State of Data Spaces Finland

Lightning Talks, Nov. 30. 2023

SITRA

Lightning Talks x 8

Reko Lehti, Taival Advisory Oy

Value Creation and capture in data ecosystems

Timo Paananen, Kela

Julkisen hallinnon data-avaruus

Anu Passi-Rauste, HeadAI

Why we need skills data space?

Tuomo Tuikka, VTT

VTT data space project portfolio and examples

Pirkka Frosti, IOXIO

Enabling the EU twin transition using dataspaces

~~**Juhani Luoma-Kyyny, DataSpace Europe Oy**~~

🤒

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How to create a Common European Agricultural Data Space?

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Data sharing creates value, but how to capture it?

28.11.2023
Reko Lehti

Reko Lehti

Digital Strategy

Business Architecture

Ecosystems

CDO-as-a-Service

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5

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“Ecosystems will account for 30 % of global revenues in 2025”

McKinsey & Company Insurance beyond digital: The rise of ecosystems and platforms

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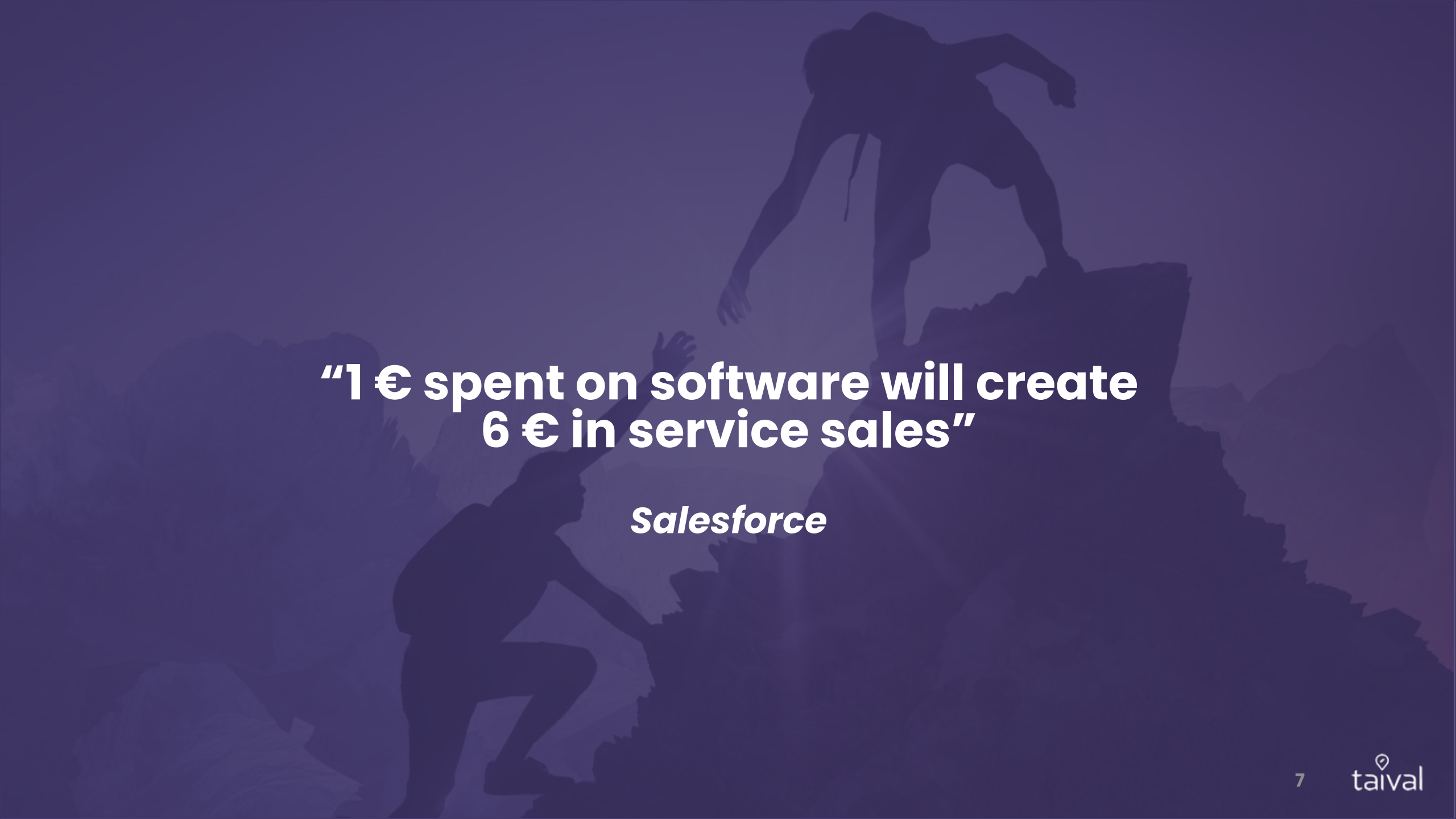

“1 € spent on software will create 6 € in service sales”

Salesforce

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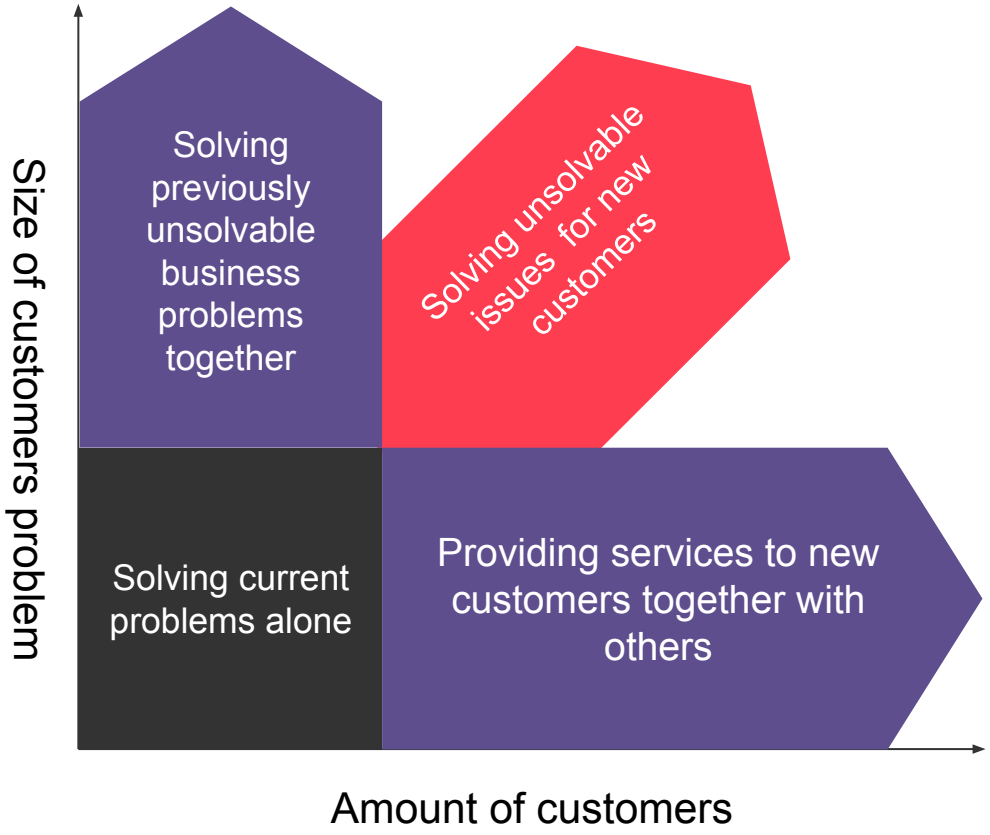
Two areas of play – unsolved problems and new customers

Cooperation in data and knowledge sharing between John Deere and seed manufacturers allows them to improve crop yields for farmers.



Fintraffic facilitating a data ecosystem to enable connected mobility and MaaS services

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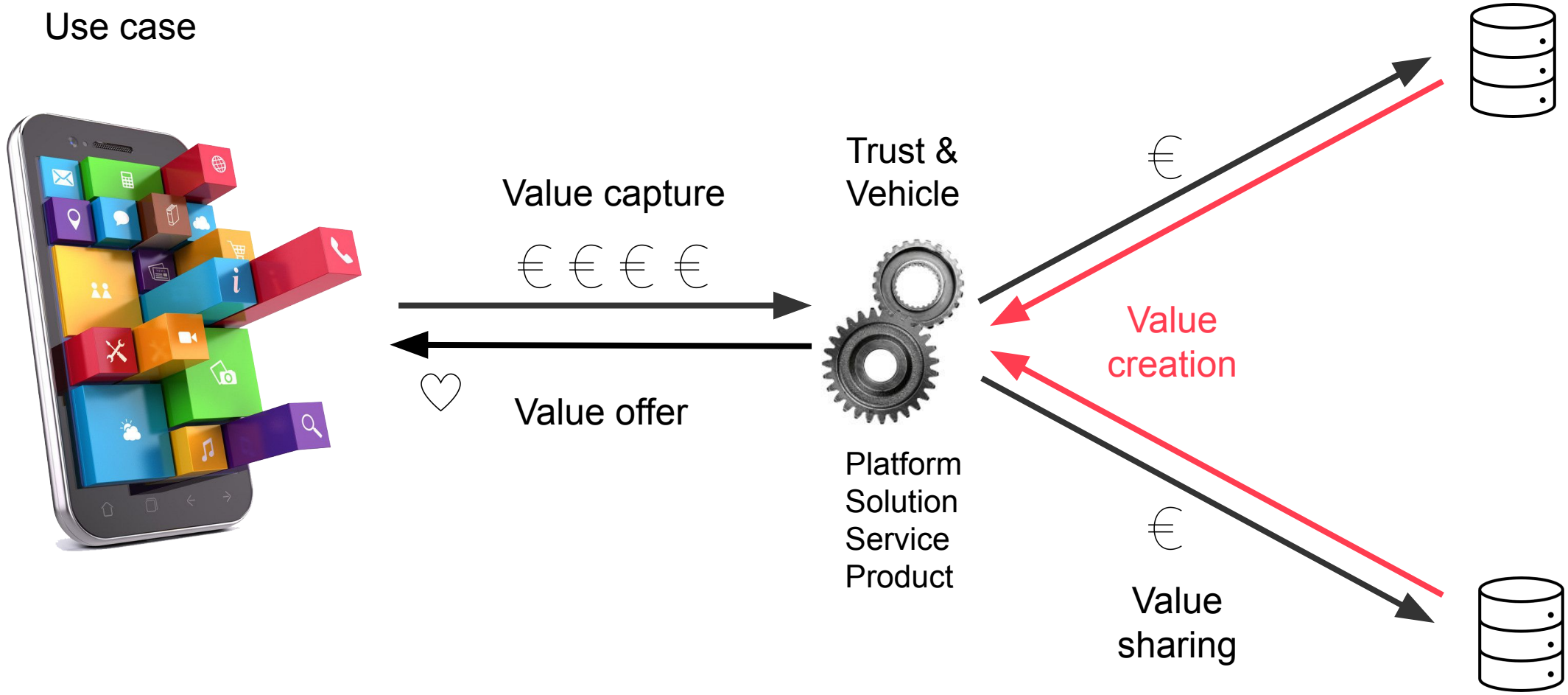
Creating value in a data ecosystem is easy, capturing requires work and trust



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Capturing value requires analysis of motivation and € across stakeholders

Value Drivers by Stakeholders

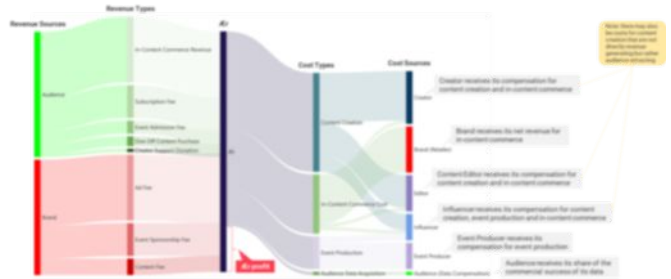
What is valuable for the different stakeholders?

Value Exchange between Stakeholders

What motivates the stakeholders to exchange value between each other?

Revenue & Cost Flows

What is the overall revenue and cost flow across the stakeholders?



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Thank you!

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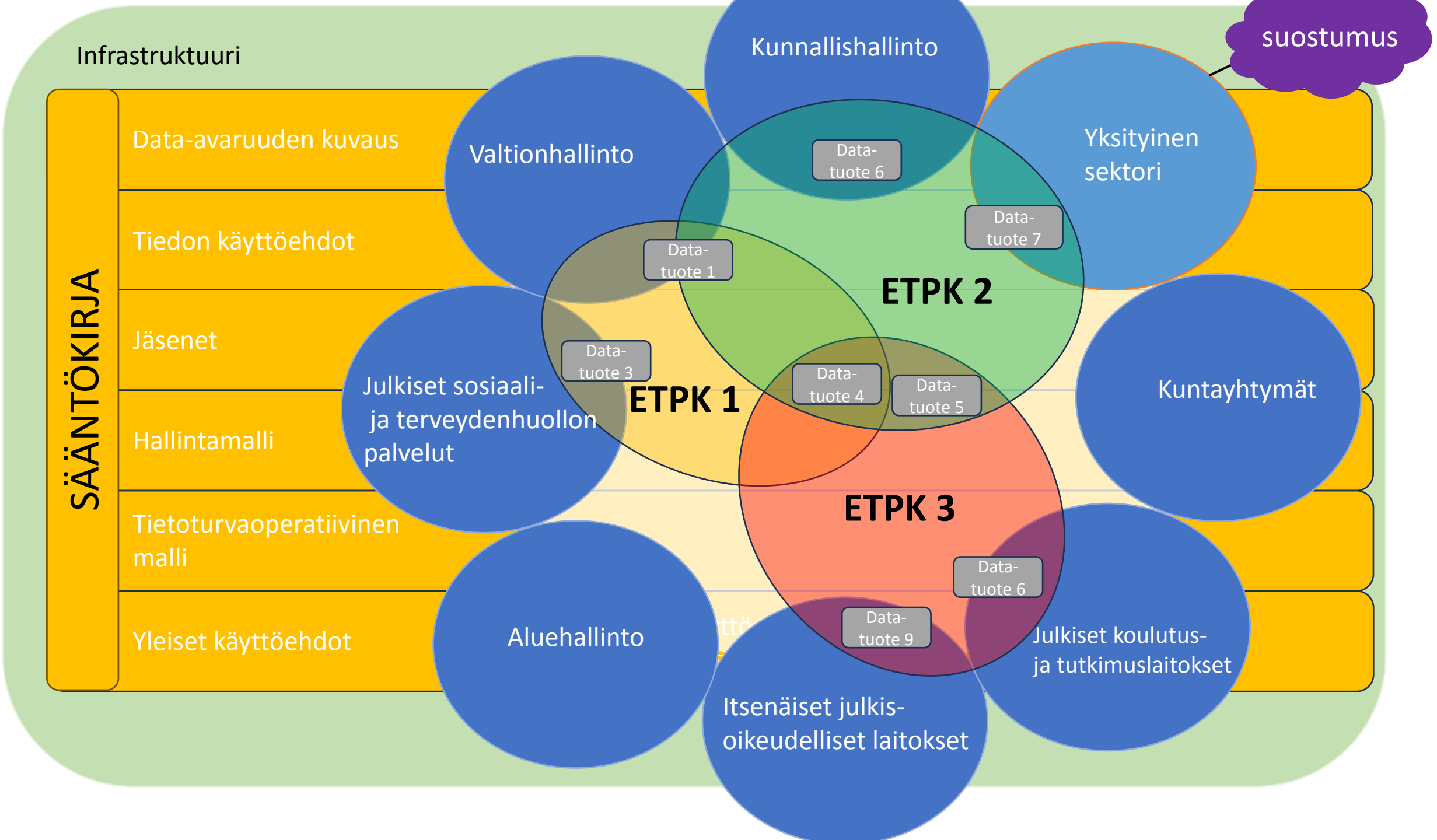
Infrastruktuuri
SÄÄNTÖKIRJA
Data-avaruuden kuvaus
Tiedon käyttöehdot
Jäsenet
Hallintamalli
Tietoturvaoperatiivinen malli
Yleiset käyttöehdot
suostumus
Kunnallishallinto
Valtionhallinto
Yksityinen sektori
Data-tuote 6
Data-tuote 7
Data-tuote 1
ETPK 2
Data-tuote 3
Data-tuote 4
Data-tuote 5
ETPK 1
Julkiset sosiaali- ja terveydenhuollon palvelut
Kuntayhtymät
ETPK 3
Data-tuote 6
Data-tuote 9
Aluehallinto
Julkiset koulutus- ja tutkimuslaitokset
Itsenäiset julkis-oikeudelliset laitokset

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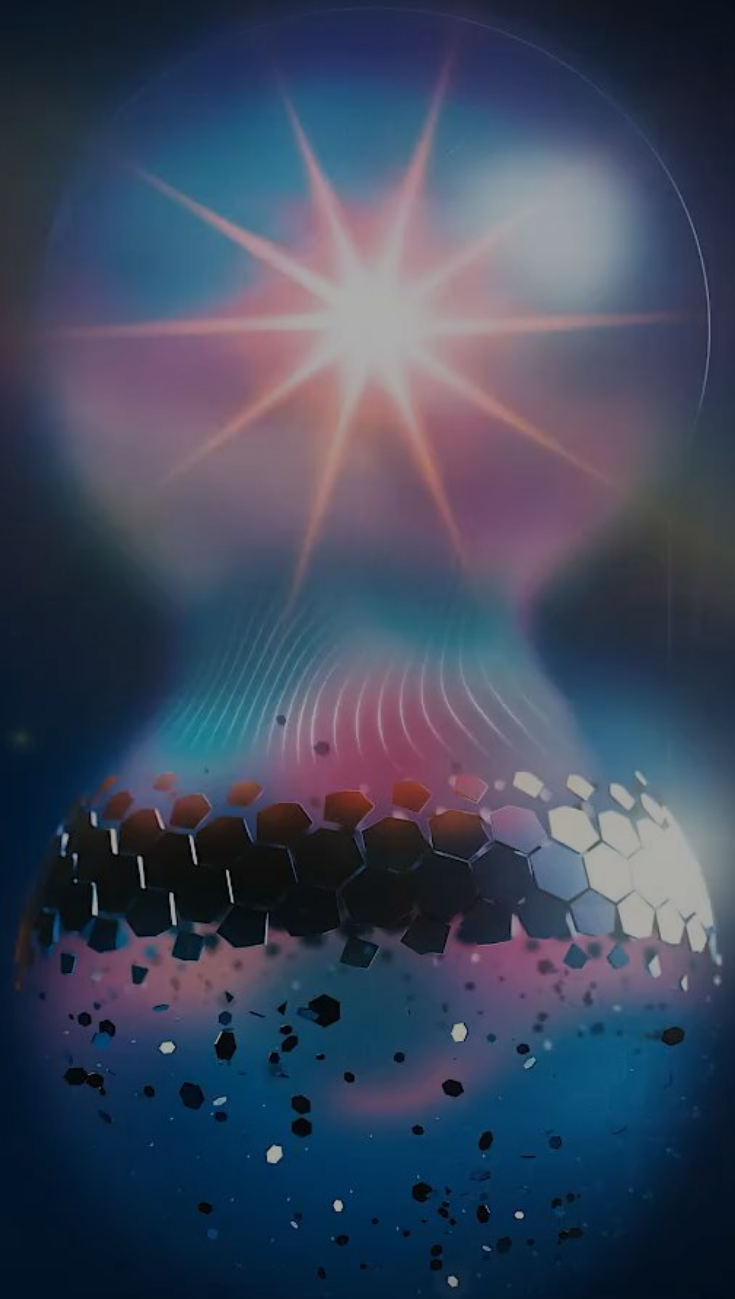
Headai Coloring the world of data

Why we need skills data space?



Anu Passi-Rauste, Headai

Lightning Talks – State of Data Spaces Finland 30.11.

@headaiofficial

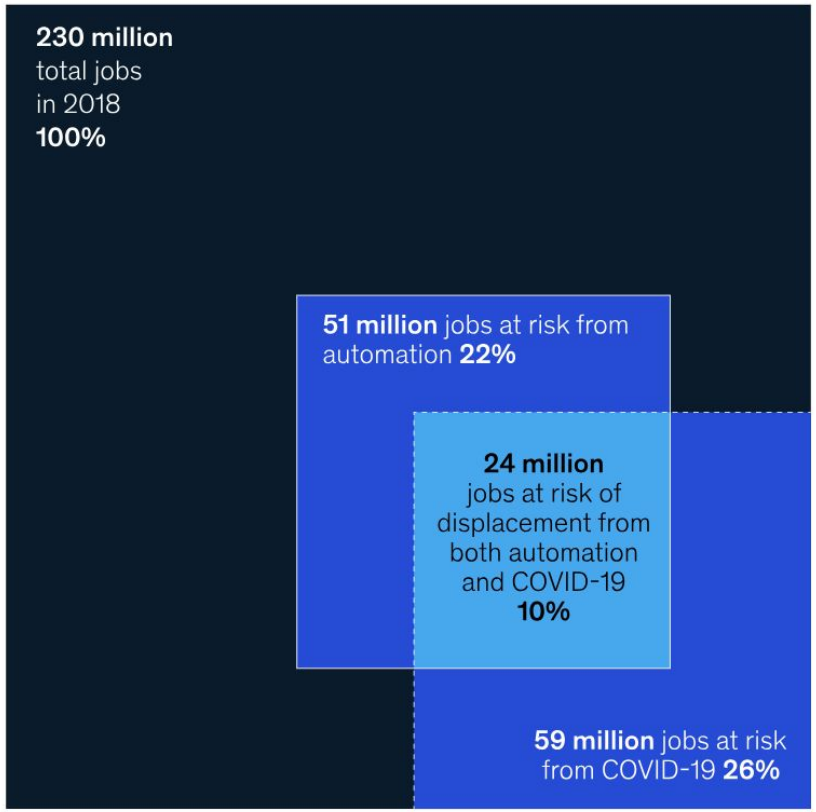
Meet Matilda!

Matilda is a **UX designer** at **DigiFutUX** and is aware of the necessity to keep pace with **AI-powered design tools** in today's fast-moving tech world.

EU-DUNE is a real use case representing a dynamic upskilling platform designed for employees to navigate the evolving digital landscape. Leveraging a comprehensive skills data space, the platform, through various integrated tools, offers personalized skills assessment, recommendations, and training matches. In this use case, Matilda, a UX designer, navigates her career progression and training options, empowered by data-driven insights and seamless data interconnections.

There is a large overlap between jobs at risk due to COVID-19 in the short term and jobs displaced by automation in the longer term.

Breakdown of European employment



https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-in-europe

Forbes Subscribe

By any measure, learning and development (also known as upskilling) is big business and important *for* business. According to one estimate, the market size of this global industry is more than $370 billion, with companies spending an average of $1,300 per employee each year on various continuing education activities.

https://www.forbes.com/sites/edwardsegal/2021/05/18/a-new-way-to-upskill-novel-partnership-could-change-how-we-learn-at-work/?sh=63914a4e7906

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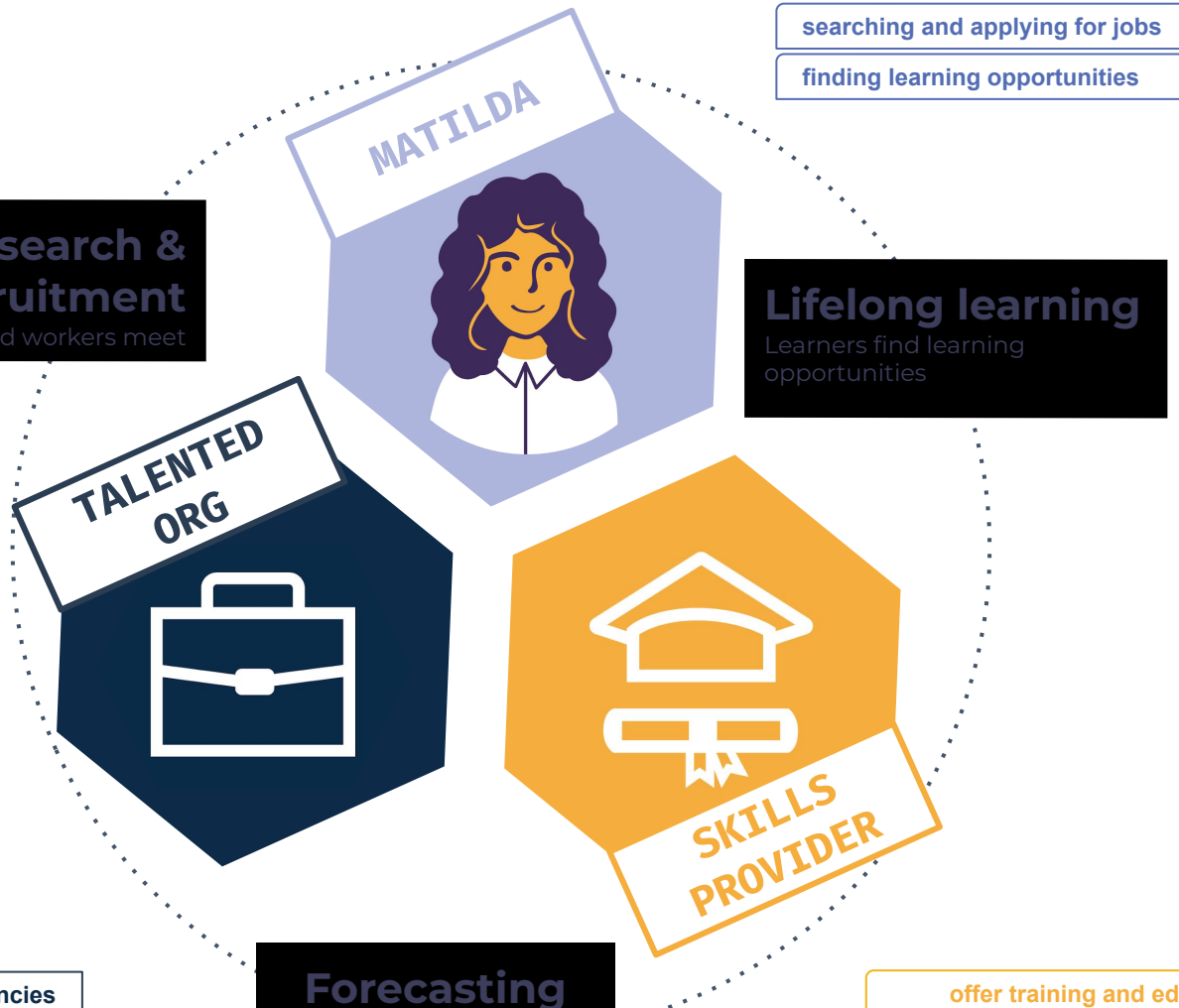
- career planning and life decisions
- life long learner, student
- professional, employee
- searching and applying for jobs
- finding learning opportunities

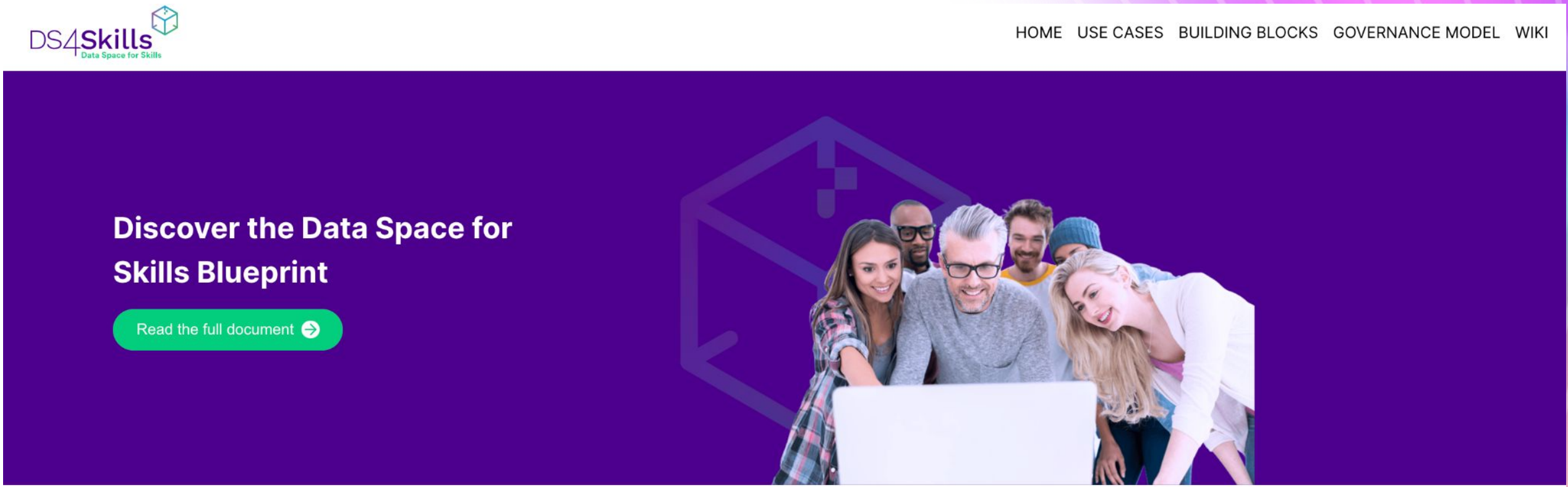


- manage competencies
- attract and recruit talent
- develop personnel
- forecast future skills needs
- offer jobs

- offer training and education
- recruit students
- develop curriculum
- validate and certify skills
- Forecast future skills demand

Enablers

- STAFFING AGENCY
- RECRUITMENT PLATFORM
- DATA SOURCE
- DATA SHARING SERVICE
- TECHNOLOGY PROVIDER
- GUIDANCE APP
- OTHER ENABLER
- PUBLIC ENTITY



https://www.skillsdataspace.eu/blueprint/

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A HUMAN-CENTRIC APPROACH TO SKILLS DATA:

Create value for the individual & society

Towards a flexible, dynamic, fair & competitive digital society for education & work

'Use my data on my terms & for my benefit: make my life easier, more productive & more fullfilling'

'Your data helps us to deliver the best education and services'

'Your data helps us match you to the best job & help us succeed'

'Your data helps us plan for the well-being of our society'

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2019 2020 2022/23 2024 2025->

Skills Alliance

VAKE Accelerator

Make it happen, make it right! mydata.org

MyData #skillsdata Thematic Group

The thematic group has united already more than 40 organizations from 6 countries to make the human-centric skills data space happen!

DS4SKILLS

PREPACTS-DS-01-SKILLS

MyData #skillsdata Thematic Group

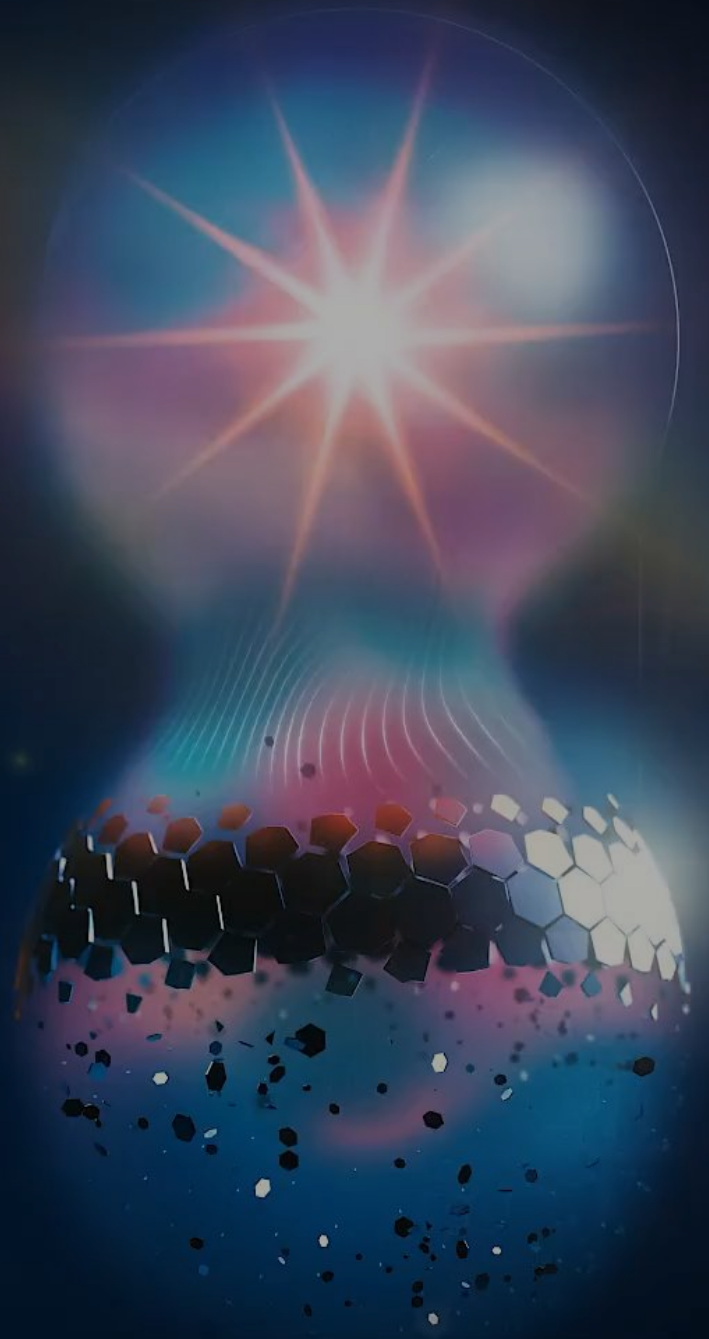
Skills Data Working Group Gaia-X Finland /

SITRA

PROMETHEUS-X Building the Education and Skills Data Space

THE EUROPEAN DATA STRATEGY

Coloring the World of Data



Thank you!

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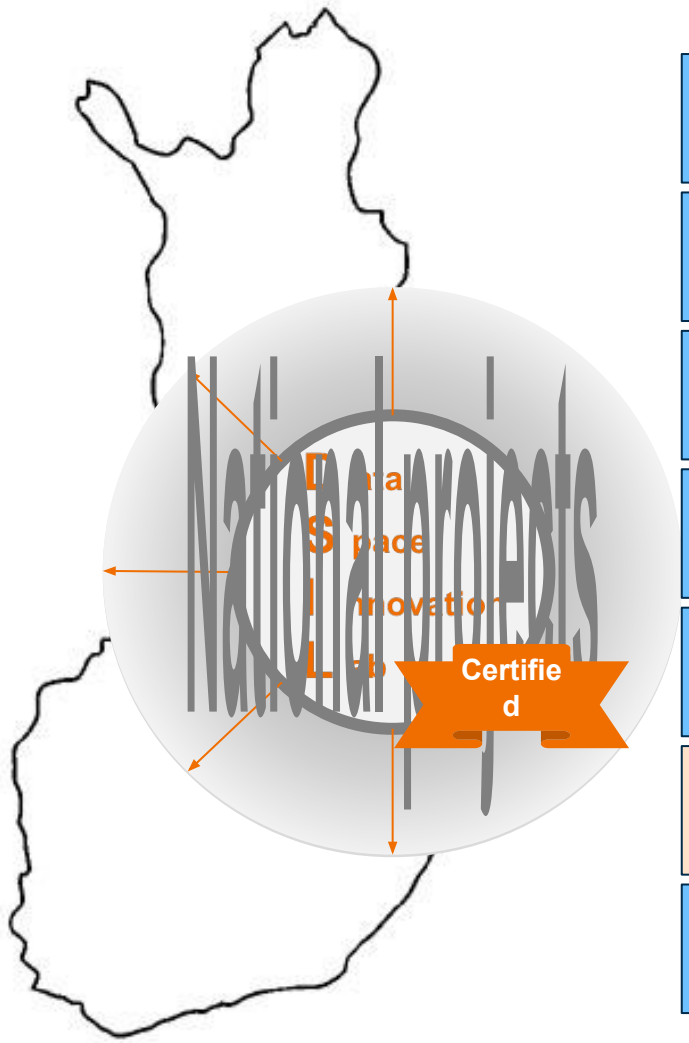
VTT Data Space activities in a nutshell

- Data space activities since 2015
  - Big Data Value Association founding member
  - IDSA member and IDSA Finland hub (idsa-finland.fi)
  - Gaia-X AISBL first round member
- Data Space Innovation Lab
  - Technical, regulation, governance, business and design approaches covered
  - Supports research projects but infrastructure is also used for external interoperability testing and education.
  - Technical:
    - IDSA architecture implementation
      - A certified IDSA connector, with OPC UA extension
      - Eclipse transformation
    - Gaia-X architecture implementation testing
- VTT project portfolio
  - Volume 22-24M€/Finland, 101M€/EU
  - 19 pilots/Finland, 42 pilots/EU



Industry and Manufacturing

Agriculture

Mobility

Green deal

Energy

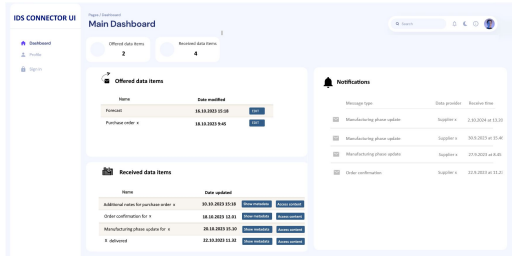
Skills

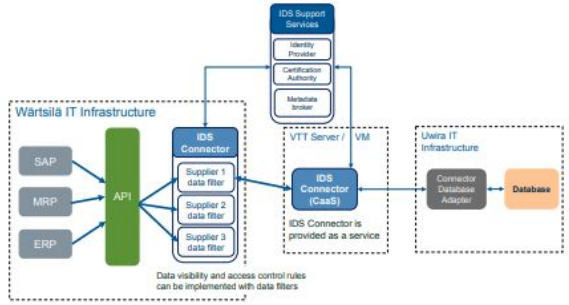
Health

Examples

OSME (Wärtsilä) – Open Smart Manufacturing Ecosystems initiative (mexfinland.org/osme) (BF)

More seamless integration between the IT systems of two companies, the management of product orders can be streamlined, resulting in heightened efficiency and a reduction in errors





Next
- BF OSME2

Following EU:
- DaCapo

+preparations

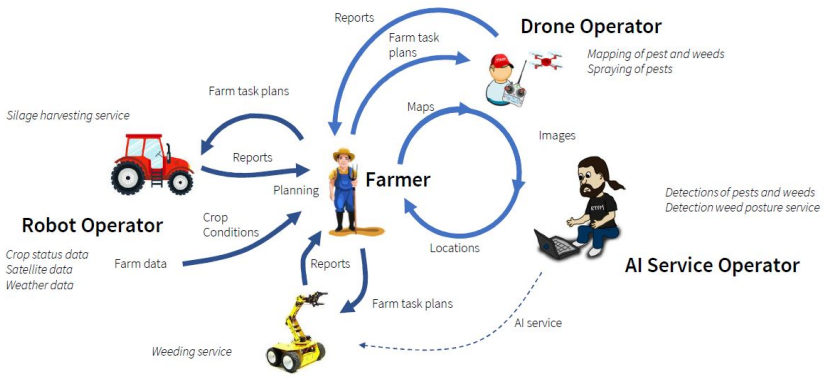
FlexiGrobots (EU)

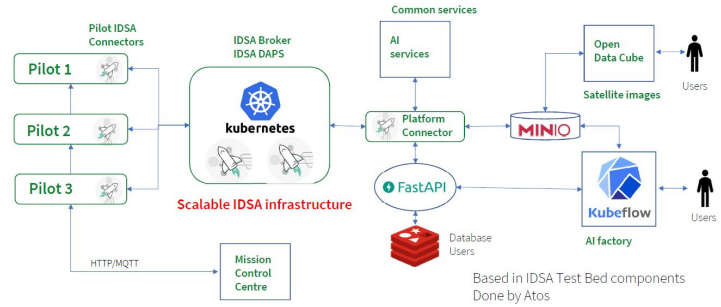
Silage harvesting
- Silage harvesting requires 3-4 tractors and work phases. Right timing of harvesting is important for the value of crop.

- **Rumex weeding**
- Rumex causes losses in cattle farms as each Rumex plant creates approximately 1m$_2$ area that is not eaten by cows. Rumex is spreads efficiently and is hard to remove.

- **Pest management**
- Pests are serious threats to Rapeseed crop. Spraying is costly and harmful to environment. Precision methods with drones are needed.

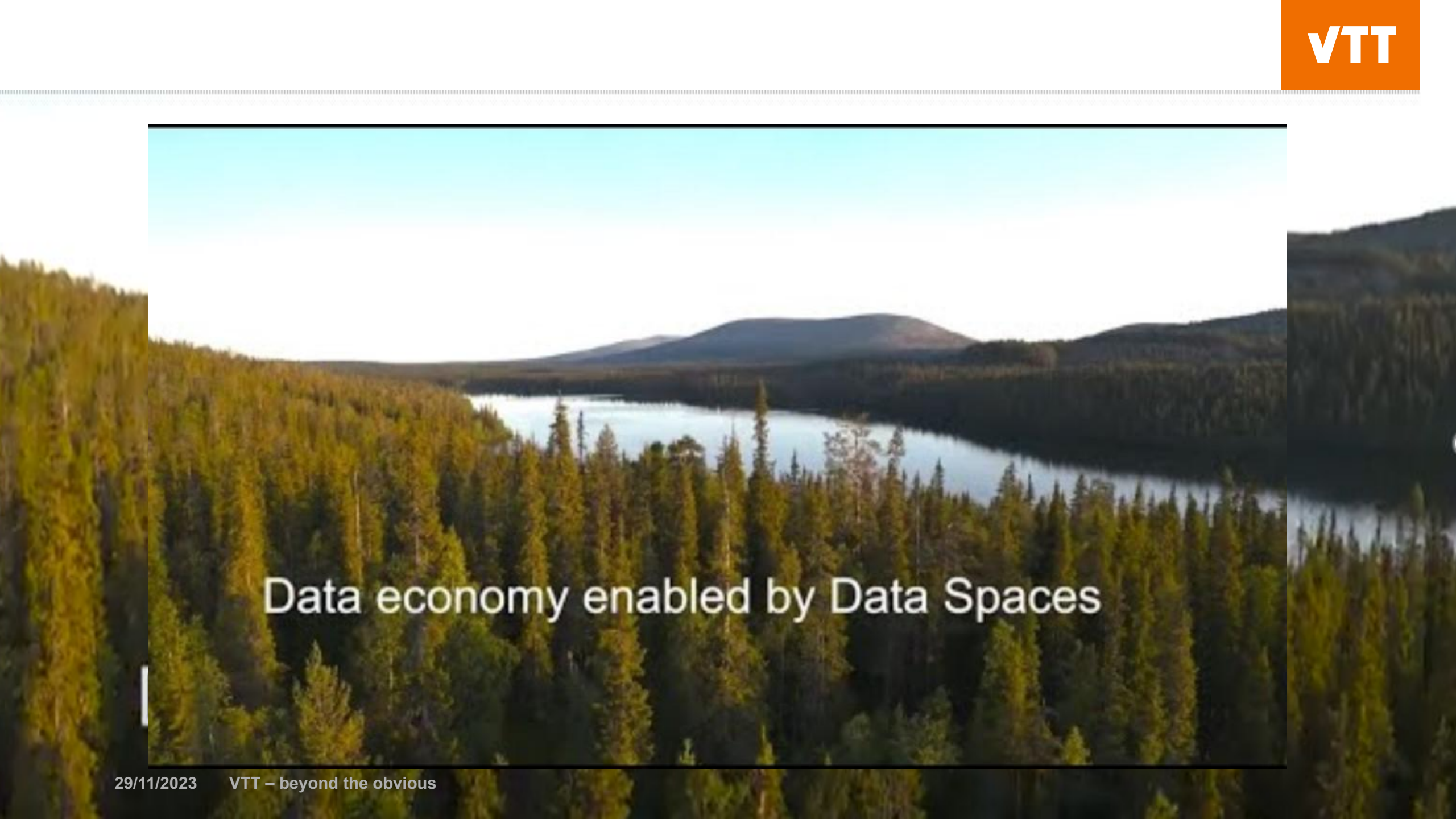
- **Grassland renovation**
- Grassland renovation use case shows that different actions can be done simultaneously at the field that increases the efficiency of Robot as a Service business model. The use case combines weeding, seeding, and fertilisation tasks.





Following EU:
- Data Space 2.0

Parallel:
- Data Space Support Centre
- Mobility Data Space
- TANGO


Data economy enabled by Data Spaces

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Finland is leading the public data space development in EU

First services available in production in January 2024!

IOXIO

Finnish industries are piloting DPPs first in EU - From wheel to well to your table

5,8 CO2e tonnes

Logistics CO

API

transport/emissions

IOXIO Dataspace

RoadFreightEmissions

Request: { “Leg identifier” : “400239” }

Response:

{
“Freight type” : “Palletized”,
“Condition” : “Ambient”,
“Journey type” : “Long-haul”
“Contract type” : “Dedicated contract” ,
“Total emissions:” : 5,8 CO2e tonnes,
“Emissions Per TCE:” : 1,2 CO2e tonnes
... }

Cargo Owner

API

SSAB

Orkla

PBI RESEARCH INSTITUTE

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101 LAKES

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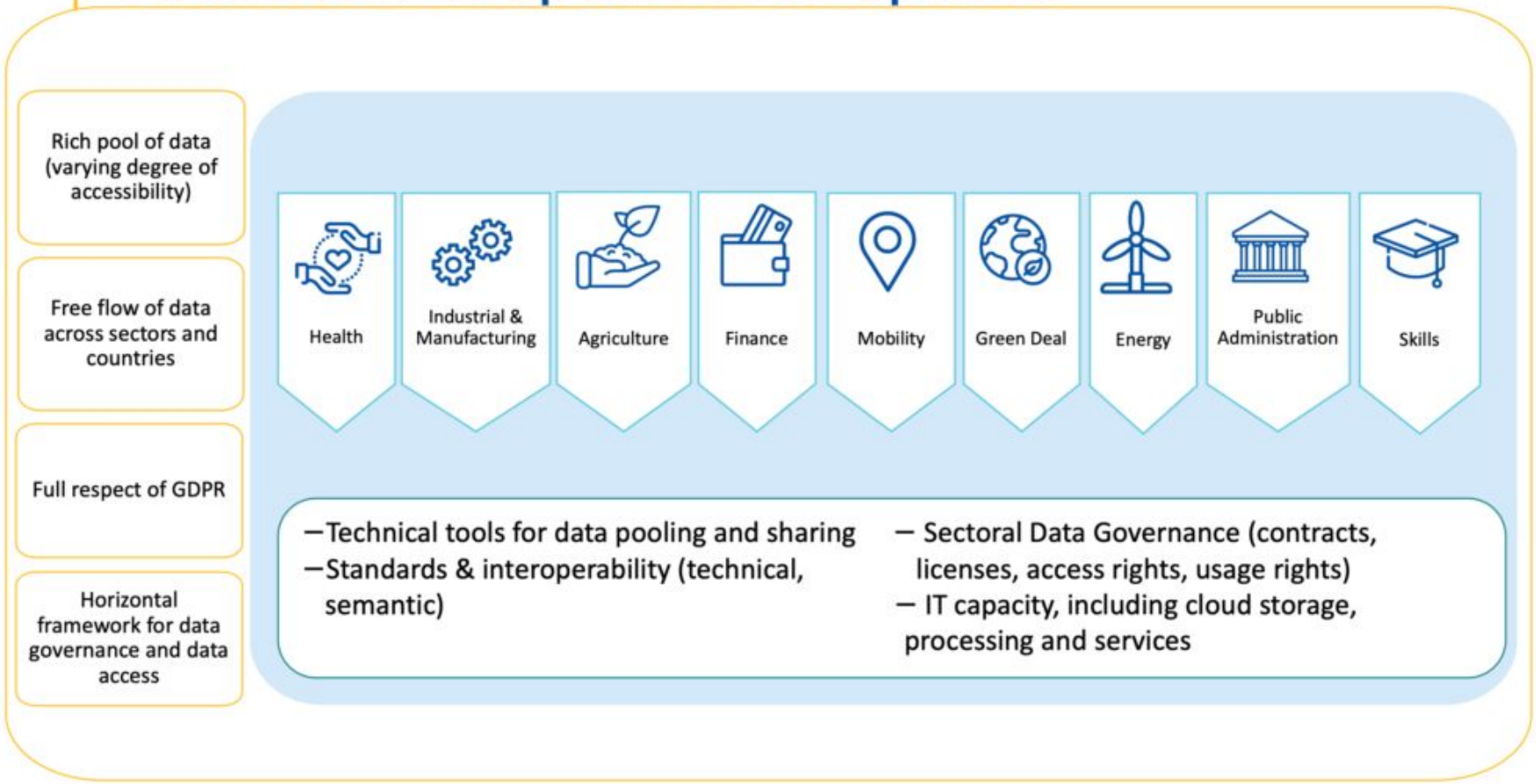
Marko Turpeinen

30.11.2023

Mitä ovat data-avaruudet?



Lähde:
Euroopan komissio

EXPLORE & IDENTIFY

ANALYSE & ASSESS

INTEGRATE & PROPOSE

Understanding and mapping the data sharing landscape

Building blocks for profitable and responsible data space in agriculture

Data space technical landscape

Roadmap towards the data space in agriculture

Funded by the European Union

Common European Agricultural Data Space (CEADS) - Our Project Vision

Why?	New **value creation** and **operational efficiencies** for European agri-food stakeholders by exploiting available data.
How?	Creating a network of **interoperable data sharing initiatives** with business models in data economy, responsible data sharing, digital inclusiveness, integrative artificial intelligence and cross-sectoral integration. The **decentralized approach** will reduce the complexity to ensure an easy onboarding for **public and private stakeholders** in the value chain. The **interest of farmers** will build the center of gravity of this approach.
What?	**Develop guidelines for a data space** that can be adopted by public and private sectors participants in an easy way. Define procedures to explain and implement **legal, technical and governance** issues. Support actors and organizations that facilitate and monitor the adoption of the guidelines.

Funded by the European Union

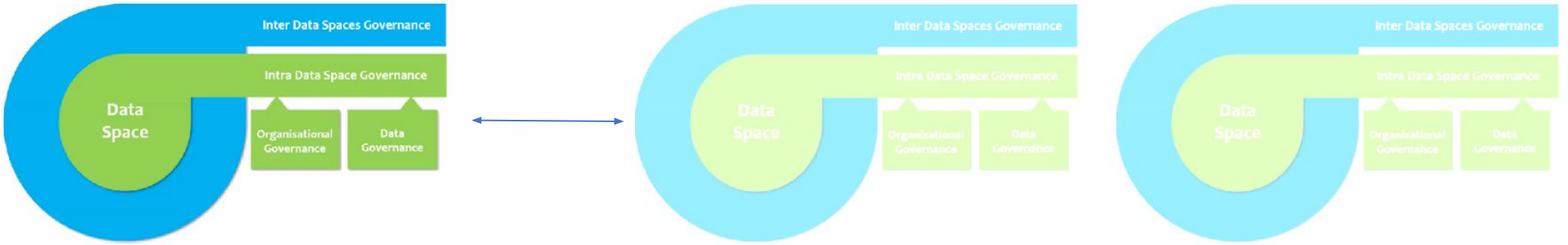
Scenario for CEADS structure

European Agri Data Space

Other European Data Space

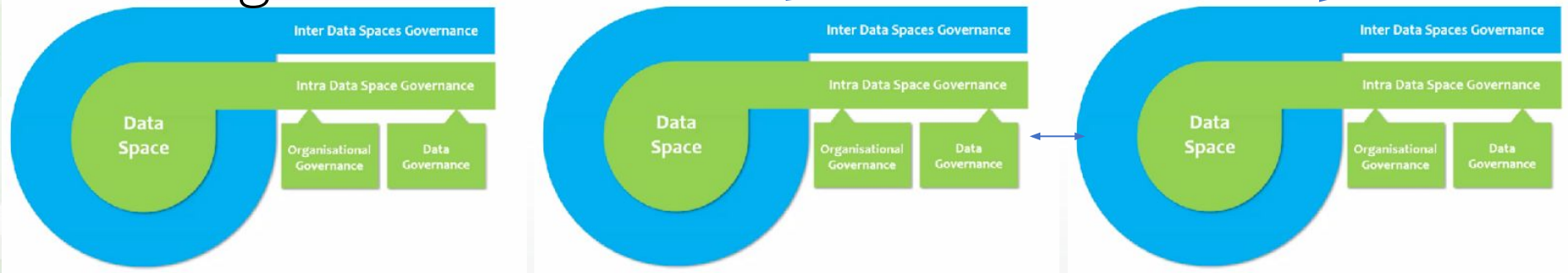
International Agri Data Space

Macro level



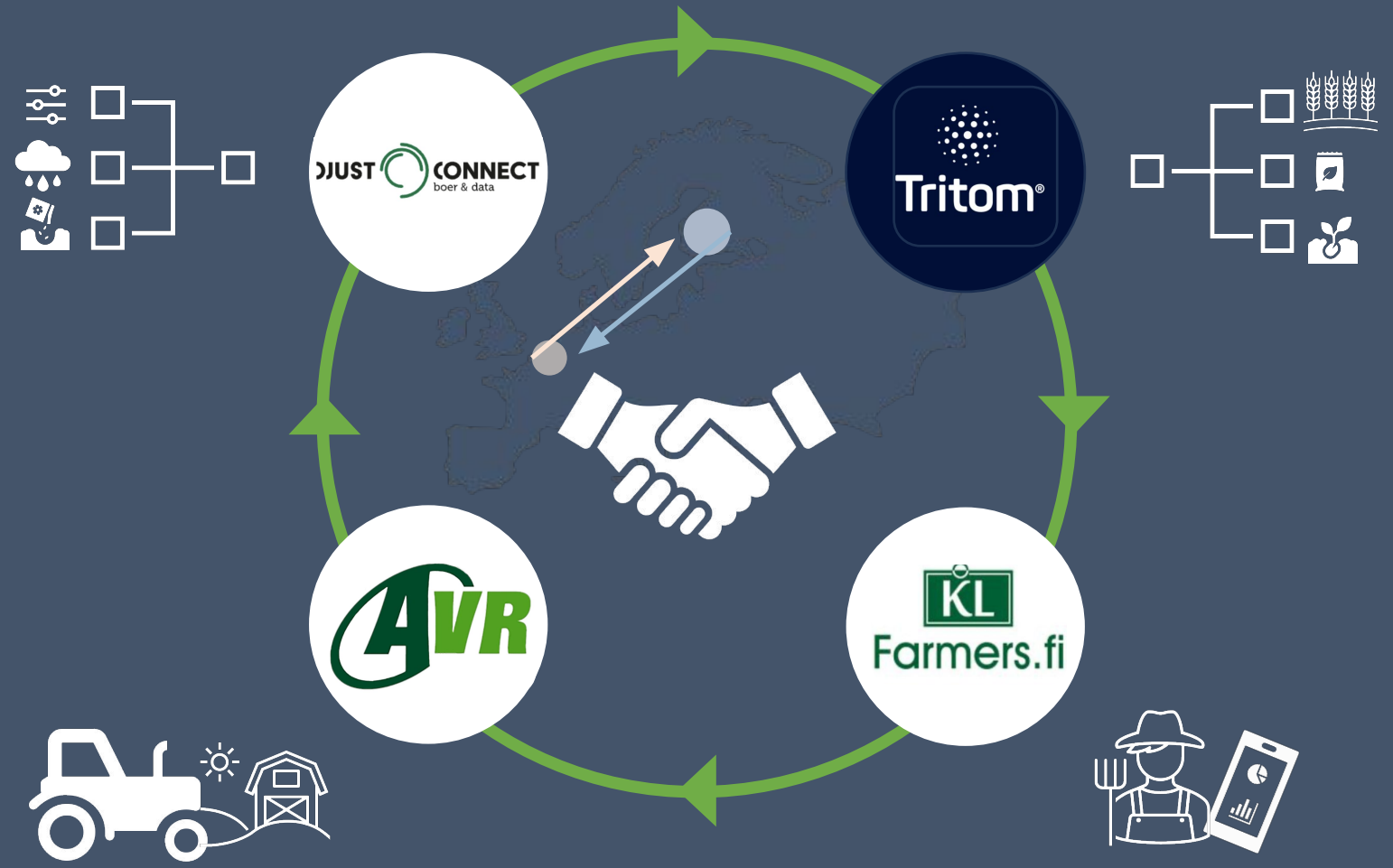
Data Sharing Initiatives

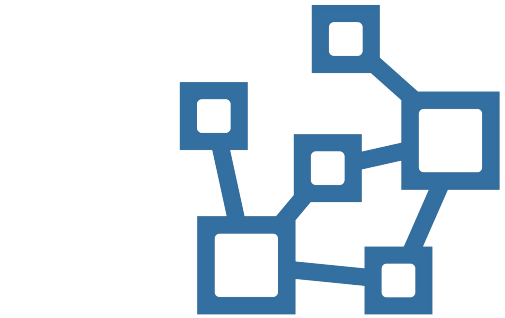
Micro level



Funded by the European Union

Example: POTATO-X





1001 LAKES

BUILDING TRUST IN DATA ECOSYSTEMS

Marko Turpeinen

marko.turpeinen@1001lakes.com

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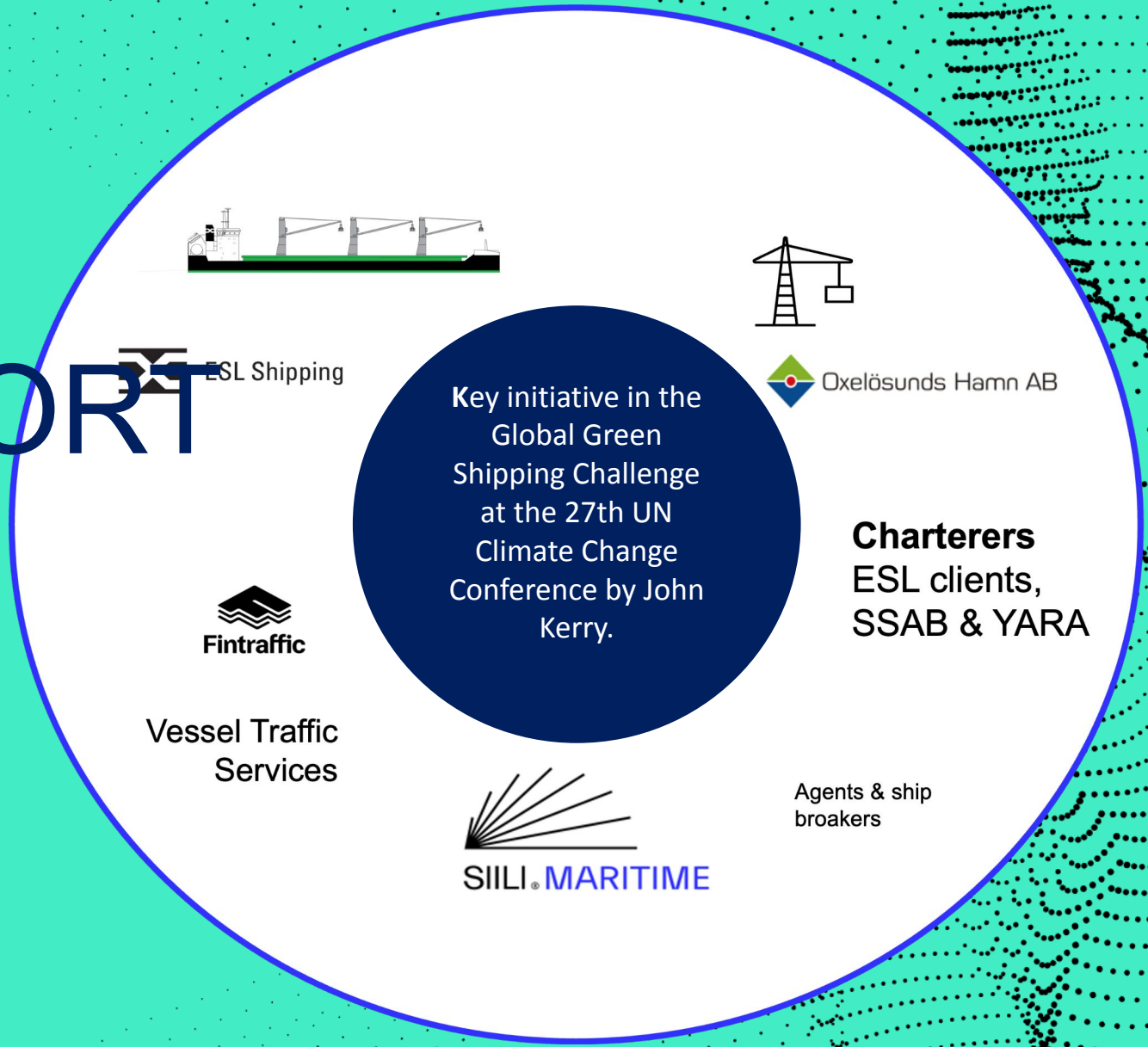
SITRA

VIRTUAL PORT ARRIVAL

Eliisa Sarkkinen
Delivery Lead & Lead Service Designer
at Siili Solutions Maritime Business Unit

For further information: eliisa.sarkkinen@siili.com

Fintraffic x SIILI



REASON BEHIND THE VIRTUAL PORT ARRIVAL PROJECT –"HURRY TO WAIT"

Currently vessels rush to the destination port with the prevailing First Comes First Served principle and binding contracts, even, if there is a known delay.

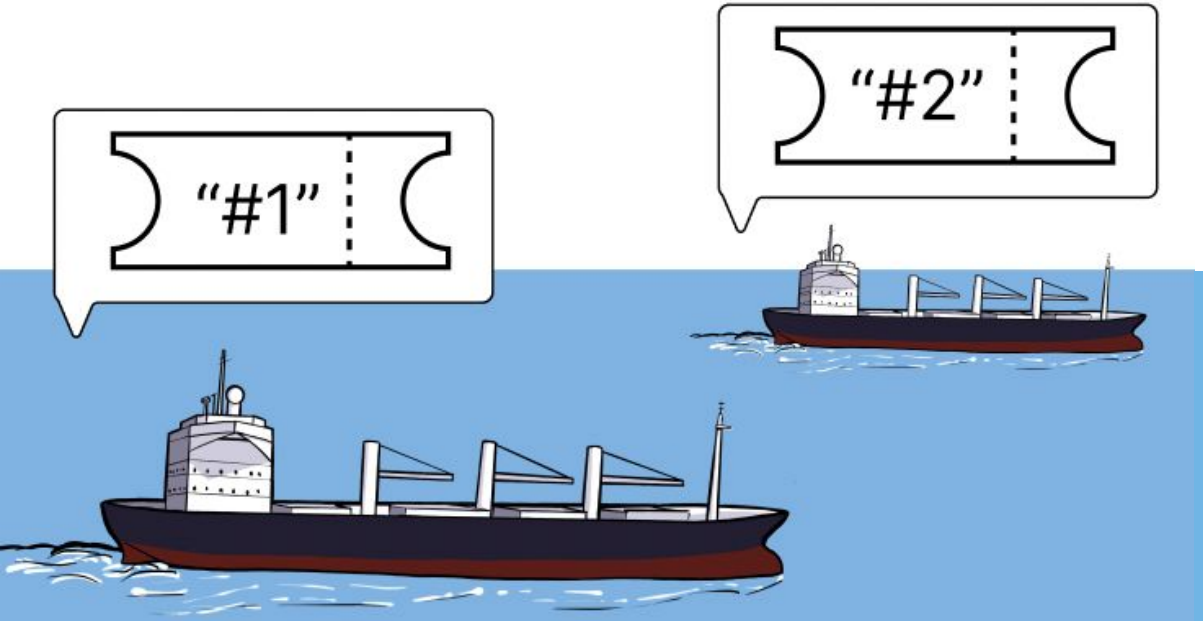
!

Increased fuel consumption and emissions, as well as waiting at the anchorage.

SOLUTION

SAVING EMISSIONS WHILE INCREASING PROFIT

With Virtual Port Arrival a vessel can slow down speed, receive a line-up position already while sailing, and arrive at the port roads when the berth is available without breaching contracts.



RESULTS* SO FAR

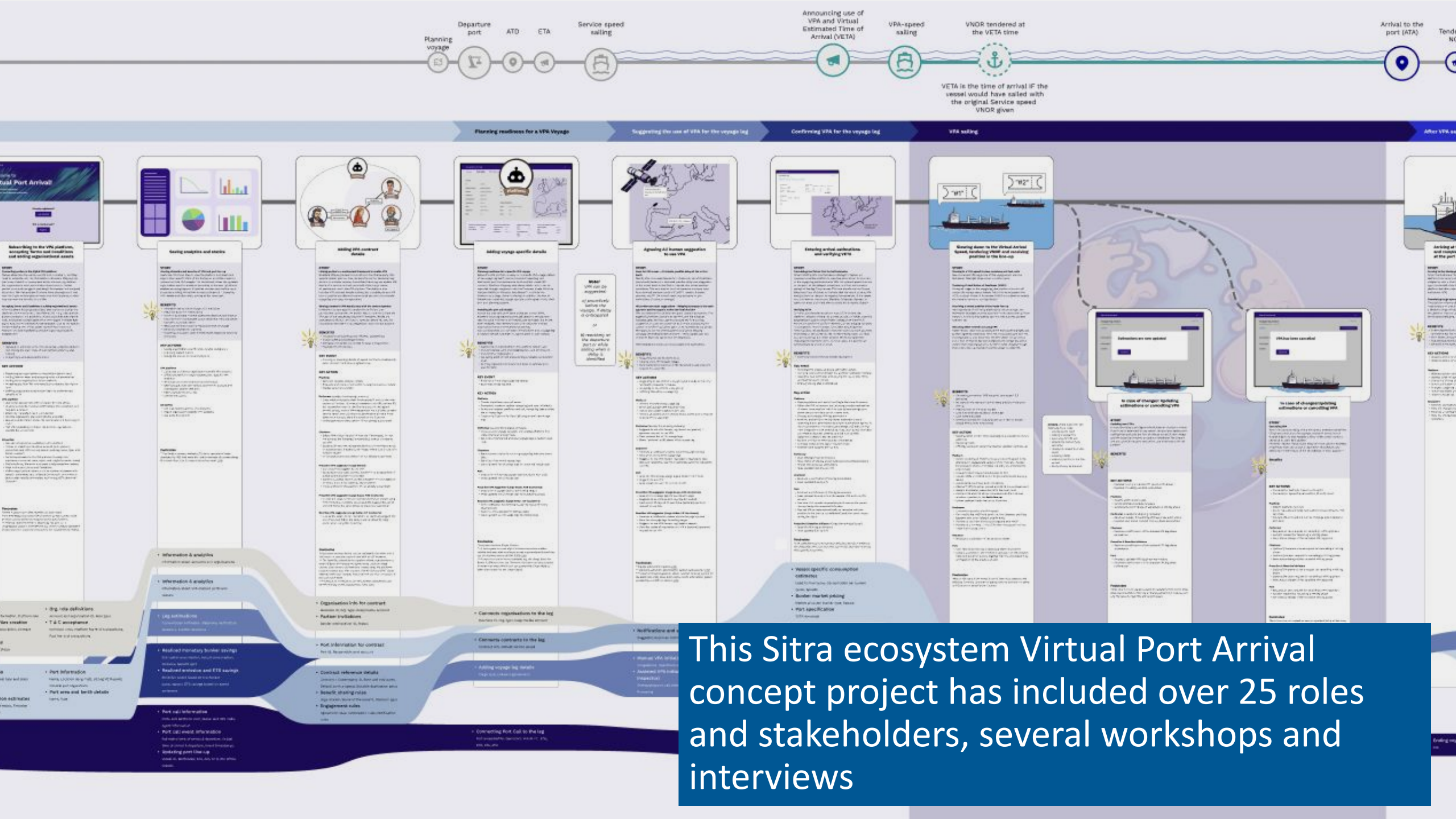
-24 % average reduction of CO2-emissions

-20 % savings in bunker oil

We are creating a concept including a platform that supports in…

- **decision making**
- **situational awareness**
- **tracking emissions**
- **sharing savings**

**Results from the ESL pilot with SSAB and Port of Oxelösund*



This Sitra ecosystem Virtual Port Arrival concept project has included over 25 roles and stakeholders, several workshops and interviews

TRANSFORMATION & DISRUPTION
With …

- committed stakeholders
- service design

… we can find the best ways for Maritime parties collaborate and exchange information in a wider ecosystem

More sustainable operations & partnerships

Many thanks to all the stakeholders involved and to our great team at Siili Solutions!

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