
connects all kinds of data endpoints

When broadening the perspective from an individual use case scenario to a platform landscape view, the INTERNATIONAL DATA SPACES positions itself as an architecture to link different cloud platforms through secure exchange and trusted sharing of data, in short: **through data sovereignty.**

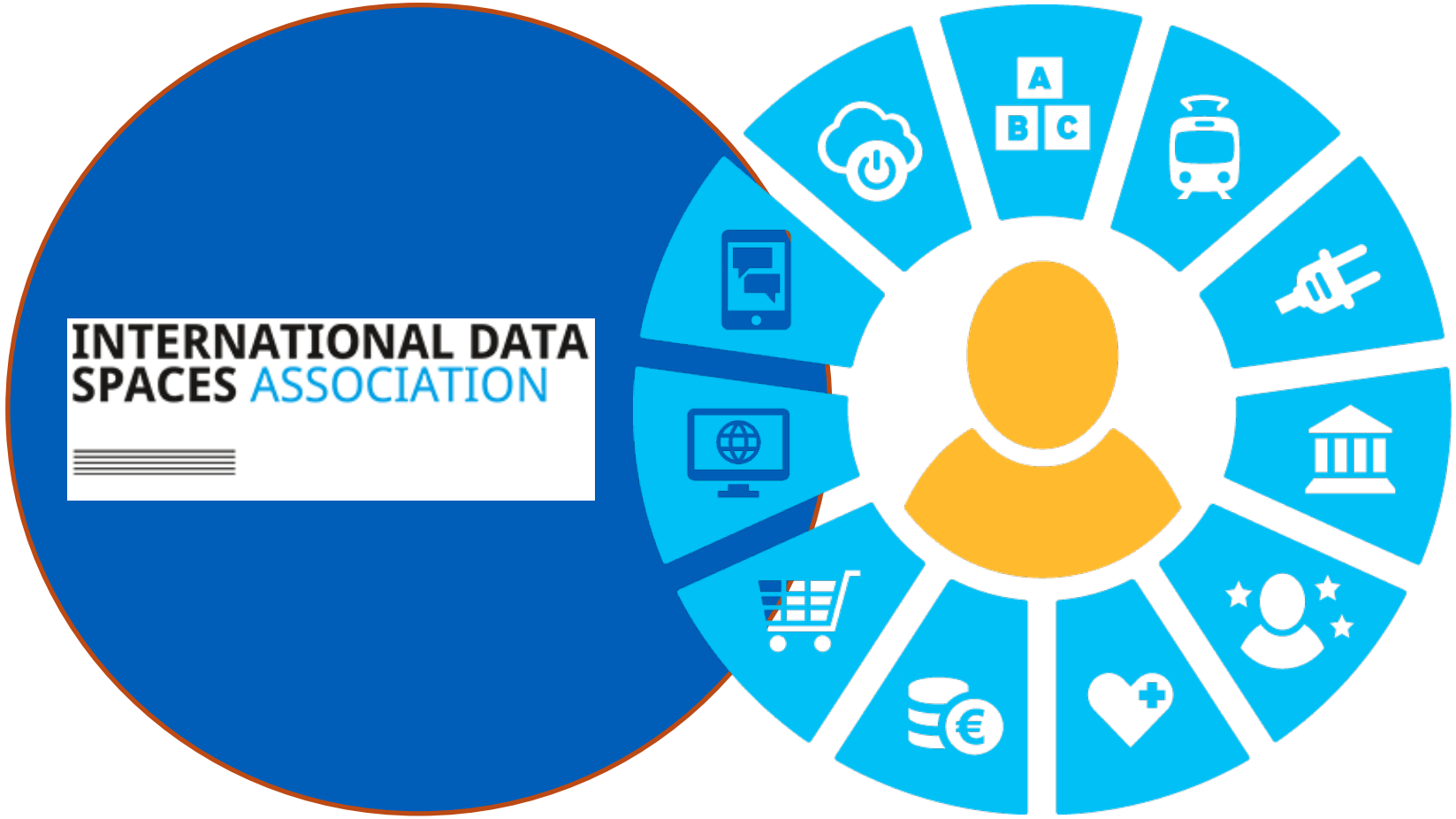


Source: International Data Spaces Association

Human-centric view on data



1. Individuals in control of their own data
2. Strengthen digital human rights
3. Open new opportunities for businesses
4. Develop personal data based services
5. Built on mutual trust



Design principle #1 for data spaces

Data sovereignty

The capability of a natural person or organisation for exclusive self-determination with regard to its economic data goods. This is the innovative and transformative concept underlying data spaces.

Source: *"Design principles for data spaces"*. Position paper to be published by

INTERNATIONAL DATA SPACES ASSOCIATION

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Design principle #2 for data spaces

Data level playing field

New entrants face no insurmountable barriers to entry because of monopolistic situations. When a data level playing exists, players compete on quality of service, and not on the amount of data they control. A data level playing field is a pivotal condition to create a fair data sharing economy.

Source: *"Design principles for data spaces"*. Position paper to be published by

INTERNATIONAL DATA SPACES ASSOCIATION

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Design principle #3 for data spaces

Decentralised soft infrastructure

The data sharing infrastructure is not a monolithic centralised IT infrastructure. It is a collection of interoperable implementations of data spaces which comply to a unified set of agreements in all dimensions: functional, technical, operational, legal and economic. Out of the principle of data sovereignty follows functional and non-functional requirements of interoperability, portability, findability, security, privacy and trustworthiness.

Source: *"Design principles for data spaces"*. Position paper to be published by

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Design principle #4 for data spaces

Public-private governance

For the design, creation and maintenance of the data level playing field a sound governance is essential. All stakeholders need to feel represented and engaged. These include users (persons, organisations) or provider of data services as well as their technology partners and professionals.

Source: *"Design principles for data spaces"*. Position paper to be published by

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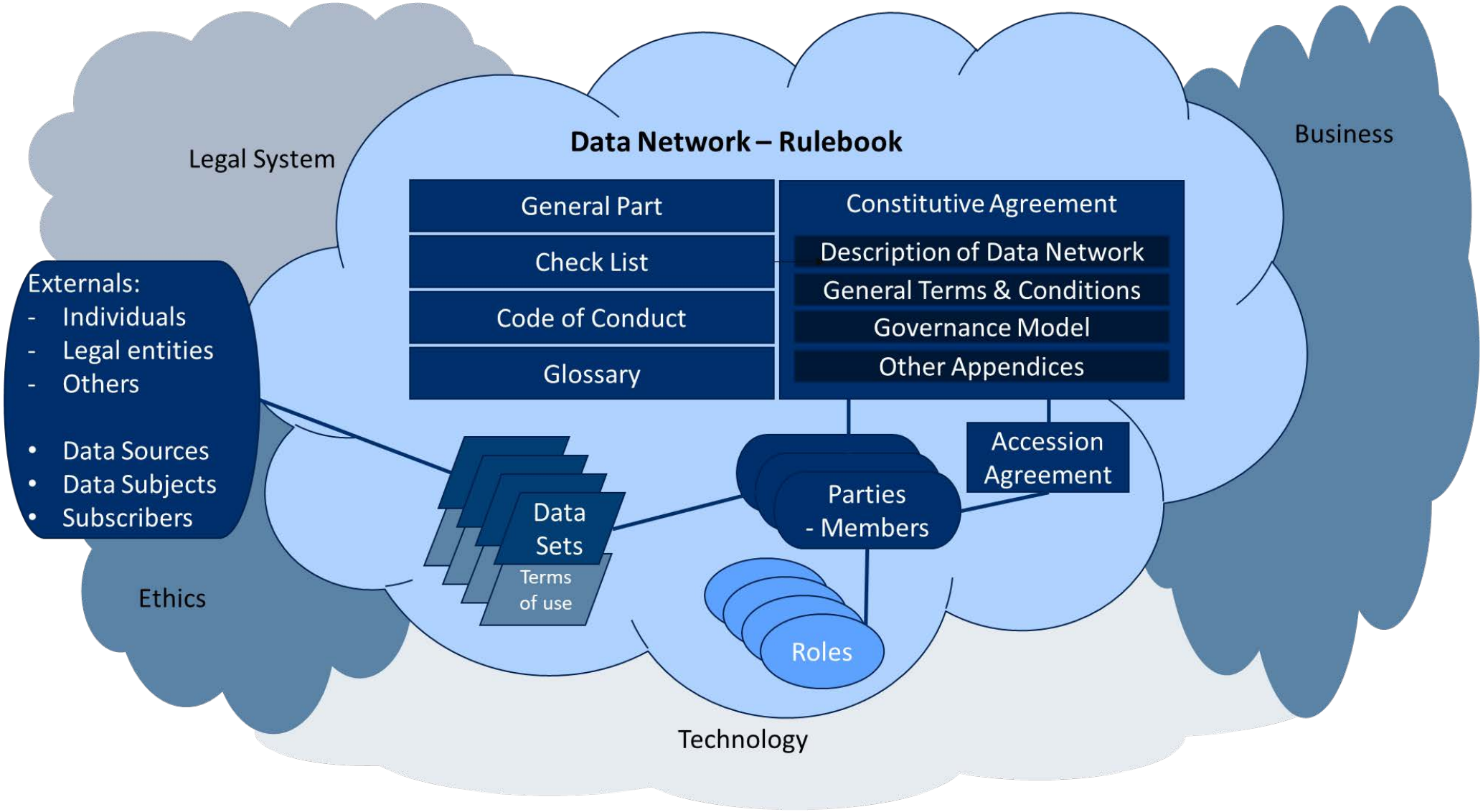
Fair Data Economy Rulebook Template

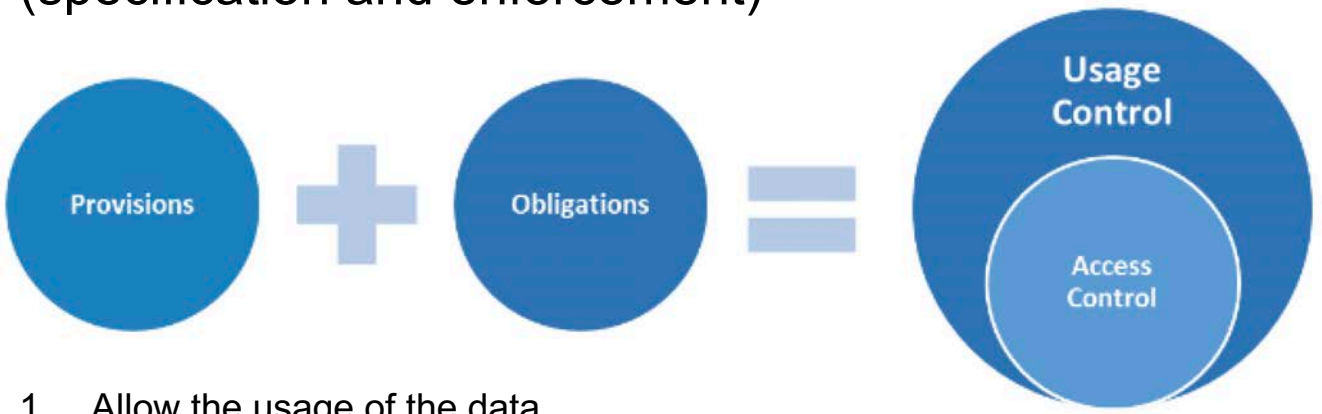


sitra.fi/en/publications/rulebook-for-a-fair-data-economy

Trust Building Blocks

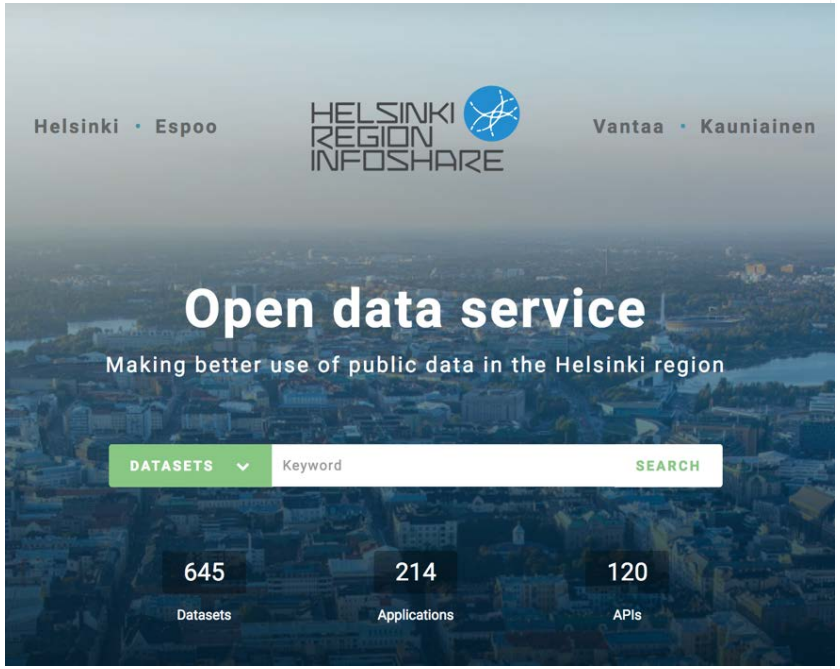
Decentralised Identity System
(for organizations, people, things)

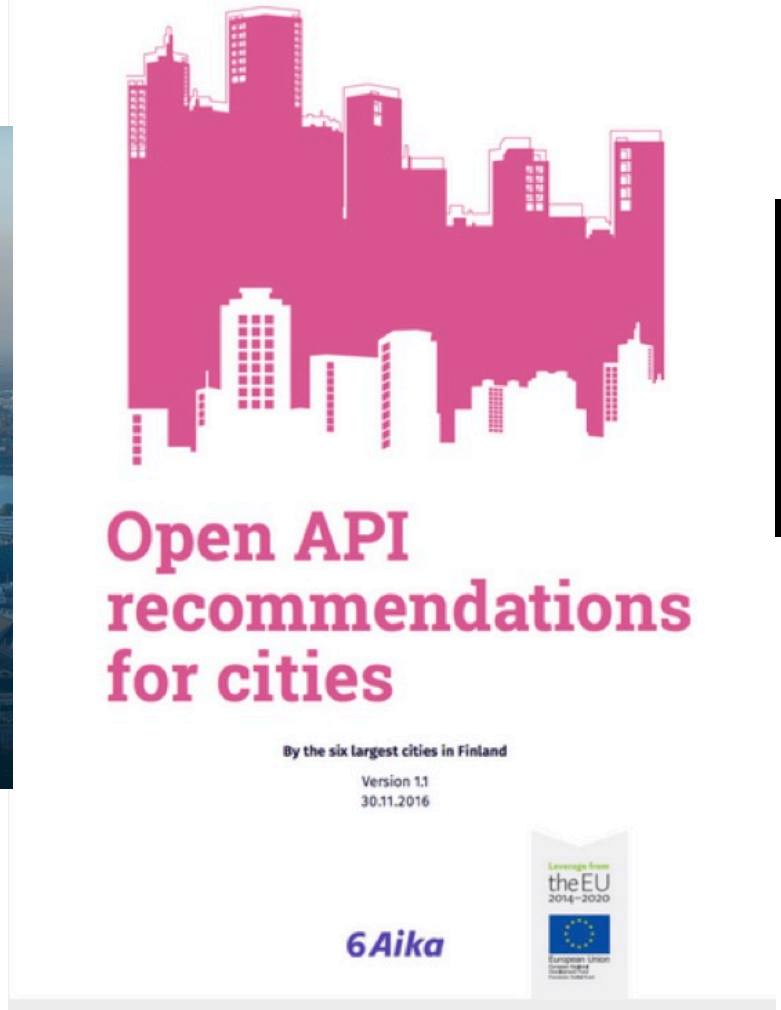
Data Usage Policies
(specification and enforcement)



1. Allow the usage of the data
2. Inhibit the usage of the data
3. Restrict the data usage for a group of users or systems
4. Restrict the data usage for specific purposes
5. Restrict the data usage when a specific event has occurred
6. Use or do not use the data in a specific time interval
7. Use the data not more than N times
8. Use data and delete it after
9. Modify data (in transit)
10. Modify data (in rest)
11. Log the data usage information
12. Notify a party or a specific group of users when the data is used
13. Share the data under specific circumstances

Open Data, Open APIs & Open MIMs





OPEN & AGILE SMART CITIES

Minimum Interoperability Mechanisms (MIMs)

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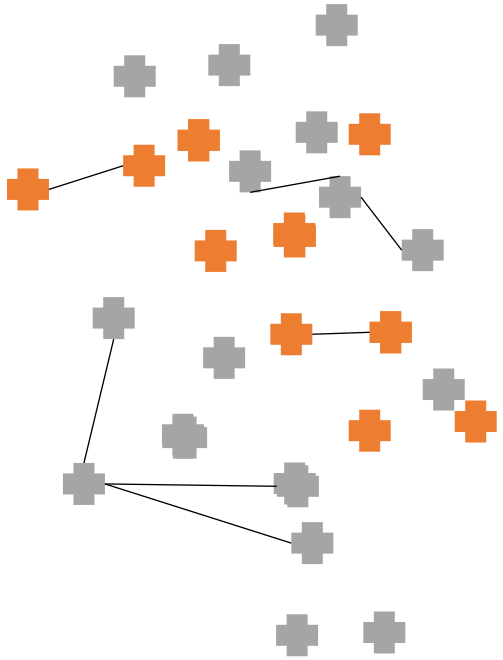
Journey towards Fair Data Economy begins with individual organizations

Organization not following FDE principles

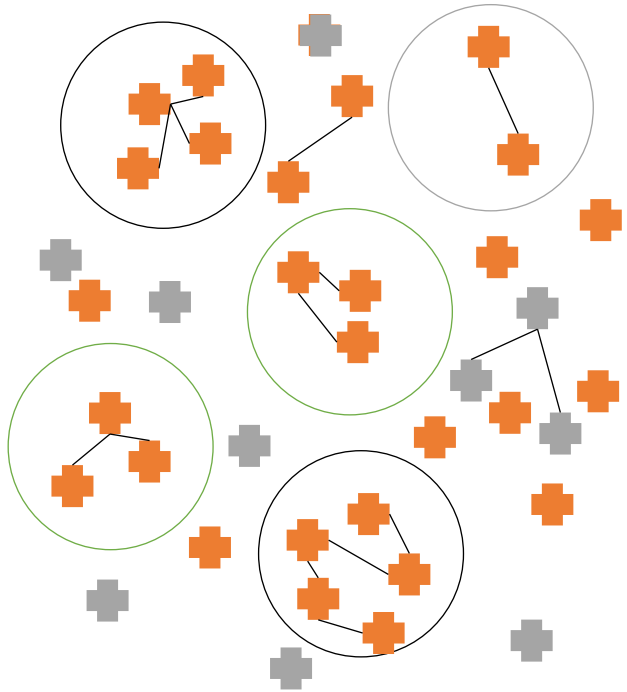
Organization following FDE principles

Some Individual organizations following Fair Data Principles



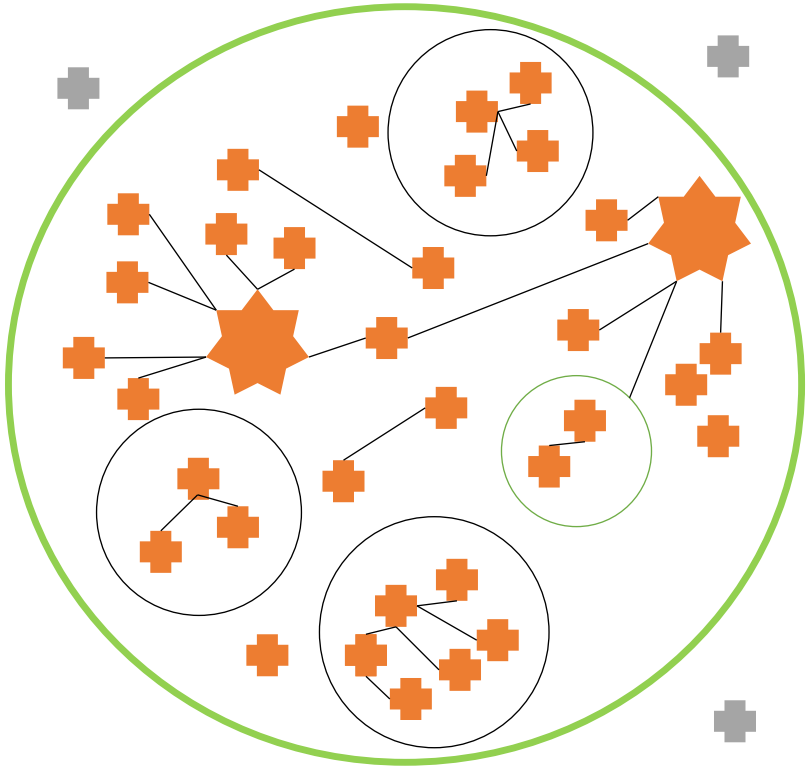
Enabling regulation, technology, common rules – primarily for data use

Individual organizations and separate data networks following Fair Data Principles



More enabling regulation, technology, common rules for data sharing

Organizations following Fair data Principles forming Fair Data Economy



Resulting enabling regulation, technology, common rules for data economy

Smart Communities Tech
Italian Technology Cluster for Smart Communities

THANK YOU

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