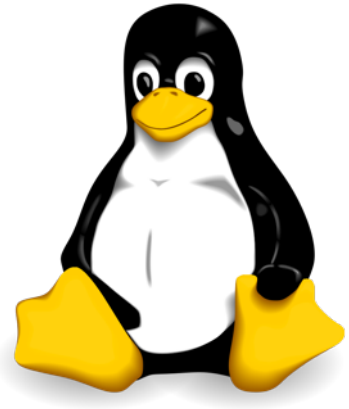
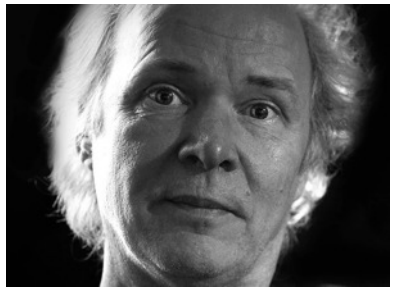
Data-avaruuksien suunnitteluperiaatteet

Datatalousfoorumi
8.6.2021

Marko Turpeinen
CEO, 1001 Lakes





MySQL®

python

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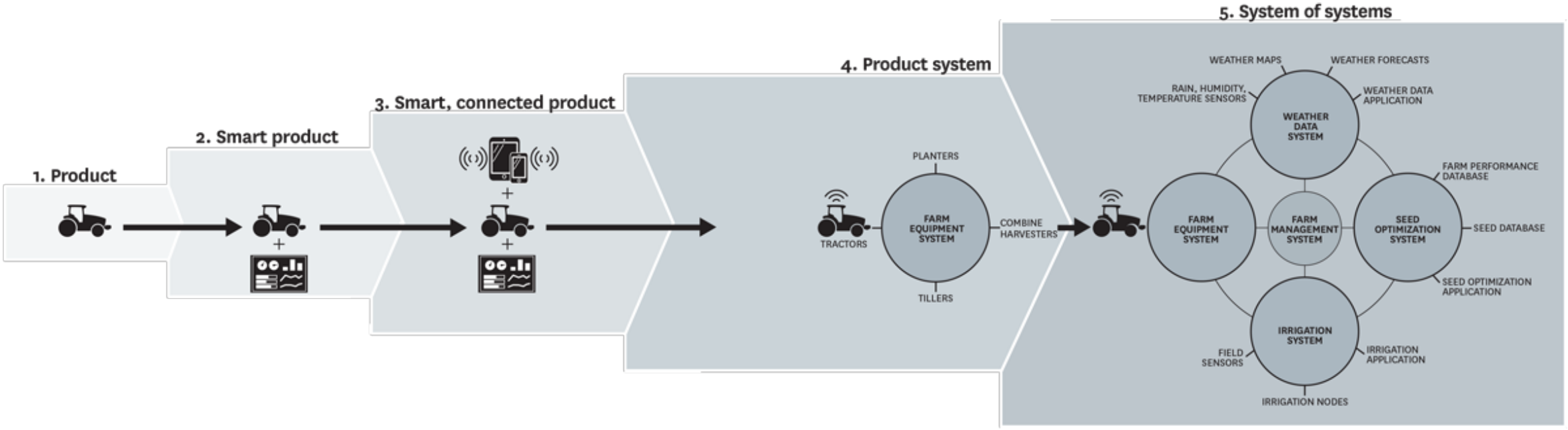
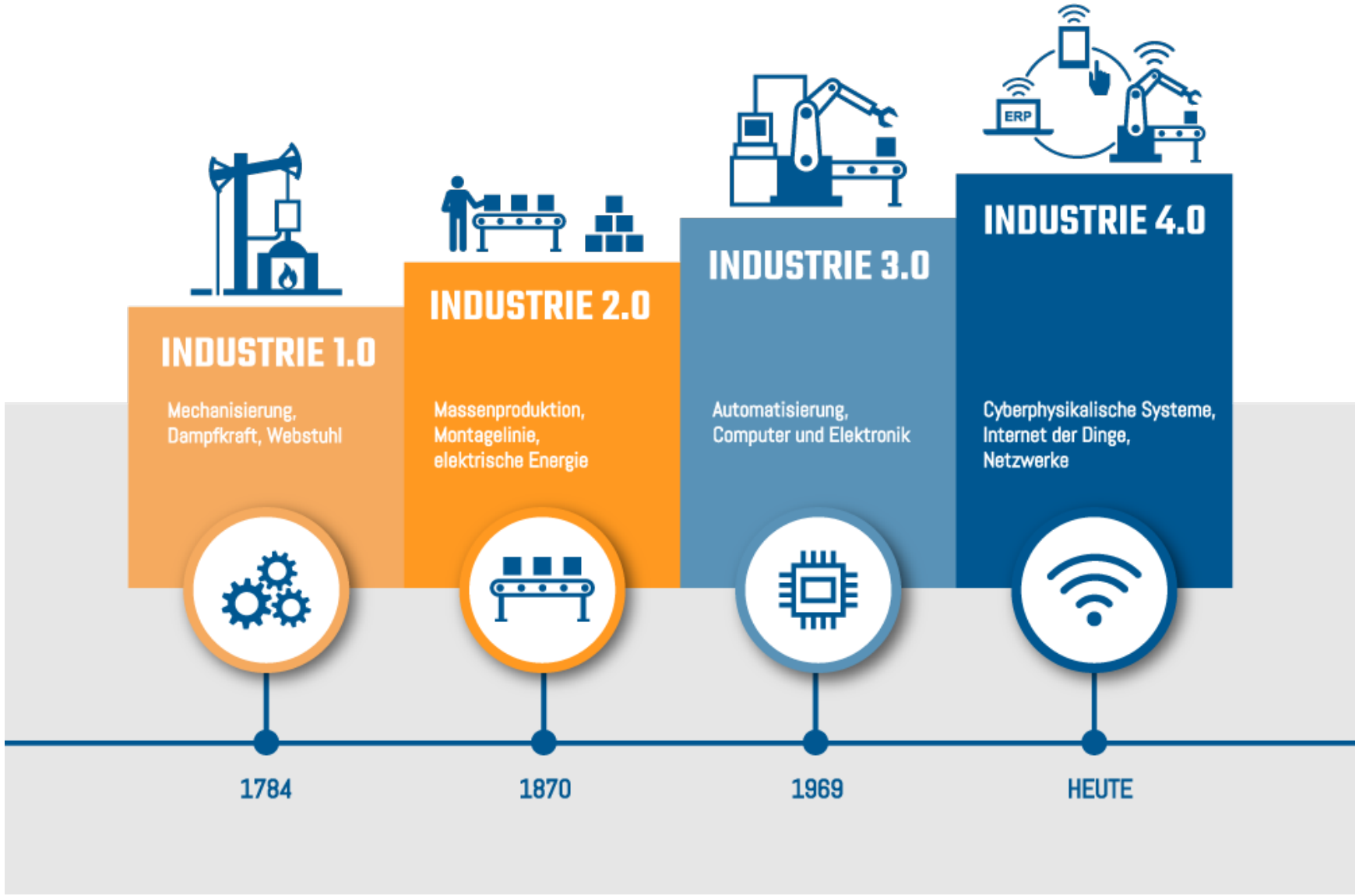
How Smart, Connected Products Are Transforming Competition (Porter & Heppelmann, 2014)



Industrie 4.0



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MOBILITY DATA SPACE

KONTAKT SITEMAP ENGLISH

ARCHITEKTUR UND KOMPONENTEN | DER MDM IM MOBILITY DATA SPACE | VERNETZUNG | FORSCHUNGSPROJEKTE

Mobility Data Space

Souveränes Mobilitätsdaten-Ökosystem

Catena-X

SIEMENS · T · Mercedes-Benz · BASF We create chemistry

SAP · SUPPLYON · SCHAEFFLER · BOSCH

BMW GROUP · Fraunhofer · ZF GROUP · GERMAN EDGE CLOUD

DLR · ARENA2036 · Henkel · ISTOS A MEMBER OF DMG MORI

Open for more partners.

Catena-X Automotive Network

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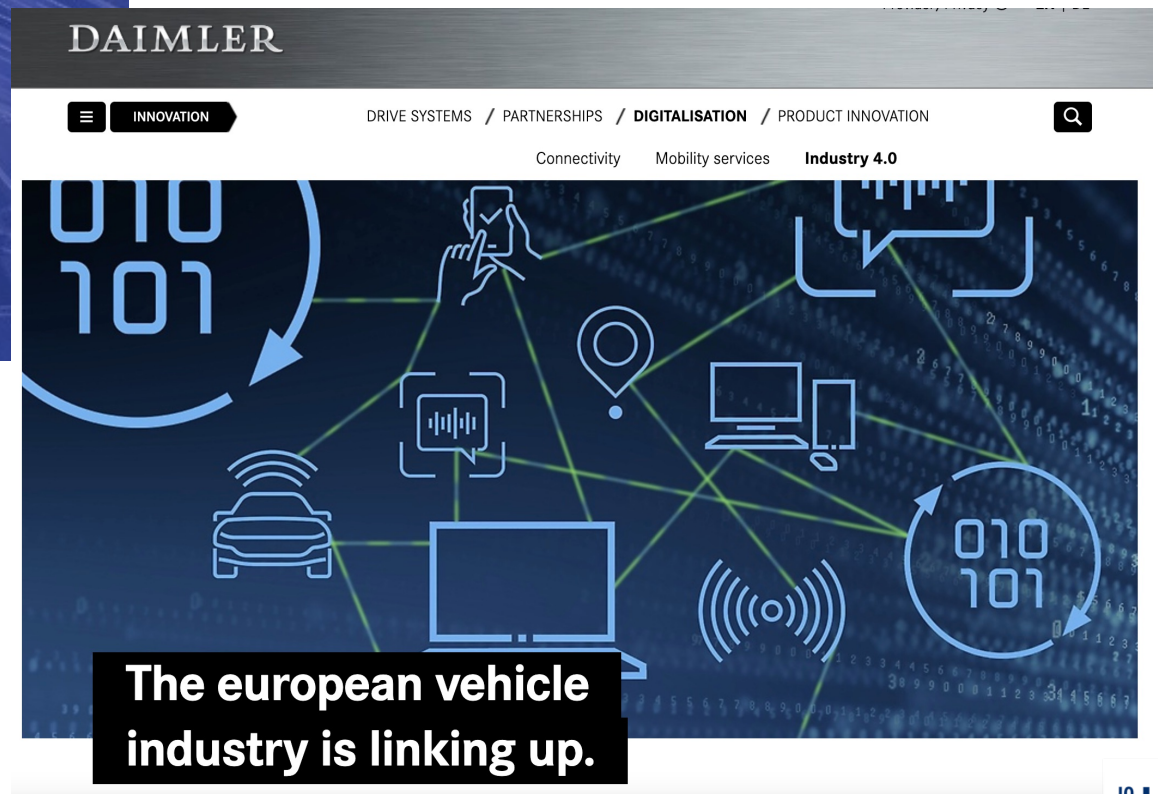

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gaia-x

Federal Ministry for Economic Affairs and Energy

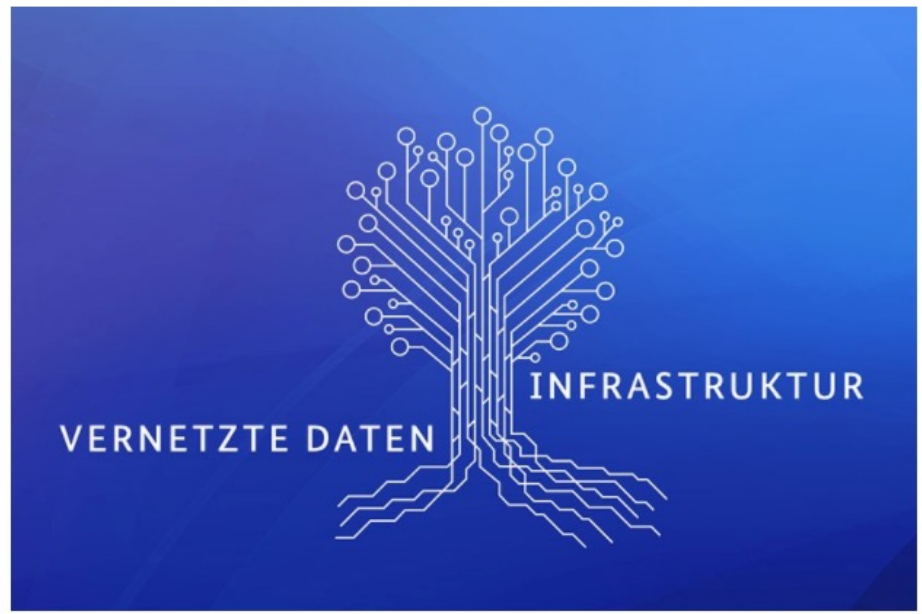
MENU

Enter search term

15/03/2021 **PRESS RELEASE** Digital Technologies

GAIA-X entering its operational phase

Almost €190 m in funding for GAIA-X flagship projects



© BMWi

The Federal Ministry for Economic Affairs and Energy is launching a funding competition (in German) for "innovative and practical applications and data spaces in the digital GAIA-X ecosystem", which will be used to support applications based on the digital GAIA-X infrastructure. In other words, GAIA-X is entering its operational phase. The funding competition is now open to consortiums composed of users and suppliers working in business, science, and the public sector. Submissions of project abstracts can be made until 7 May 2021.

LAKES

adesso

Lehdistötiedote

adesso laajentaa pohjoiseen – jatkoa kansainvälistymiselle

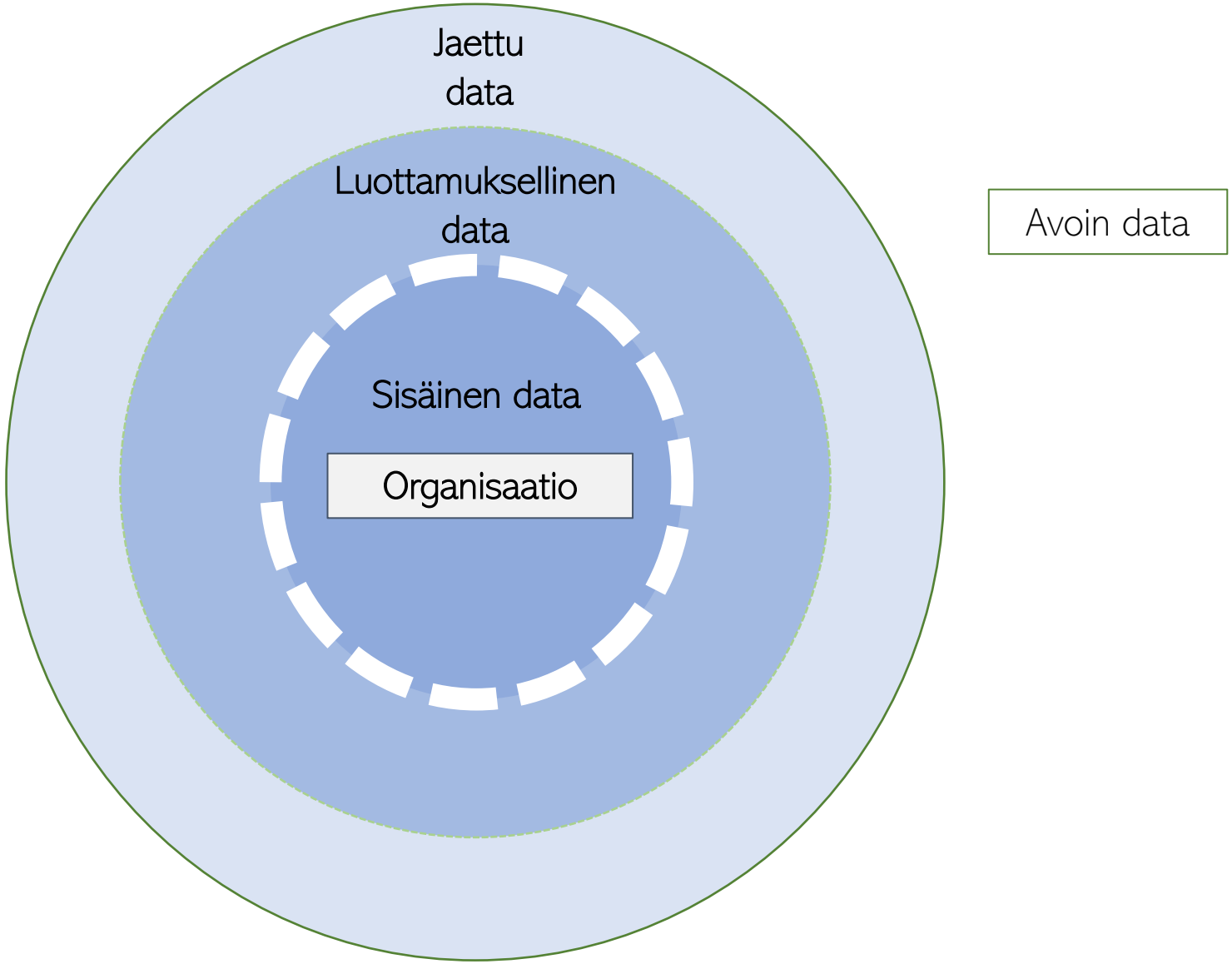
adesso perustaa *adesso Nordics* -yksikön Suomeen – laajentaa Pohjois-Euroopan alueelle

- **adesso perustaa Pohjois-Euroopan ensimmäisen tytäryhtiön adesso Nordics Oy:b**
- **adesso Nordics vastaa adesson palveluiden ja teknologian myymisestä ja markkinoinnista pohjoismaiden ja baltian alueella.**
- **adesso perustaa dataliiketoimintaan ja teknologioihin erikoistuvan yksikön adesso Lakes GmbH:n Saksaan yhteistyössä suomalaisen alaan erikoistuneen yrityksen 1001 Lakes Oy kanssa**

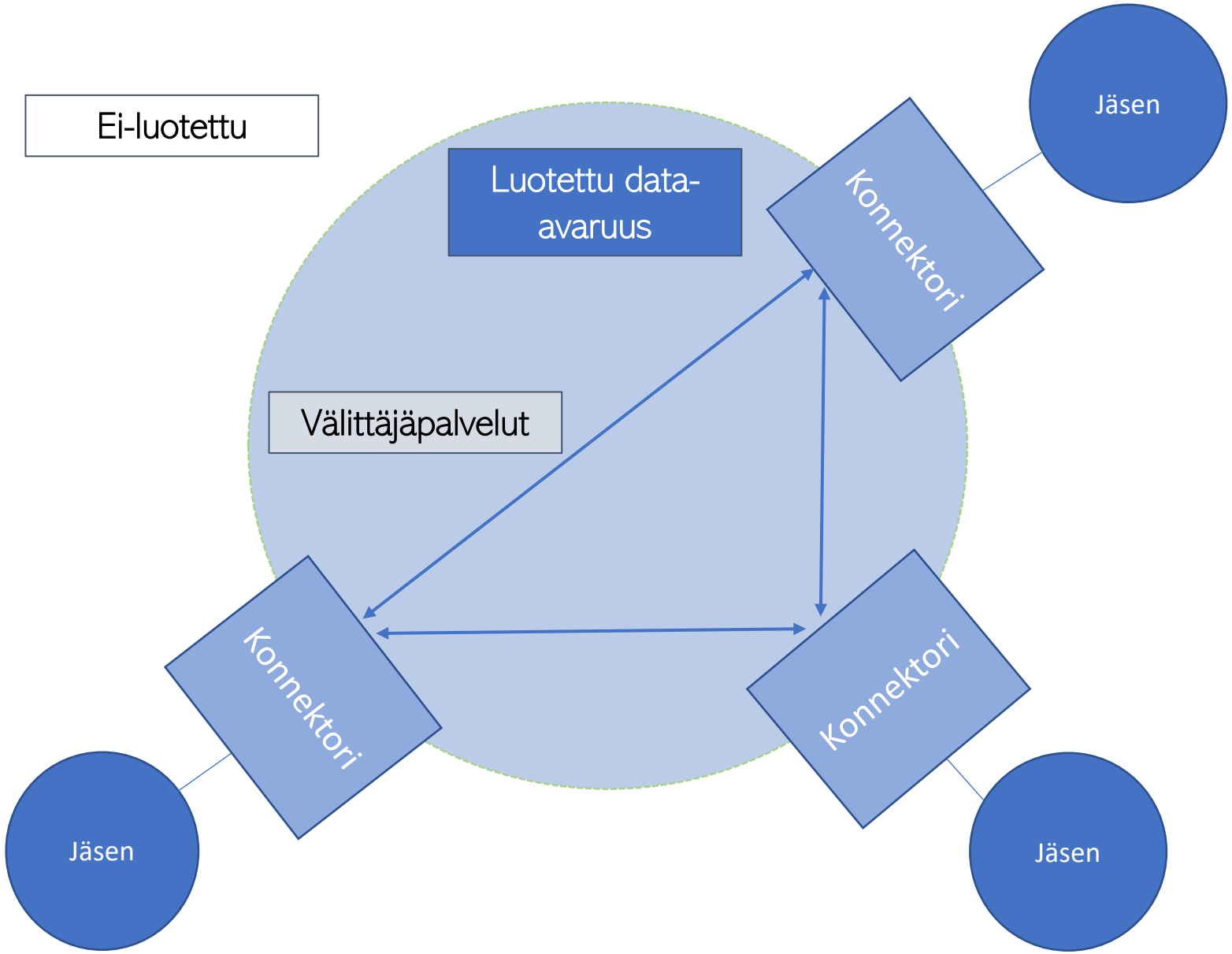
Dortmund/Helsinki, 8. kesäkuuta 2021 – **adesso astuu ensimmäistä kertaa Pohjois-Eurooppaan. Adesso tuo johtavan keskieurooppalaisen IT ja ohjelmistokehitysosaamisen ja teknologitarjonnan saataville Pohjois-Euroopassa toimiville asiakkaille uuden pääkaupunkiseudulle perustetun adesso Nordics Oy:n kautta. Uusi yhtiö vastaa palveluvalikoiman myymisestä ja markkinoinnista Pohjoismaissa ja Baltiassa.**

1001 LAKES

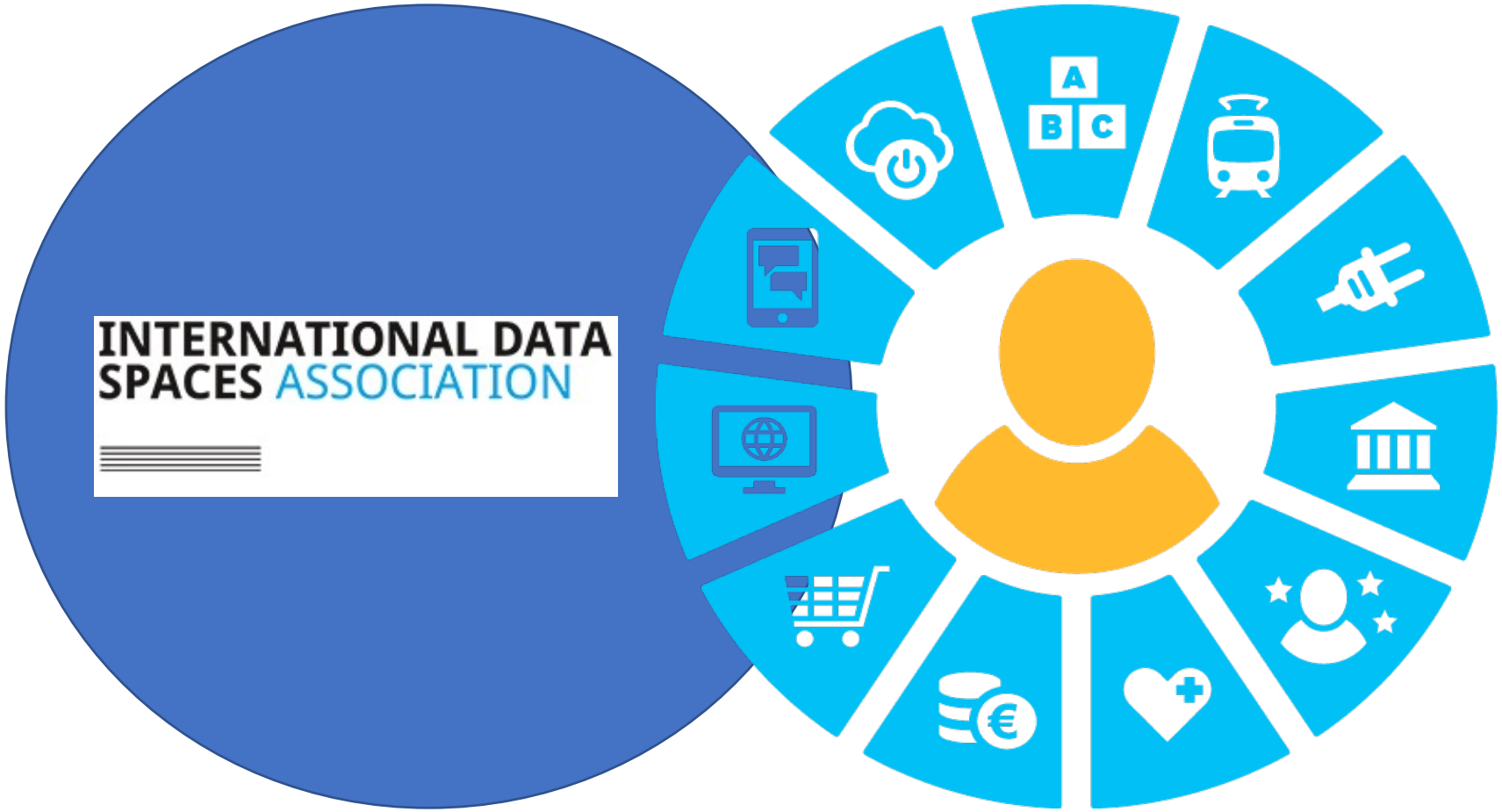
Organisaatiokeskeinen datatalous

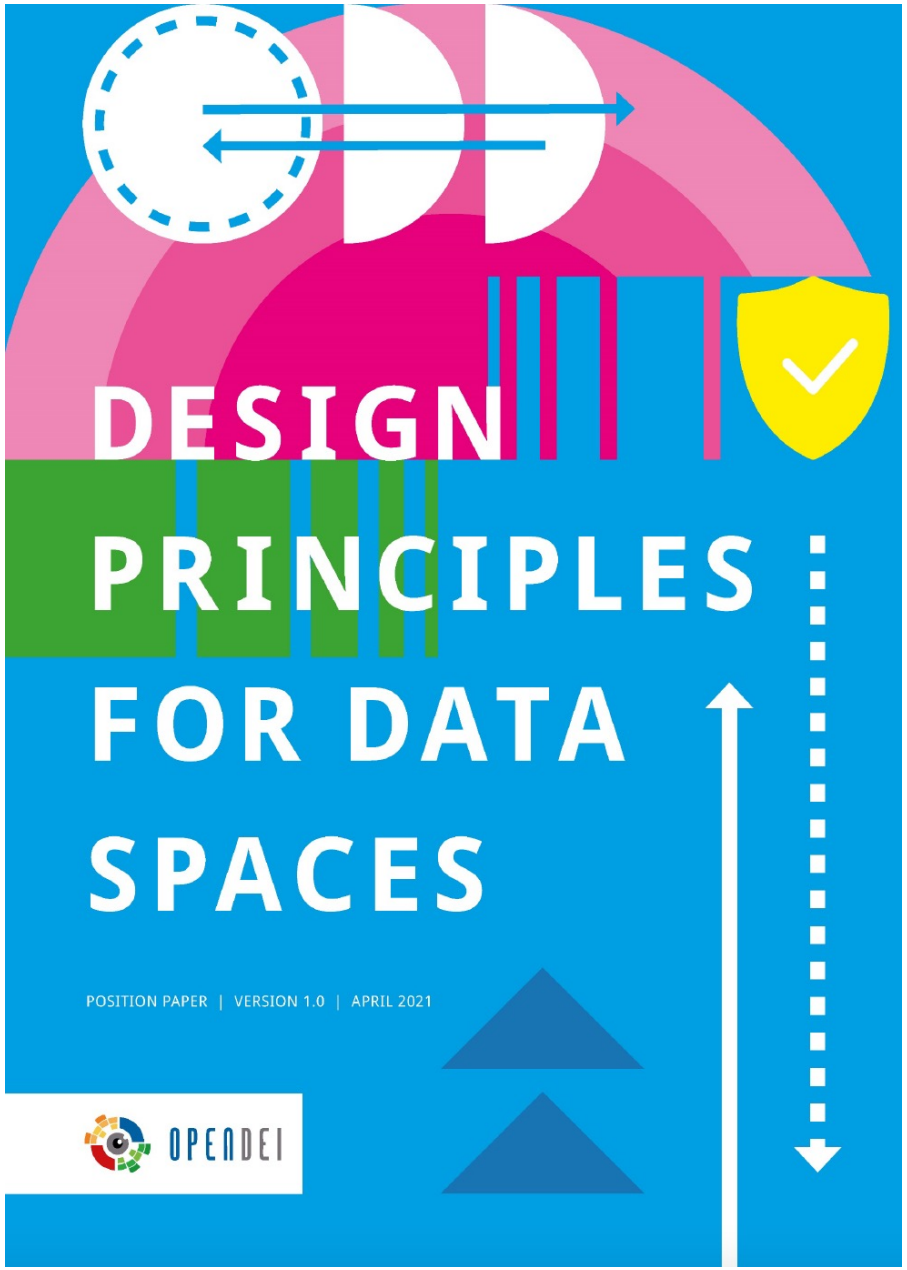


Verkostokeskeinen datatalous



Ihmiskeskeinen datatalous


INTERNATIONAL DATA
SPACES ASSOCIATION



Data space and industrial domain experts team up to define for the first time cross-sectoral and across initiatives the fundamental design principles to build data spaces.

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Data-avaruuksien suunnitteluperiaatteet

#1 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.

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#2 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.

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#3 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.

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#4 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.

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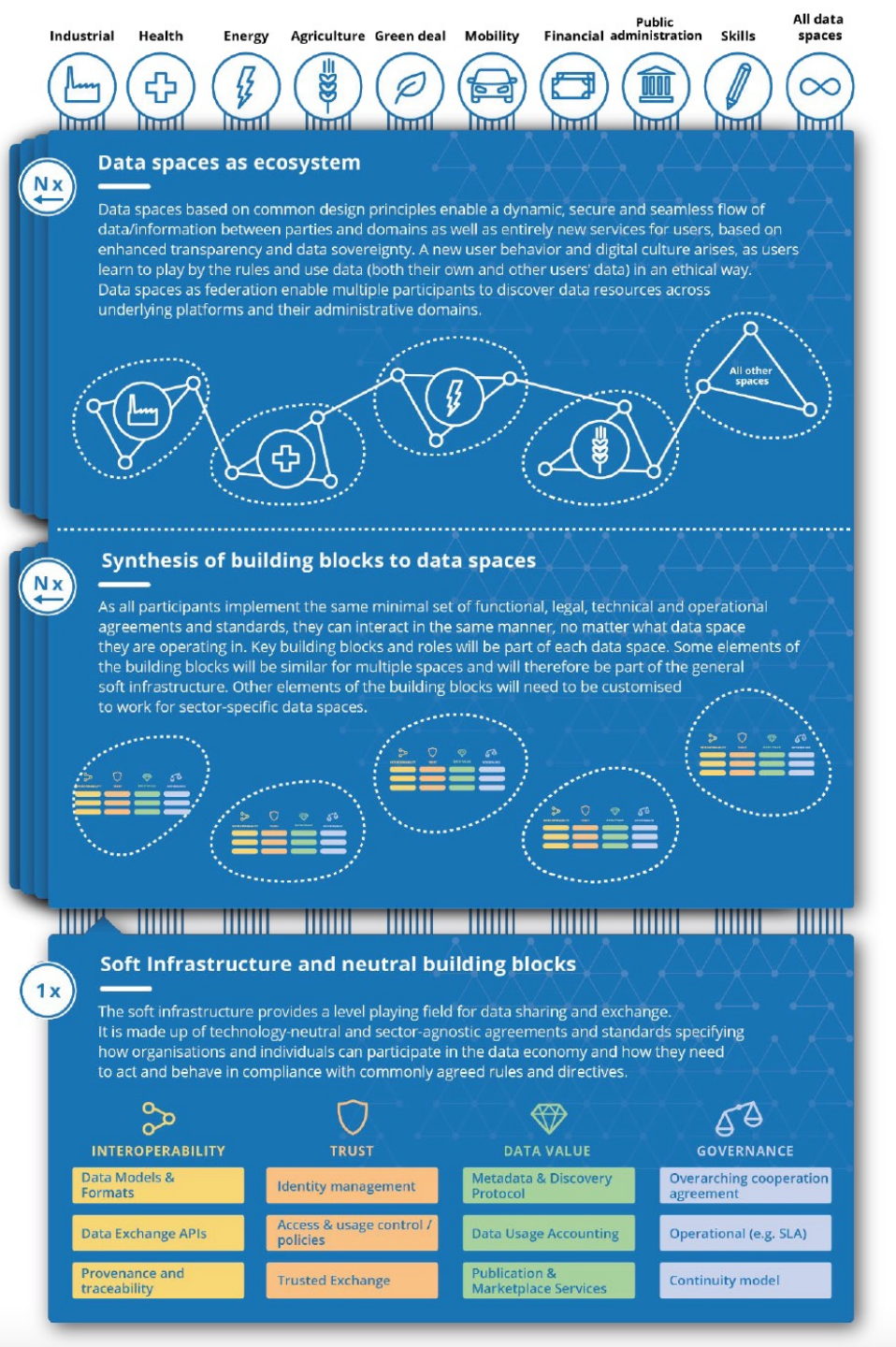

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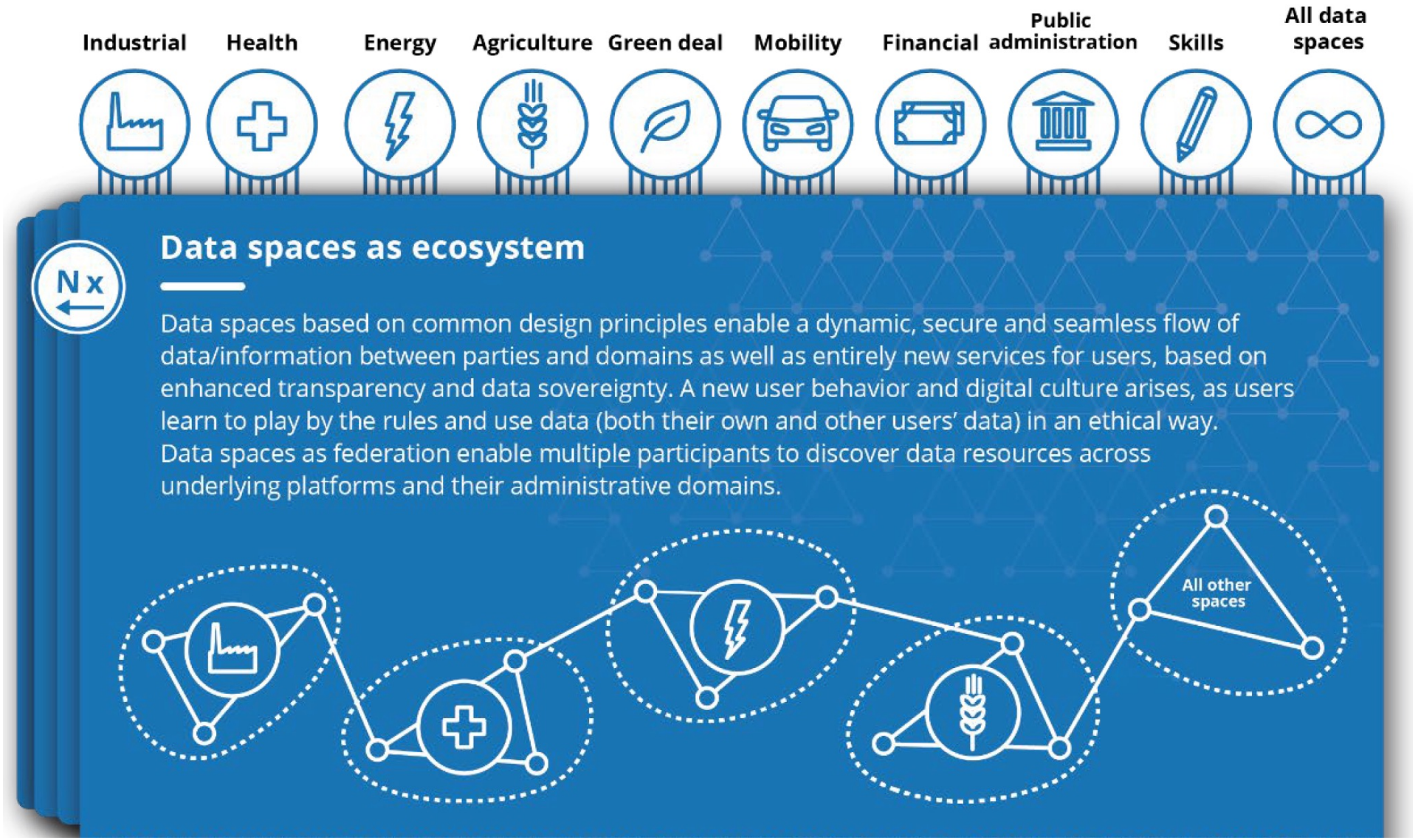

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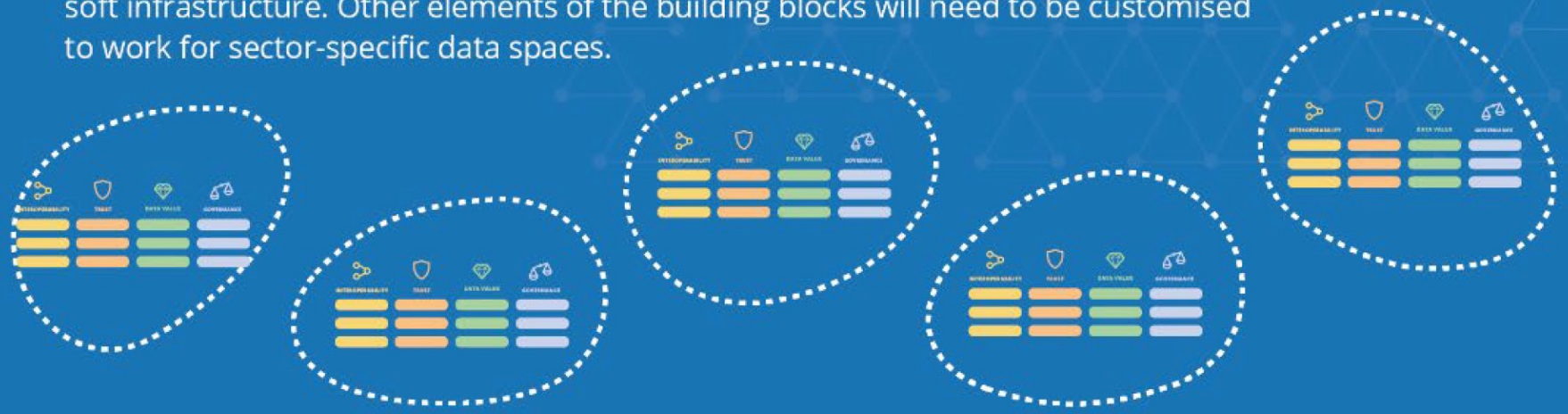
Synthesis of building blocks to data spaces

Nx

As all participants implement the same minimal set of functional, legal, technical and operational agreements and standards, they can interact in the same manner, no matter what data space they are operating in. Key building blocks and roles will be part of each data space. Some elements of the building blocks will be similar for multiple spaces and will therefore be part of the general soft infrastructure. Other elements of the building blocks will need to be customised to work for sector-specific data spaces.



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Soft Infrastructure and neutral building blocks

The soft infrastructure provides a level playing field for data sharing and exchange.
It is made up of technology-neutral and sector-agnostic agreements and standards specifying how organisations and individuals can participate in the data economy and how they need to act and behave in compliance with commonly agreed rules and directives.

INTEROPERABILITY	TRUST	DATA VALUE	GOVERNANCE
Data Models & Formats	Identity management	Metadata & Discovery Protocol	Overarching cooperation agreement
Data Exchange APIs	Access & usage control / policies	Data Usage Accounting	Operational (e.g. SLA)
Provenance and traceability	Trusted Exchange	Publication & Marketplace Services	Continuity model

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Luottamuksen rakennuspalikoita (esimerkkejä)

Hajautetut identiteetit ja vahvistetut tiedot

Findy

iDunion

TRUST Over IP FOUNDATION

Datan käytön kontrolli

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

Strategic
Data Innovation Board (DIB)

Advise the Commission on:
1. Consistent practices across spaces
2. Standards cross-sectoral
3. Build upon and contribute to existing standards

"Facilitate the interoperability of data as well as data sharing services"

Tactical & Operational
Data Exchange Board (DEB)

Makes it happen
1. Define the authorisation framework
2. Represent all users and adopters
3. Drive and execute adoption

"Create, maintain and futher develop the authorisation framework"

Manufactoring governance | Health governance | Energy governance | Agriculture governance | Nother data spaces governances

Makes it fit for purpose
1. Define the data space tools and adjusted infrastructures
2. Represent domain users and adopters
3. Drive and execute sectoral adoption

"Adjust framework to sectoral driven needs while remaining interoperable"

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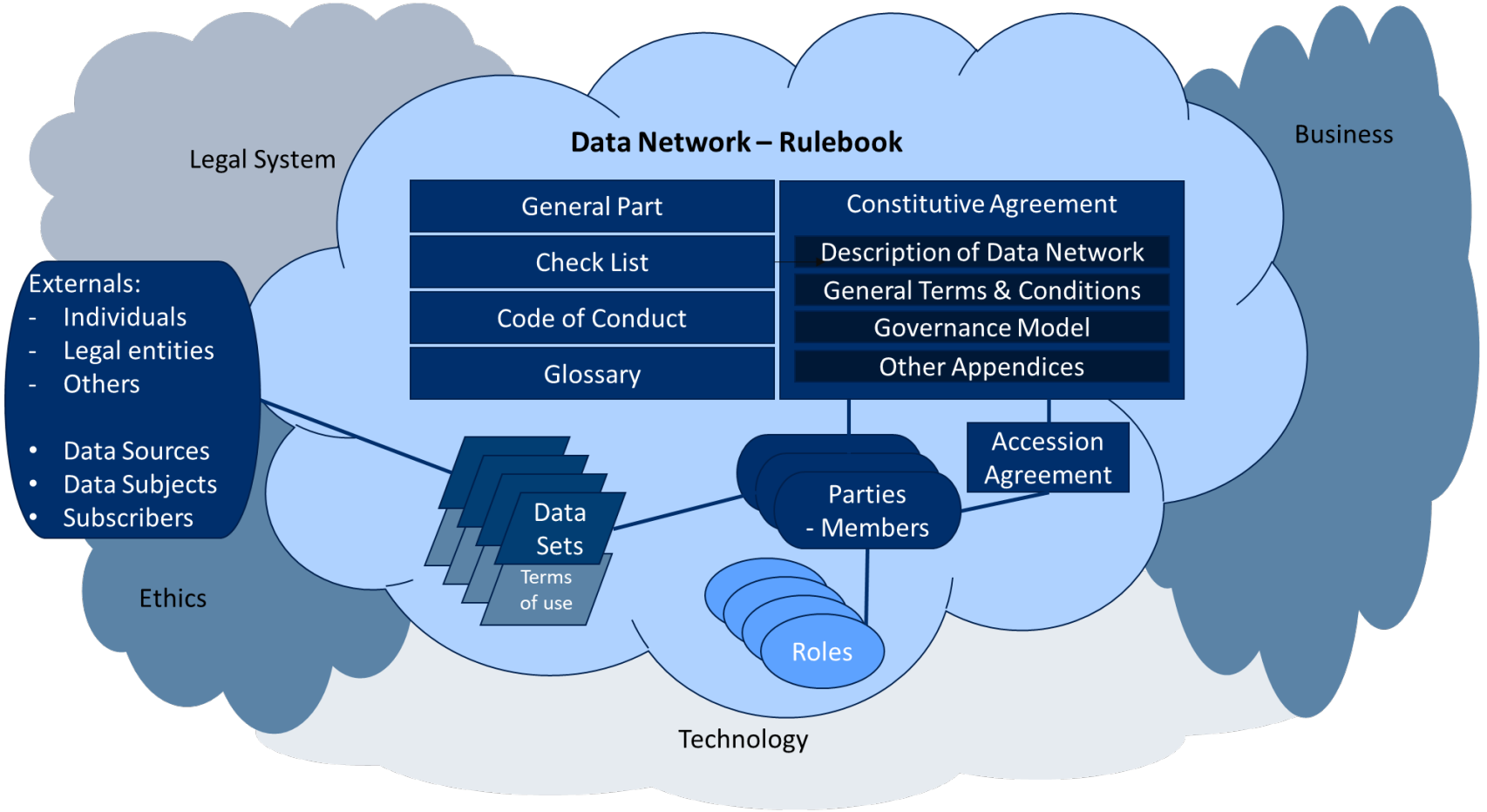
Reilun datatalouden sääntökirjamalli

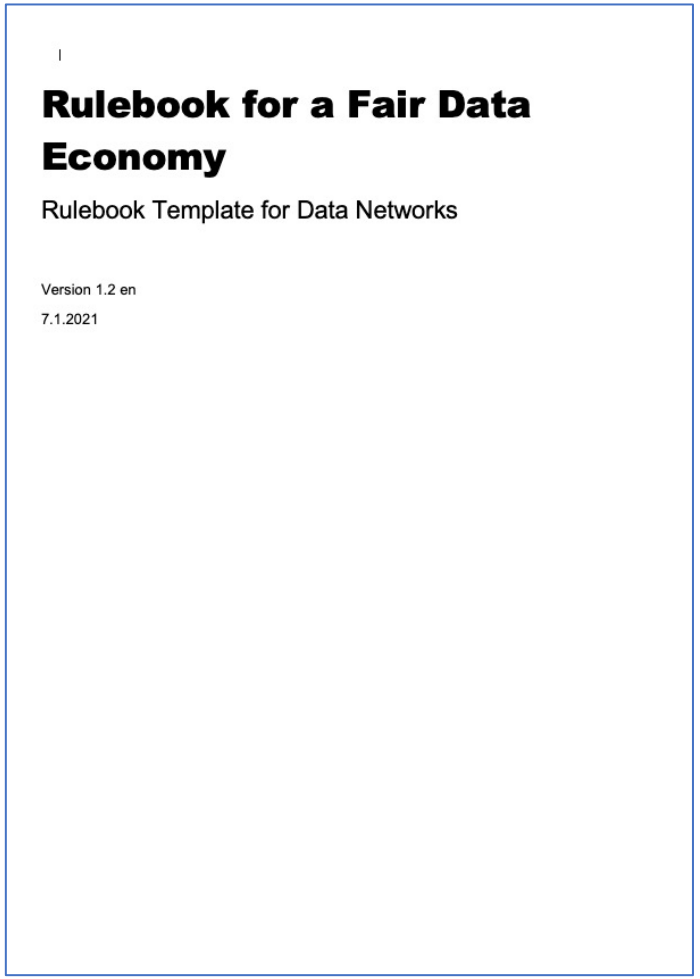
Sääntökirja toimii ohjenuorana dataverkostojen aikaisesta liiketoiminnallisesta ideoinnista toimintamallin määrittelyyn ja sopimuksiin asti:

- **Tarkistuslistat** business, technology, data, legal and ethical
- **Data Ecosystem Canvas**
- **Code of Conduct**
- **Sopimuspohjat**



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

IDSA suosittelee Sitran sääntökirjamallia



Rulebook for a Fair Data Economy

Rulebook Template for Data Networks

Version 1.2 en

7.1.2021

INTERNATIONAL DATA SPACES ASSOCIATION

White Paper | Version 1.0 | December 2020

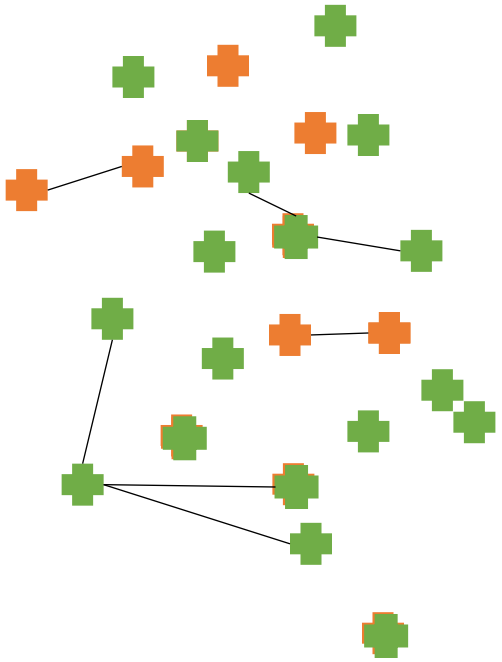
IDSA Rule Book

Reilu datatalous lähtee liikkeelle yksittäisistä organisaatioista

Organisaatio, joka **ei noudata reiluja sääntöjä**

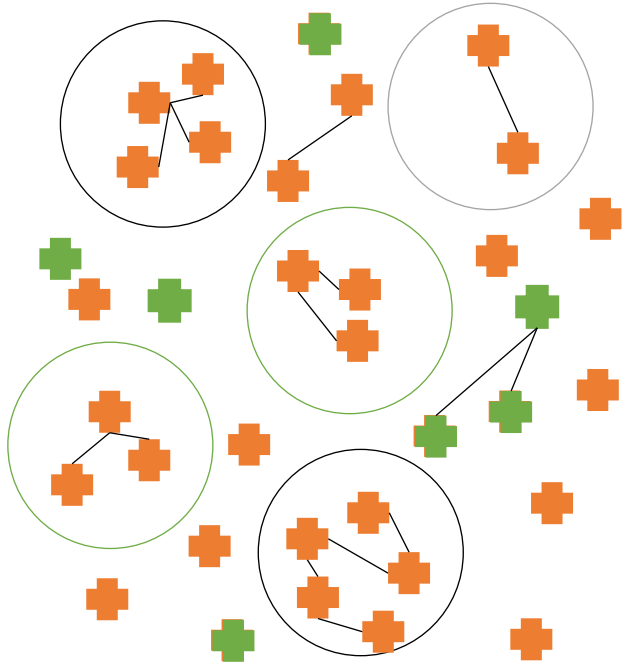
Organisaatio, joka **noudattaa reiluja sääntöjä**

Jotkut organisaatiot noudattavat reilun datatalouden periaatteita



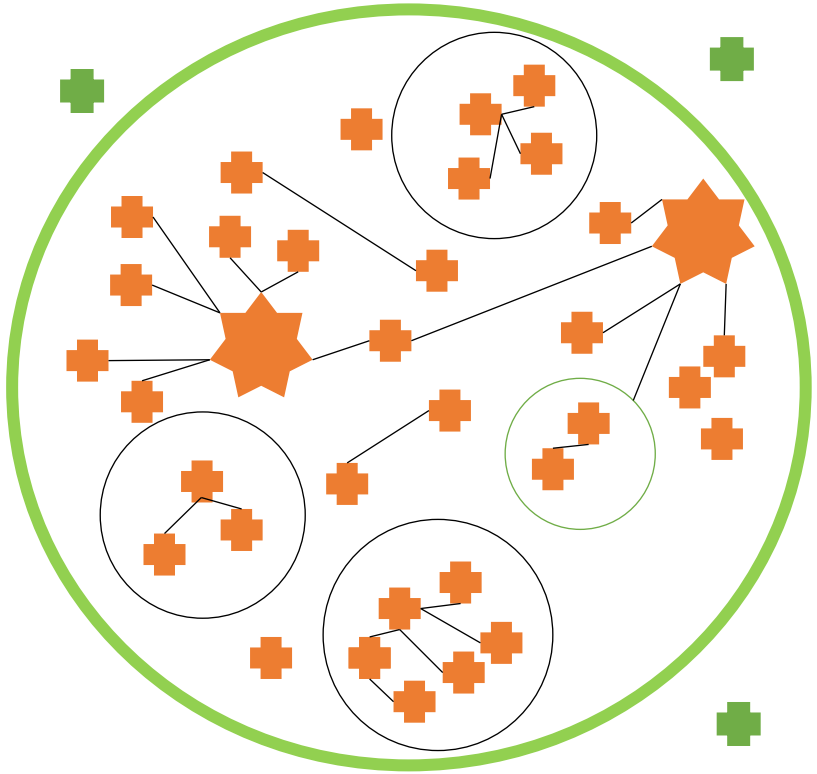
Uusi regulaatio, teknologia, yhteiset säännöt -> **datan käytön lisääminen**

Yksittäiset organisaatiot ja jotkut dataverkostot noudattavat reilun datatalouden periaatteita



Lisää regulaatiota, teknologiaa ja yhteisiä sääntöjä -> **datan jakaminen**

Organisaatiot noudattavat reilun datatalouden periaatteita



Syntyy mahdollistava regulaatio, teknologia ja yhteiset säännöt **reilulle datataloudelle**.

SITRA

Kiitos!

Marko Turpeinen
marko.turpeinen@1001lakes.com