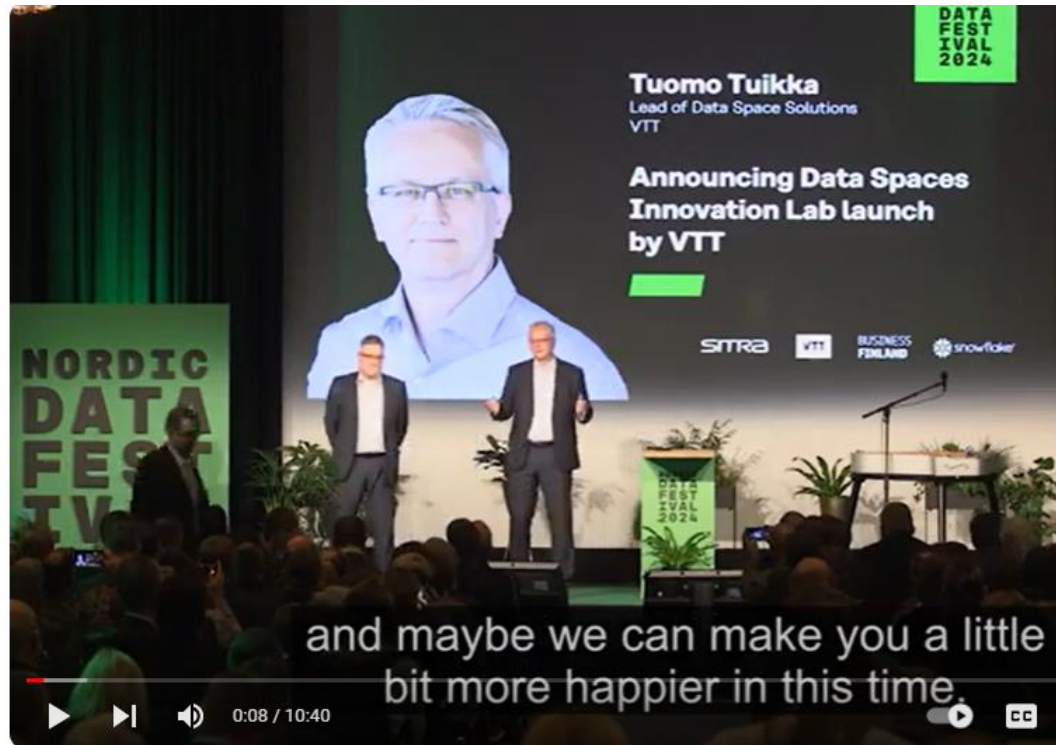




Data Spaces Innovation Lab for Data Spaces Alliance 30.8.2024

Antti Kojola
Markus Taumberger



Nordic Data Festival 2024: Announcing Data Spaces Innovation Lab launch by VTT

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Tuomo Tuikka, Lead of Data Space Solutions at VTT
Antti Kojola, Solution Sales Lead at VTT ...more

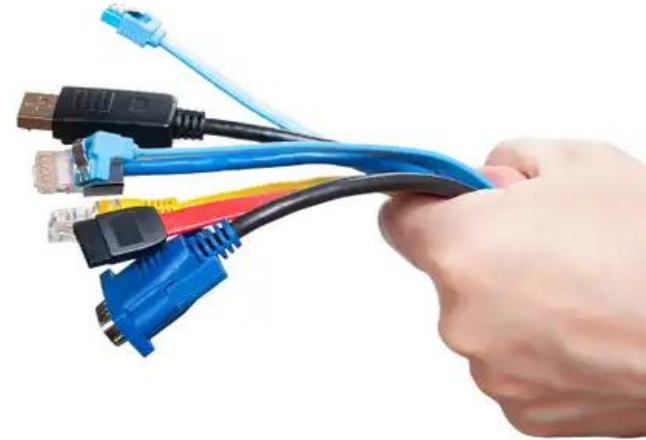
Data Space Innovation Lab (DSIL)

- VTT expert service focused on Data Spaces with infrastructure to try things out
- Cross-disciplinary:
 - Data Economy and Technical research
- Research projects
 - Research skills and methodologies for data ecosystems design and digital transformation
 - Development skills for data-driven software architectures, use of artificial intelligence, and data analytics
- Customer services

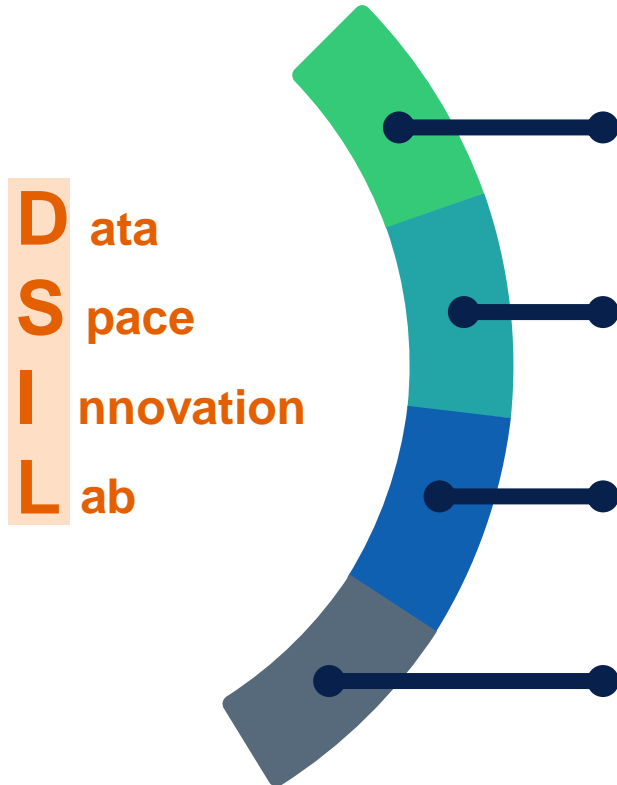


Data Spaces – A new approach to data exchange

- Data platforms and data hubs
 - Data transferred to third party
 - Often hosted in Cloud environment => Depending on the physical location might change the legislation under which the data is
 - Managed by third party software => Possible exposure to leaks
- Data lakes and warehouses
 - Distributed collections of data bases under a single point of control => Same data control problems as platforms
- Messaging systems or APIs
 - High level of security
 - Data management challenging => Typically big overheads regarding configuration and scaling because of individual handling of each connection
- Data Spaces
 - Software-based distributed system
 - Ensuring data sovereignty, and the trustworthiness and security of data transactions
 - Sophisticated and comprehensive governance framework describing the common rules and agreements among the data space participants for data sharing



BENEFITS OF DATA SPACES



Cross sectoral flow of data

Data spaces enable the integration of data across sectoral, organizational and geographical boundaries. They are key for innovative data enabled processes, products, and services.

High security and trust

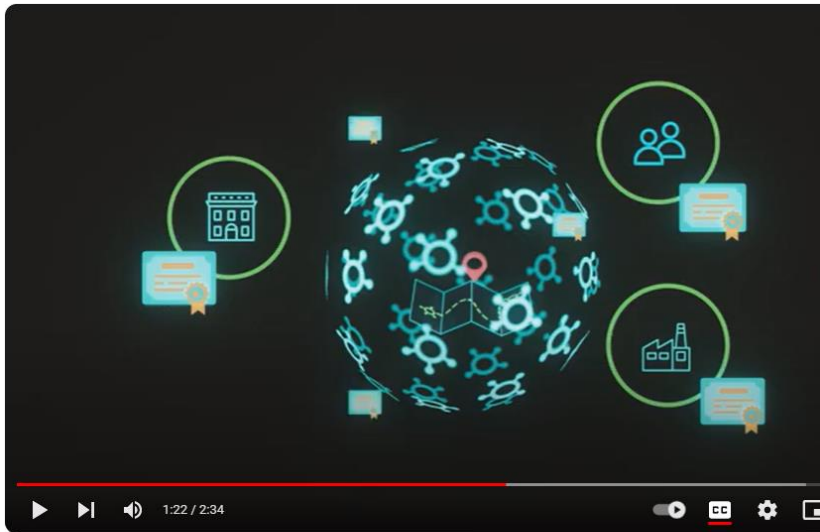
Data spaces are federated data ecosystems where trusted partners apply the same high standards and rules to the storage and sharing of data.

Self-determined control of your data use

Organizations and individuals have self-determined control of the use of their data (data sovereignty) as they grant the access and usage rights to the data they generate.

Compliance for European data markets

By utilizing data space, one can assure that the data sharing is compliant with current and future European standards, policies and rules, which support data business scale up.



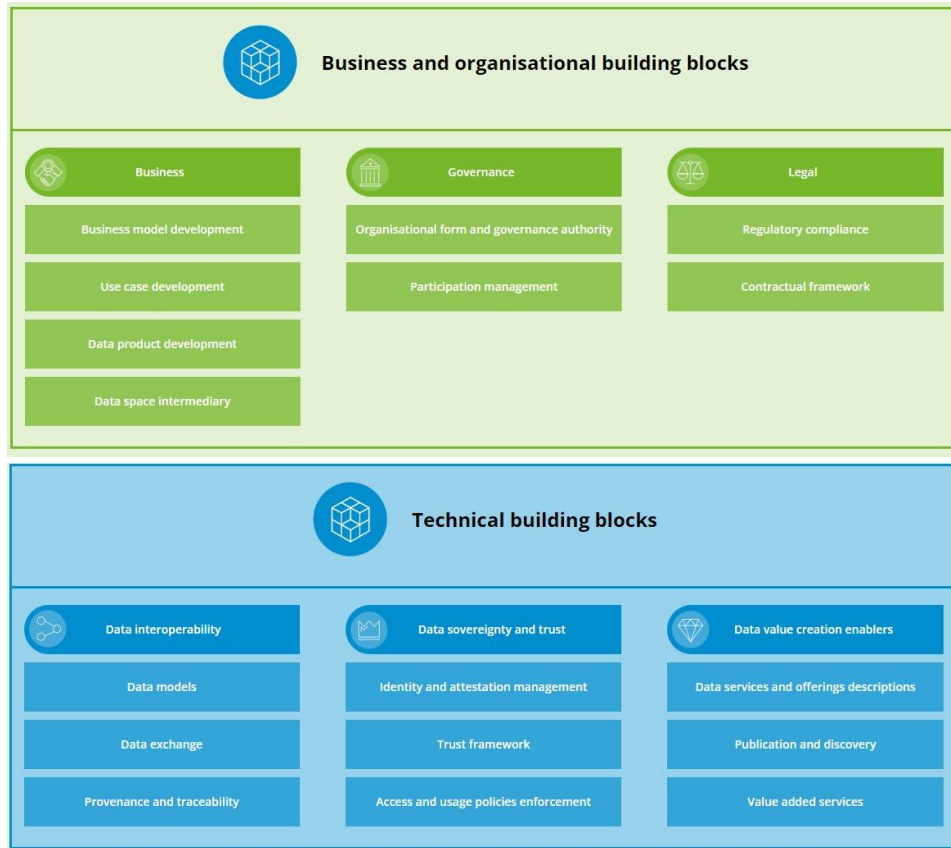
VTT Data Spaces

VTT
4.54K subscribers

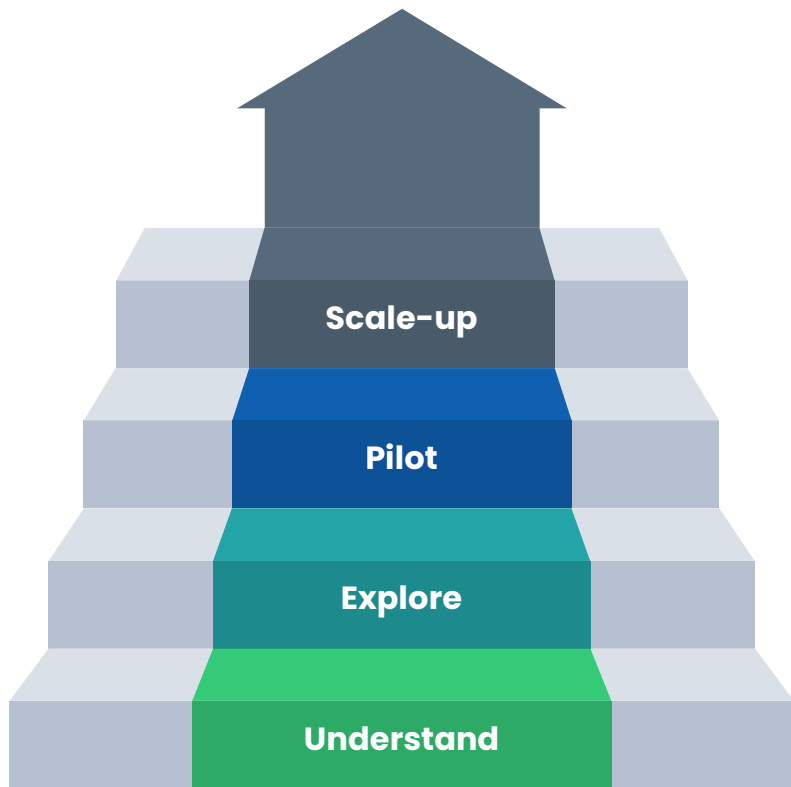
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<https://www.youtube.com/watch?v=alb2MeDB6m0>



Data Space Innovation Lab supports the journey towards data spaces



Technical advisory, strategy support and access to right networks to support your journey in expanding data space operation from pilots to concrete businesses.

Create concrete pilot cases to showcase the actual benefits restrictions in real environments. VTT's data space pilot environment, certified connectors and leading experts ensure effective pilot creation and analysis.

Explore the opportunities data space have in your businesses and operations. Get concrete understanding of relevant solutions and create initial business cases for your use cases. Neutral information for your decision making and planning.

Advisory services for create an understanding about data spaces and their pros and cons vs. other solutions on market. Concretize the value and what you need to do in order to enter data spaces era.

Our services cover the critical aspects of data spaces development

Expert support

VTT's leading technology, application and business experts are at your service through innovation lab.

In addition, the innovation lab offers concrete connection to European networks, pilot cases and experts.

Use case library

Innovation lab offers access to the most recent use cases. Use case library enables concrete understanding of how data spaces are applied in real environments.

VTT's data spaces innovation lab

Data space innovation infra

VTT's data space connectors received its certificate 2nd in the world. The connector and other pilot infrastructures are continuously developed in various Horizon Europe and other projects to offer you the latest solutions in data spaces.

Project services

The Innovation lab offers access to VTT has a wide R&D project services, through which we can help you to accelerate your development. We can help you to develop own connector, data space or to join exciting ones.

DSIL Infrastructure

- Sandbox environment for data spaces co-creation with partners
- Private Cloud infrastructure for GDPR-compliant hosting (servers in Tampere and Oulu)
- Certified components with extended features
 - OPC UA support
 - Support for user and role-based access management (Keycloak)
- Ready solutions for FIWARE, GAIA-X, IDS

=> www.vttresearch.com/en/ourservices/data-spaces



Use case library

DSSC.EU
Data Spaces Support Centre

How can we help you?

The official organization on EU...
The official organization on EU...
The official organization on EU...

Navigation: About, Support, Knowledge Base

deployEMDS

Towards a common European mobility data space (EMDS)

DISCOVER MORE

DaCapo

Digital assets and tools for circular value chains and manufacturing products

Timeline: 10 countries, 5,000+ 40 months

Quality Chain

FLEXIGROBOTS

Flexible robots for intelligent automation of precision agriculture operations

FlexigroBots is an innovation leader aiming to build a platform for flexible heterogeneous multi-robot systems for intelligent automation of precision agriculture operations, providing multiple benefits to farmers around the world.

Mobility

Circular economy in manufacturing

Agriculture

DataMust

Data markets for sustainable cities
Nokia Flagship project 2020-2025

Partners: LOHDE, SITOWISE, CORAL, VTT, NOKIA

Collaboration partners: City of Espoo, City of Las Palmas, Sany Group S.A.

Reservyst

Empowering manufacturing lines for enabling critical and other products and services for power of spring forward times.

TANGO

Digital Technology for Secure and Trustworthy Data Flows

RESONANCE

Replicable and Efficient Solutions for Optimal Management of Cross-sector Energy

The RESONANCE project is creating a software framework for design and development of solutions for demand-side flexibility management of distributed and small-scale assets.

Horizon-Trustee

Towards a Trustworthy Framework.

Utilizing Self-Sovereign technologies and with State-of-the-Art homomorphic encryption, HTRUSTEE offers a socially and environmental aware framework for cross discipline federation of Data.

Data Market

Trust technology

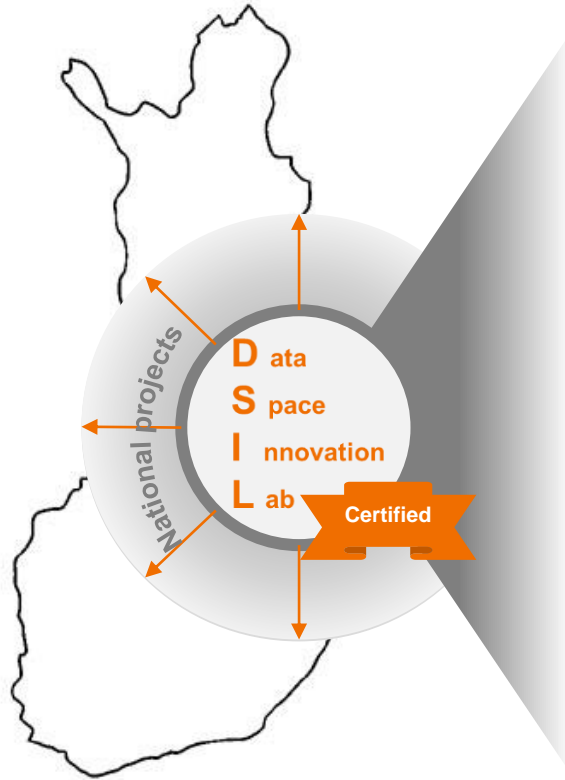
Energy

Manufacturing

Data space portfolio, where VTT is a partner

Finnish based

EU level



of parties: **17**
Pilots: **19**

of parties: **188**
Pilots: **42**

Industry and Manufacturing

Agriculture

Mobility

Green deal

Energy

Skills

Health

Conclusions

Current status

- Visible movement in other countries, Finland has some catching up to do - VTT can support
- Hype, everybody says they have data spaces (database, data lake / warehouse, platforms)
- Lack of knowledge about data spaces

Vision

- Convenient like internet search engines
- AI-supported data model creation / translation
- Convergence of data and AI
- From user interfaces for direct data space interaction to AI agents with real-time / real-world data access through data spaces
- From closed platforms to collaborative ecosystems
- Standards on all levels, like in mobile communication (base stations and mobile phones)

VTT

**MIRACLES OFTEN
BEGIN ON MONDAYS.**

beyond the obvious



Photo credit: Markus Kiili

www.vttresearch.com/en/ourservices/data-spaces

dataspaces@vtt.fi

bey⁰nd

the obvious

markus.taumberger@vtt.fi
antti.kojola@vtt.fi