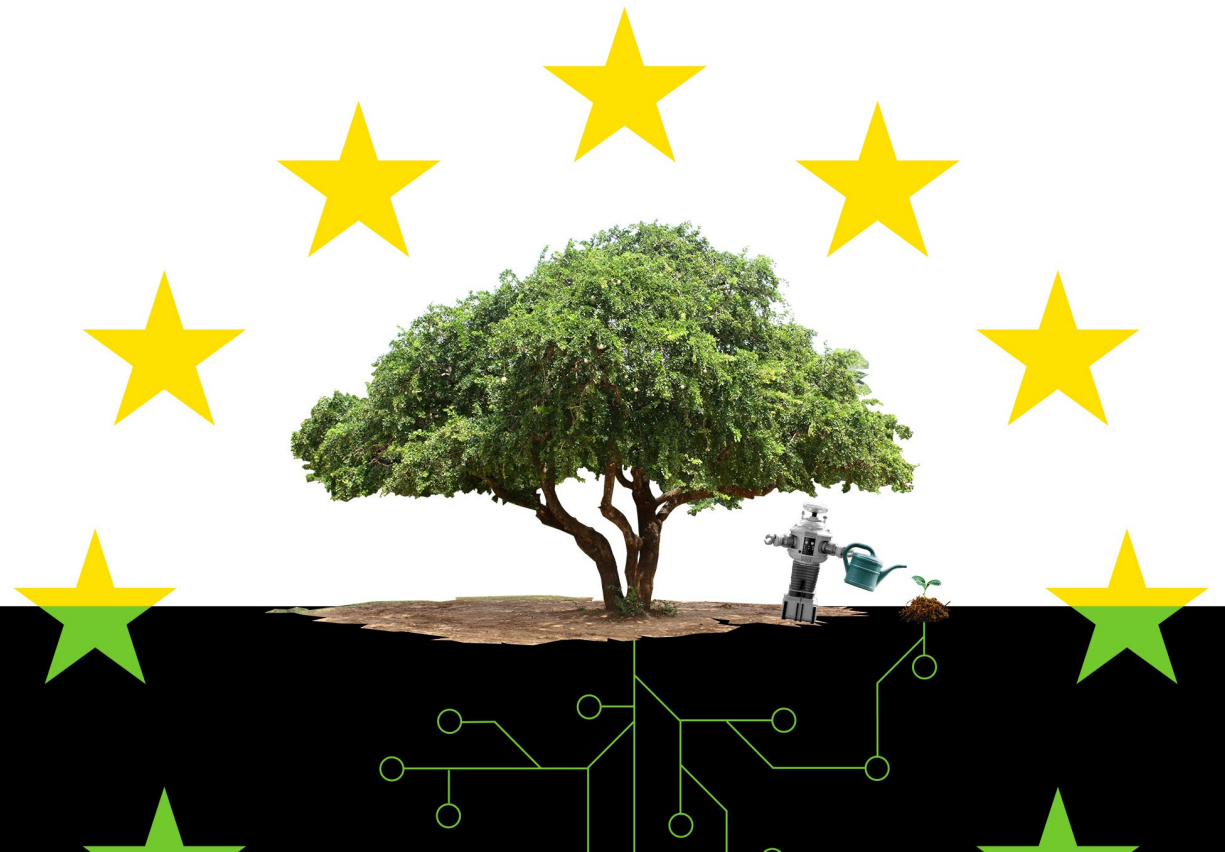


Finland's Gaia-X strategy

5 May 2021



The following organisations are participating in the development of the Gaia-X strategy

1001 LAKES

CSC

NIIS

VTT TECHNICAL RESEARCH

AALTO UNIVERSITY

DIMECC

NOKIA

CENTRE OF FINLAND
TECHNOLOGY INDUSTRIES OF
FINLAND

BC PLATFORMS

GEOFORUM

MOTIVA

MINISTRY OF ECONOMIC
AFFAIRS AND EMPLOYMENT

BUSINESS FINLAND

MINISTRY OF TRANSPORT
AND COMMUNICATIONS

ROBORIDE

UNIKIE

CINIA

NATURAL RESOURCES
INSTITUTE FINLAND

SITRA

MINISTRY OF FINANCE

VASTUU GROUP



Contents

INTRODUCTION

KEY CONCEPTS

THE PURPOSE OF THE GAIA-X STRATEGY

THE STARTING POINTS OF THE GAIA-X STRATEGY

KEY CHALLENGES IN THE FINNISH CONTEXT

STRATEGY

MISSION AND STRATEGIC GOALS

THE PROVISIONAL ORGANISATION OF THE HUB

THE HUB'S KEY TASKS 1-5

FUNDING OPPORTUNITIES

FURTHER DEVELOPMENT



Key concepts used in this document (1/2)

GAIA-X

Gaia-X is a European project that will define practices for the reliable sharing of decentralised data. The project will create an open ecosystem that defines standards and the infrastructure for sharing data based on European values. The aim is to create completely new potential for the creation of innovative data-driven business models and solutions that promote the growth and competitiveness of European industries and companies in the international market.

GAIA-X FOUNDATION

The Gaia-X Foundation (Gaia-X AISBL) is an international non-profit foundation for companies and organisations that are actively involved in the development of Gaia-X. The foundation co-ordinates the activities of the Gaia-X project in the EU.

FINNISH GAIA-X HUB

National Gaia-X hubs co-ordinate Gaia-X activities in different EU member states. Gaia-X hubs represent the user perspective and provide a framework for building European data spaces and setting requirements for Gaia-X development efforts.

Key concepts used in this document (2/2)

DATA ECONOMY

The data economy is an area of the economy where the participants' business models and operations are based on various ways of using information compiled from data.

DATA SPACE

A data space is formed by a group of participants who – with the help of common principles, rules and technologies – can make controlled use of data and services while maintaining a high degree of reliability and information security. A data space enables the exchange of data within ecosystems and between ecosystems.

Design principles for data spaces

DATA SOVEREIGNTY

Refers to the right to decide on the use of one's data.

PUBLIC- PRIVATE GOVERNANCE

A joint operating model between the private and public sectors, where the private sector defines and governs operations while the public sector ensures that the operating environment is fair. This operating model is highly significant for the design, implementation and maintenance of equal operating opportunities.

A LEVEL PLAYING FIELD FOR DATA

A level playing field for data means that the rules are fair and the same for data economy participants of all sizes. All parties have the opportunity to participate in the development of the data economy regardless of their size and position, for example.

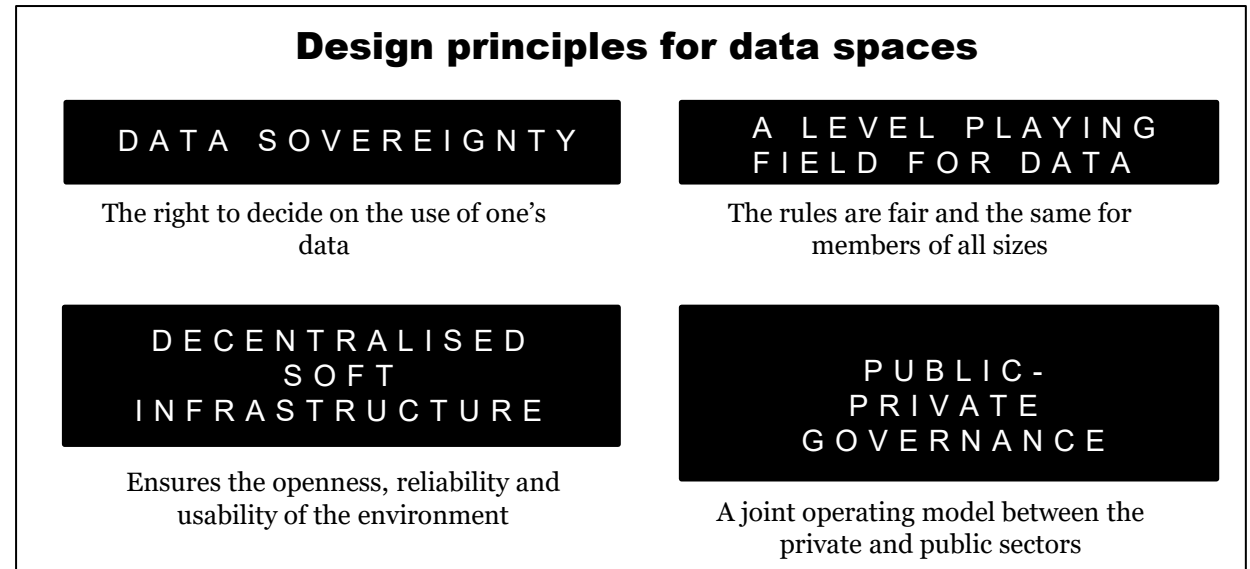
DECENTRALISED SOFT INFRASTRUCTURE

A decentralised soft infrastructure refers to a decentralised and transparent data sharing infrastructure, including jointly agreed design principles, architecture, standards and regulations that enable the openness, reliability and usability of the environment for its various participants. A soft infrastructure makes the development of data spaces easier.

Links between the concepts



A European project that will define practices for the reliable sharing of decentralised data



Gaia-X will establish a framework based on European values and design principles for the growth of the data economy and the emergence of data spaces



An area of the economy that is based on the use of data



A group of participants that can work together to make controlled use of data and services

The purpose of the Gaia-X strategy

The European Commission has decided to make this decade Europe's "Digital Decade". In accordance with the Commission's objectives, the Gaia-X project strengthens Europe's digital self-sufficiency and data sovereignty, free access to the market and new value creation, modularity, interoperability and user-friendliness. Finland has decided to take an active role in the development of Gaia-X. Nordic values and digital leadership are Finland's strengths in the development of Gaia-X.

A large number of parties have been involved in the preparation work. VTT Technical Research Centre of Finland has been active in contributing to Gaia-X from the beginning, as have the Ministry of Economic Affairs and Employment and Business Finland. The Ministry of Finance and Ministry of Transport and Communications have provided the national specification task of Gaia-X with political insight, while the business perspective has been represented by a large number of companies as well as organisations such as the Confederation of Finnish Industries (EK), Technology Industries of Finland and DIMECC.

In late 2020, the Ministry of Economic Affairs and Employment requested Sitra to co-ordinate the Finnish Gaia-X hub. This strategy document was created to define the shared goals for the hub's activities and ensure the success of its operations. This document was developed through interviews and collaboration. Dozens of companies, advocacy organisations and public-sector entities operating in fields related to the data economy have participated in the effort.

This document answers the following questions:

- What drivers of change help Finland and Europe to promote the data economy?
- What are the key challenges to the sharing and use of data in the Finnish context?
- What are the mission, organisational structure, objectives and preliminary road map of the Finnish Gaia-X hub?
- What funding opportunities are available to the Finnish Gaia-X network?

The Finnish Gaia-X steering group

**BUSINESS
FINLAND**

LVV
LIIKENNE- JA
VIESTINTÄMINISTERIÖ

SITRA

VTT



Työ- ja elinkeinoministeriö
Arbets- och näringsministeriet

 VALTIOVARAINMINISTERIÖ
FINANSMINISTERIET

The starting points of the Gaia-X strategy

THE WORLD IS CHANGING

- The Covid-19 crisis is changing the economic outlook and amplifying prevailing trends.
- The volume of global data will grow more than fivefold between 2018 and 2025. In the future, the way in which data is processed and stored will also change dramatically: in 2025, 80% of data processing will take place in smart connected devices.
- Data and its availability enable necessary new innovations in mobility, medicine and green development, for example.
- The United States and China are already strong data economy players. In the United States, the company-driven approach creates advantages of concentration and in China, state surveillance is combined with enormous volumes of company-owned data. The development of current major solutions focuses strongly on the promotion of the interests of companies.

EUROPE IS CHANGING

- Europe is falling behind in the data economy field and it is the technology giants that currently dominate the European market. In 2019, the European data market was 2.5 times smaller than the US data market.
- A major part of future data will be generated in areas where Europe is strong, such as industrial and professional applications and non-profit sectors.
- The data economy is growing more rapidly than other sectors. In 2019, the European data economy grew by 7.6% when compared to the previous year and its value was over 400 trillion euros.
- The European data strategy was published in 2020 and it particularly highlights the principles of a fair data economy, such as data sovereignty. Investments are already being made to implement the strategy and regulations are being developed to support the creation of a data market based on European values. Examples of these regulations include the Data Act and Data Governance Act.

FINLAND IS CHANGING

- The development of the Finnish data market is predicted to remain below the EU's average.
- Finland's advantages include its excellent level of digital expertise, leading proficiency in this field and good co-operation networks. According to the EU's Digital Economy and Society Index (DESI 2020), Finland is the leading country in Europe.
- In Finland, the new business opportunities offered by the data economy are still under-recognised (Sitra Business Survey, 2019). Another major problem is Finland's deficient ability to refine and scale innovations into high added-value production (Ministry of Economic Affairs and Employment, 2021).
- The promotion of data sharing within ecosystems is one of the goals of Prime Minister Marin's Government Programme.

Key challenges that we must tackle in the near future



Companies cannot see the value of existing and/or available data.

Innovation activities or cost savings are not undertaken as it is not understood what kinds of data are available to firms.



There are no common rules for sharing data, which creates a lack of trust between different parties and, consequently, means they may not dare to share data. Looking at things from a technical perspective only is not necessarily enough to tackle this challenge.



Finland is too small to create a major impact by itself.

The closest market for Finnish companies is Europe. Finland must be actively involved in European development work right from the start to increase its opportunities to influence. Co-operation with other countries is crucial for spreading Finnish ideas throughout Europe.



Legislation concerning data sharing is unclear and not widely known.

Both companies and authorities need support for interpreting legislation and complying with it. Ambiguities in legislation slow down data sharing and use.



Sharing data in a partner network or value chain is currently difficult. For many, data is in too many formats and of varying quality. As a result, data sharing and use require a separate tailored solution each time.



The business opportunities created and benefits yielded by data sharing are not well-known. The SME sector in particular has difficulty grasping how the resources used for data sharing lead to new kinds of revenue streams.

The mission and strategic goals of the Finnish Gaia-X hub

The mission of the Finnish Gaia-X hub

The mission of the Finnish Gaia-X hub is to promote the competitiveness of Finnish companies in the European market by supporting business-related, contractual and technological development pertaining to the sharing, management and use of data.

At the same time, the Finnish Gaia-X hub aims to increase Finnish influence in decision-making related to the data economy at the EU level as well as ensure the effective channelling of EU funding to Finland and the active use of Finnish solutions in other EU countries.



The strategic goals of the Finnish Gaia-X hub for 2021-2022

2021-2022

Three co-operation projects between companies under way with other European countries

Europe

EU funding obtained for five Finnish projects

Finland

Seven organised domain working groups operational in Finland

Domain working groups

Increase co-operation between Finnish and European companies in data-sharing projects

Link together projects carried out in Finland in relation to data sharing and their participants

Ensure that the development of the data space in Finland is consistent with European development

The preliminary organisational structure of the Finnish Gaia-X hub

The preliminary structure of Gaia-X in Finland

CO-OPERATION GROUP

(Leaders of domain working groups, technology group)
Ensures close co-operation between the various working groups and, for example, coordinates the formation of cross-sectoral funding and consortia.

STRIKE TEAM

A strike force that carries out some of the hub's responsibilities.

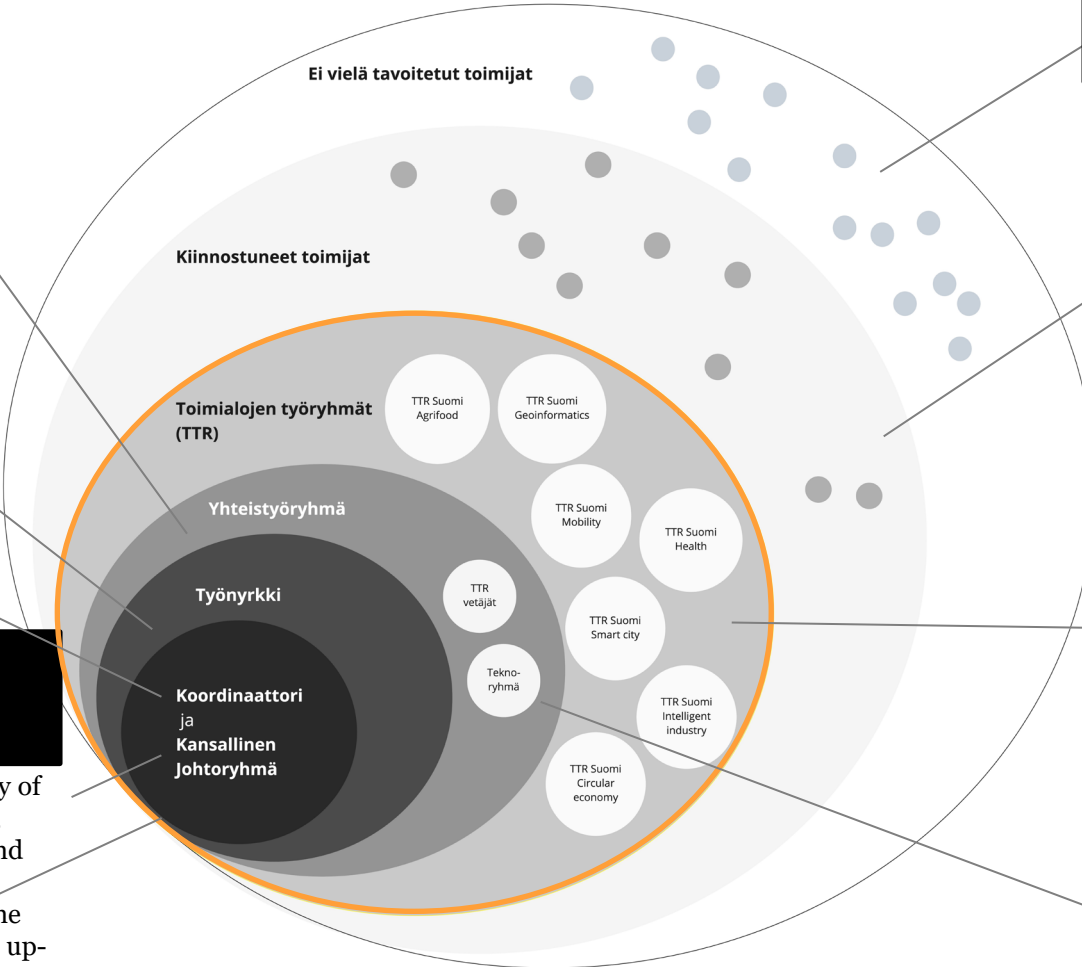
CO-ORDINATOR

(Sitra) The entity responsible for organising the hub's activities.

NATIONAL LEADERSHIP GROUP

(Ministry of Economic Affairs and Employment, Ministry of Transport and Communications, VTT, Business Finland, Ministry of Finance, Technology Industries of Finland and the Confederation of Finnish Industries)
Works at the national level to create the conditions for the progress of the Gaia-X Finland project and maintains an up-to-date picture of development at the European level.
Ensures national funding and relationships with key co-operation partners.

HUB BOUNDARY



PARTIES THAT HAVE NOT YET BEEN REACHED

Parties that may be within the scope of communication through organisations but have not yet taken an active role in Gaia-X.

INTERESTED PARTIES

(Companies, research institutes, non-governmental organisations and public-sector entities)
Parties that monitor the development of Gaia-X and have an interest in, or interface with, the development of Gaia-X.

DOMAIN WORKING GROUPS (DWG)

Working groups that establish shared goals and work on the development of a particular data space within the Gaia-X framework.

TECHNOLOGY GROUP

Monitors and participates in the technical specifications of Gaia-X. Creates an overall understanding of development for other hub participants.

The hub from a participant's perspective

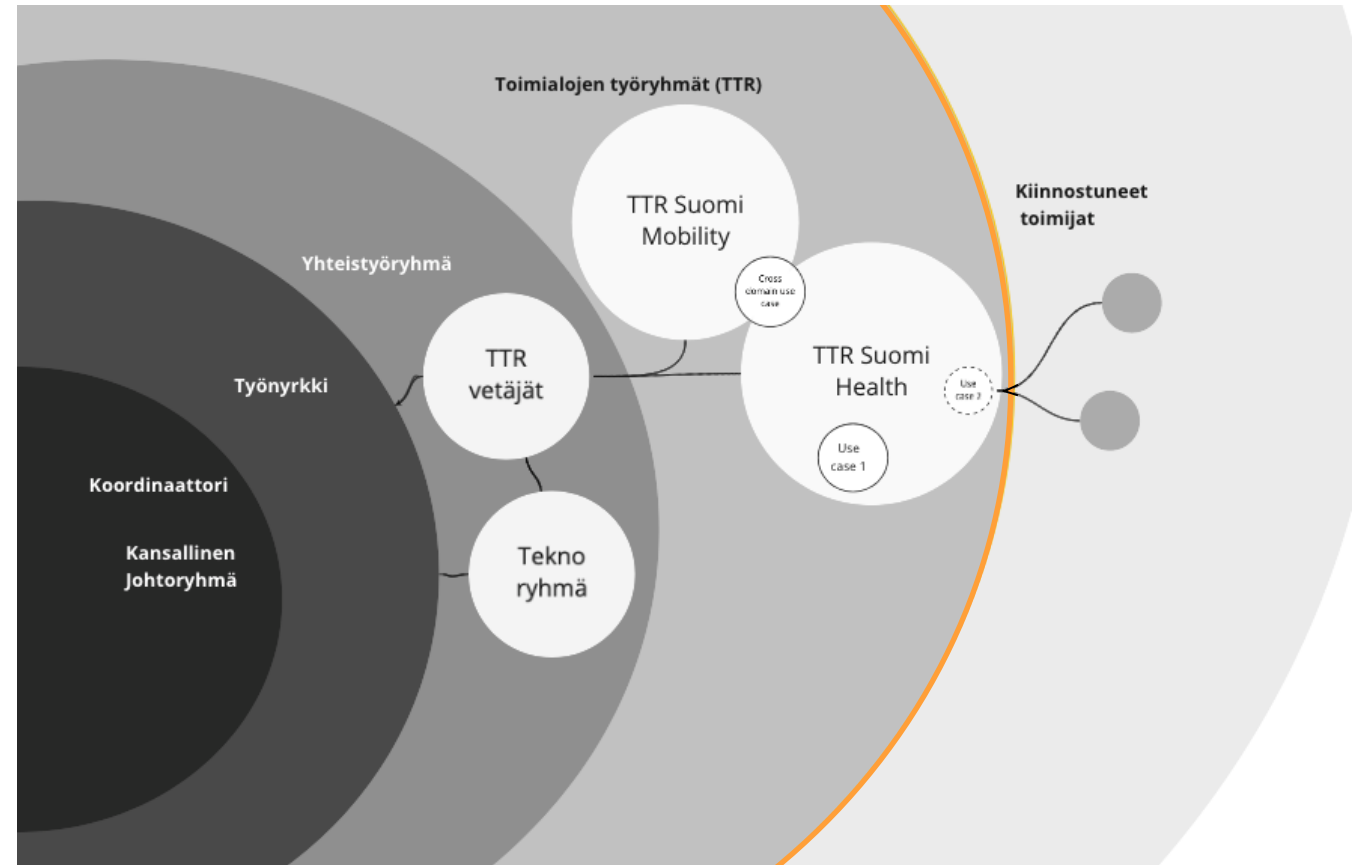
The strike team, the co-ordinator and the national leadership group ensure optimal conditions for the participants to successfully develop solutions and scale them up for European adoption. These groups support the formation of a shared understanding of the situation, the exchange of information, co-operation and the search for funding opportunities.

All parties interested in Gaia-X are welcome to participate in the hub's activities – for example, by taking advantage of information distributed by the hub.

The initial idea is that organisations can become members of the hub by joining a domain working group, introducing a use case and making a commitment to the working group's shared goals.

The co-operation group ensures that development efforts are steered in the same direction.

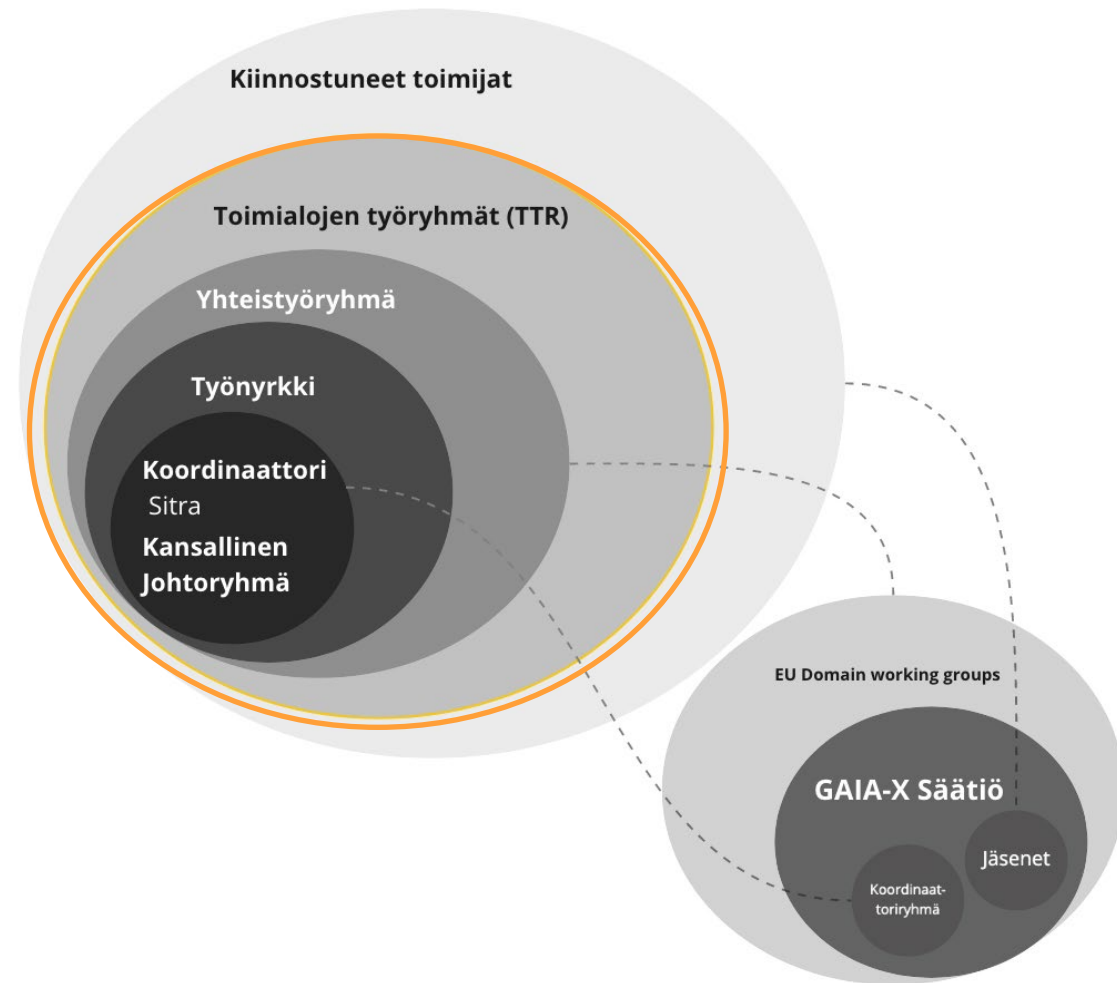
Specialised co-operation groups, such as a technology group and a research group, can also be established as necessary.



Interfaces between the Finnish hub and the Gaia-X Foundation

The Finnish Gaia-X organisation is linked to the EU level in three ways that are already known:

- Participants can apply for membership of the Gaia-X Foundation, which enables them to participate directly in Gaia-X development efforts.
- The Finnish domain working groups are linked to the EU-level domain working groups.
- The co-ordinator for the Finnish hub participates in the joint co-ordination group of the country-specific hubs.



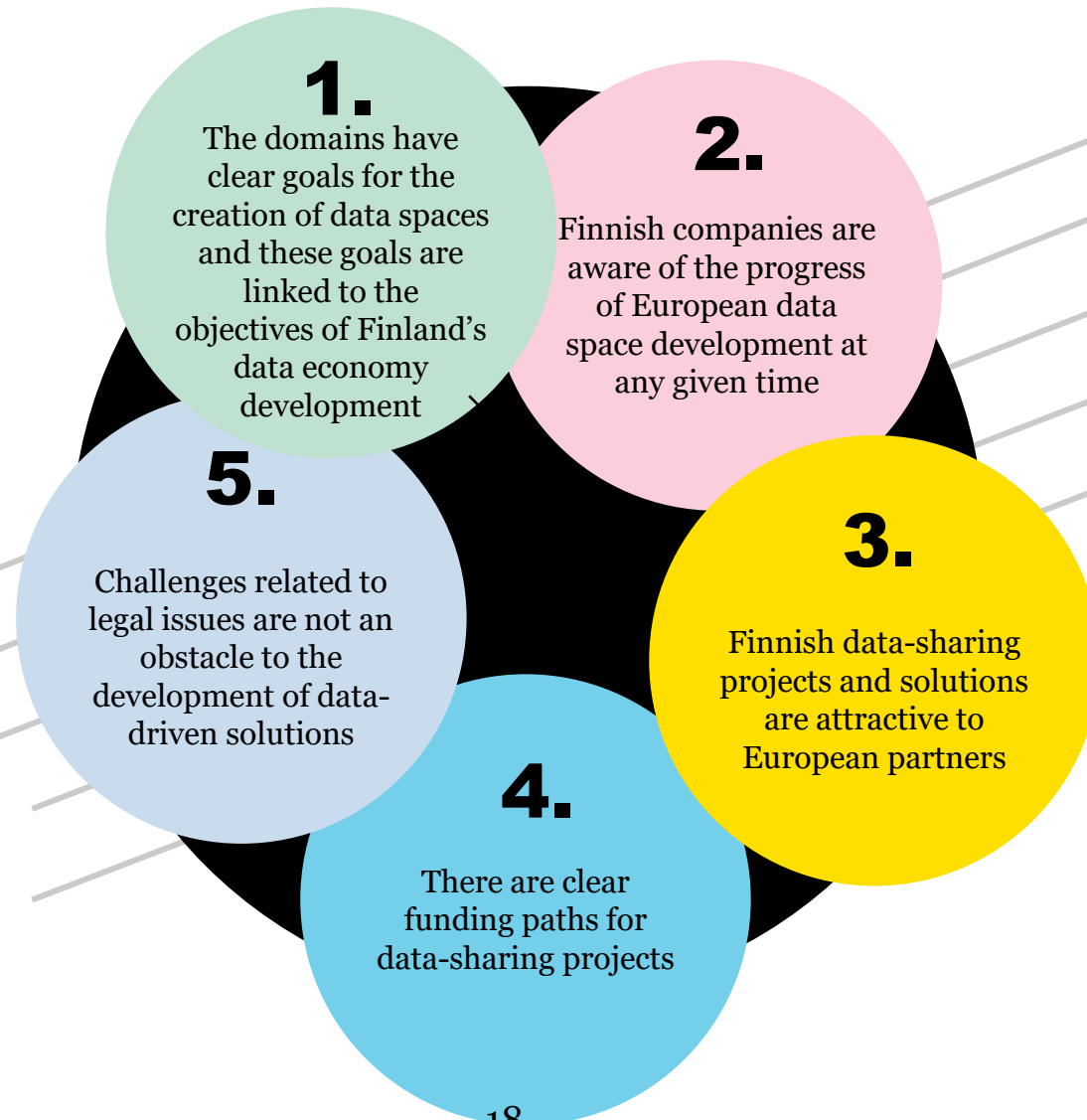
* The Gaia-X organisation at the European level is still in the process of formation, which is why it is described in general terms.

The key tasks of the Finnish Gaia-X hub

The key tasks of the Finnish Gaia-X hub

Drivers of change

- The existing large-scale American and Chinese data-sharing solutions offer little protection to individuals or consumers. Instead, they are treated purely as a product.
- Europe is falling behind in the data economy field and technology giants now dominate the European market. (In 2019, the European data market was 2.5 times smaller than the US data market.)
- The promotion of data sharing within ecosystems is one of the goals of Prime Minister Marin's Government Programme.



Expected outcomes

- Increased European co-operation in projects related to data sharing
- Data sharing-related projects and participants within Finland are aware of each other
- The Finnish domain working groups have become well established

A summary of the five key tasks of the Finnish Gaia-X hub

1.

The domains have clear goals for the creation of data spaces and these goals are linked to the objectives of Finland's data economy development

A network of domains that work actively together

instead of

Each party promoting data sharing in individual and separate projects

2.

Finnish companies are aware of the progress of European data space development at any given time

Finnish companies understand what is going on in the Gaia-X project

instead of

Gaia-X having a low degree of awareness and its developments not being monitored

3.

Finnish data-sharing projects and solutions are attractive to European partners

The European development community is aware of Finnish solutions and their potential

instead of

Finnish solutions being left unused when the European data economy is built

4.

There are clear funding paths for data-sharing projects

Finnish companies seek European and Finnish funding for their projects

instead of

Low awareness of European funding opportunities and the processes being perceived as being too arduous

5.

Challenges related to legal issues are not an obstacle to the development of data-driven solutions

Companies know where to look for information on legal and regulatory issues

instead of

Lacking the courage to develop data-sharing solutions because of legal issues being unclear

KEY TASK

1. **The domains have clear goals for the creation of data spaces and these goals are linked to the objectives of Finland's data economy development**

A network of domains that work actively together

instead of

Each party promoting data sharing in individual and separate projects

1. The domains have clear goals for the creation of data spaces and these goals are linked to the objectives of Finland's data economy development

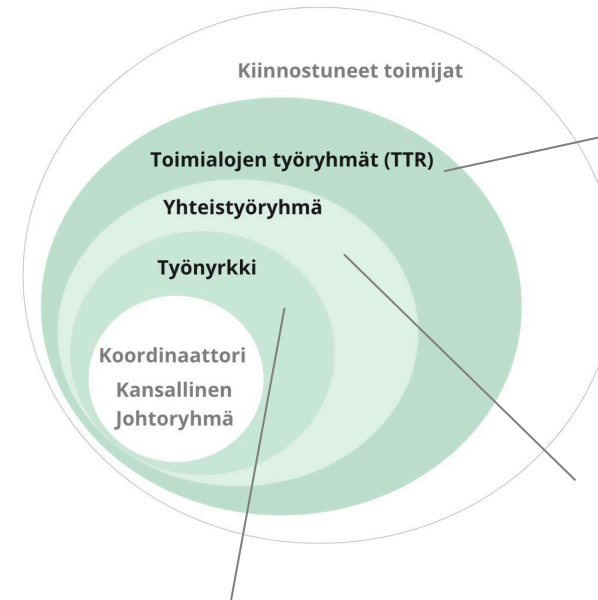
✓ What does this mean?

- Active co-operation with the domain working groups. The domain working groups (DWGs) build data spaces
- Ensuring that the DWGs work towards the same goals and in a compatible manner
- Compiling and communicating the objectives of the Finnish data economy
- Facilitating goal setting and bringing the right parties together
- Communicating the goals of the DWGs to the other members of the Finnish hub and the European community
- Where necessary, provide support for the collection of data needed for goal setting
- Finding a suitable, neutral and networked leader for each DWG
- Supporting the search and application for funding to enable participation in DWG activities

✗ What does this not mean?

- Setting goals for the DWGs on their behalf
- Running the DWGs' operational activities
- Deciding on how each DWG intends to achieve its goals
- A cumbersome and complicated process on the hub's side

Primary responsibility for this task



DWG

- Primary responsibility for setting clear goals for its activities
- Domain working group (DWG) leaders support the goal setting of the DWGs

Co-operation group

- Ensures that all DWGs pull in the same direction and establish links with the technology group's work

Strike team

- Helps the DWGs link their goals to the objectives of the Finnish data economy and the Gaia-X Foundation.

KEY TASK

2. Finnish companies are aware of the progress of European data space development at any given time

Finnish companies understand what is going on in the Gaia-X project

instead of

Gaia-X having a low degree of awareness and its developments not being monitored

2 Finnish companies are aware of the progress of European data space development at any given time

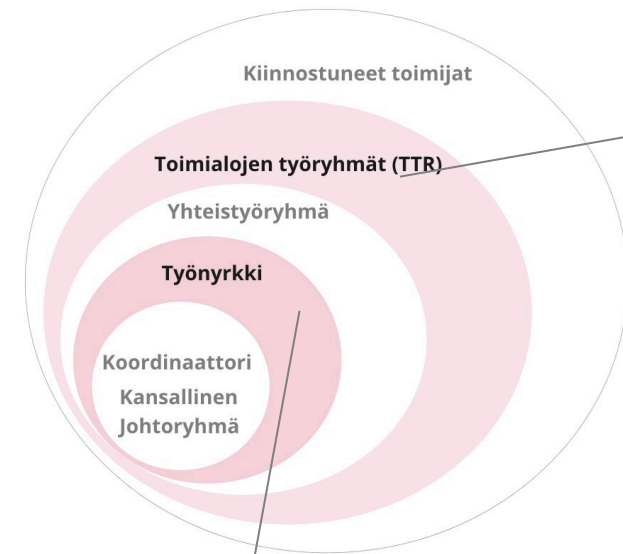
✓ What does this mean?

- Closely monitoring European data space developments and communicating them to the Finnish hub's network
- Supporting companies in establishing a high-level understanding of what Gaia-X is
- Advising companies on what relevant developments are currently under way in their domain and what they can take advantage of
- Providing clear guidelines for joining the Finnish Gaia-X hub and the conditions for membership
- Enabling companies to create solutions that are in line with Gaia-X

✗ What does this not mean?

- Aiming to engage every company's participation in Gaia-X
- The hub creating customised content for entities in different domains
- The hub being responsible for ensuring solutions are in line with Gaia-X

Primary responsibility for this task



DWG

- Where necessary, helps modify messages to suit the relevant domain

Strike team

- Has primary responsibility for monitoring and communicating European data space developments
- Takes advantage of its stakeholders' networks in its communication activities

KEY TASK

3.

Finnish data-sharing projects and solutions are attractive to European partners

The European development community is aware of Finnish solutions and their potential

instead of

Finnish solutions being left unused when the European data economy is built

3 Finnish data-sharing projects and solutions are attractive to European partners

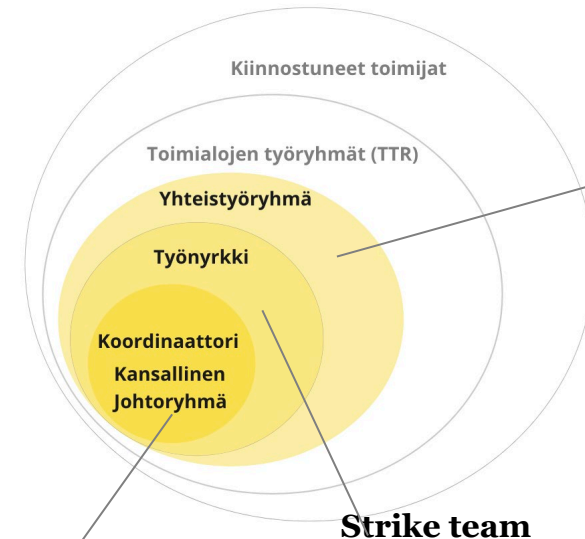
✓ What does this mean?

- Maintaining an up-to-date understanding of what is going on in the domestic field in each domain
- An active presence within various EU bodies to ensure that the potential needs for solutions are understood
- Actively highlighting Finnish solutions in suitable situations and contexts
- Actively creating and representing a culture of sharing
- Taking advantage of Finnish projects to promote European interests and demonstrate the benefits of Gaia-X

✗ What does this not mean?

- Arrogance towards solutions developed in other countries
- Failing to actively share co-operation opportunities even in areas where Finland already has completed or ongoing projects
- Judging cross-border pilot projects to be of lesser value than Finnish pilot projects
- The hub is not responsible for the business attractiveness of Finnish solutions; instead, it focuses on opening doors for companies

Primary responsibility for this task



Co-operation group

- DWG leaders promote their domains' use cases in international circles
- Provides up-to-date information on what the Finnish DWGs are working on

Strike team

- Collects and compiles information to establish an up-to-date picture of ongoing and completed Finnish data economy solutions
- Recognises the key European entities to which Finnish solutions should be presented
- Creates pathways for Finnish participants to operate in European networks

Leadership group

- Actively participates in various EU-level working groups

KEY TASK

4. ■ There are clear funding paths for data-sharing projects

Finnish companies seek European and Finnish funding for their projects

instead of

Low awareness of European funding opportunities and the processes being perceived as being too arduous

4. There are clear funding paths for data-sharing projects

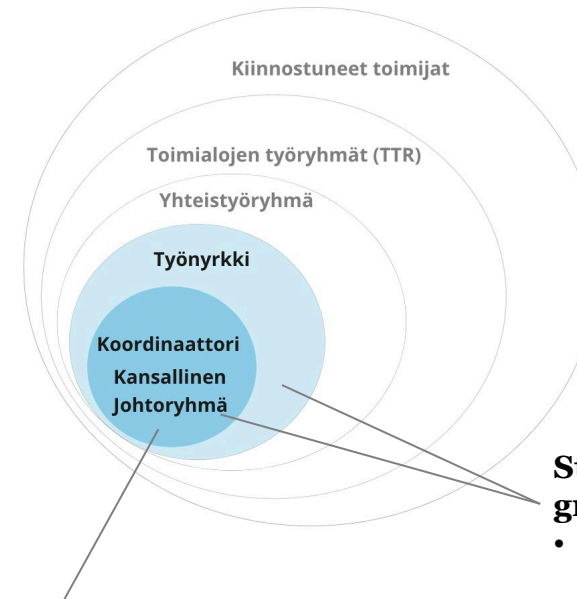
✓ What does this mean?

- Ensuring an up-to-date understanding of the complex financing instruments of the EU and its member states and the consortia that are formed
- Supporting the effort to find co-operation partners and create “winning consortia” to enable application processes for joint funding
- Providing support and examples for funding acquisition and outlining applicants’ differentiating factors
- Providing assistance in aligning national funding programmes with EU funding
- Also assessing private-sector funding opportunities for companies
- Supporting the DWGs in operating systematically with respect to consortia and funding applications
- Providing guidance on the content of EU funding applications
- Special attention needs to be paid to the SME sector

✗ What does this not mean?

- The hub applying for funding on behalf of companies or consortia
- Deciding on what funding a particular participant should apply for and with whom

Primary responsibility for this task



Leadership group

- Aims to contribute to the availability of the necessary funding instruments in Finland

Strike team and leadership group

- Monitor the various funding application processes in the EU and its member states and engage in communications on national and EU-level funding opportunities

KEY TASK

5. **Challenges related to legal issues are not an obstacle to the development of data-driven solutions**

Companies know where to look for information on legal and regulatory issues

instead of

Lacking the courage to develop data-sharing solutions because of legal issues being unclear

5 Challenges related to legal issues are not an obstacle to the development of data-driven solutions

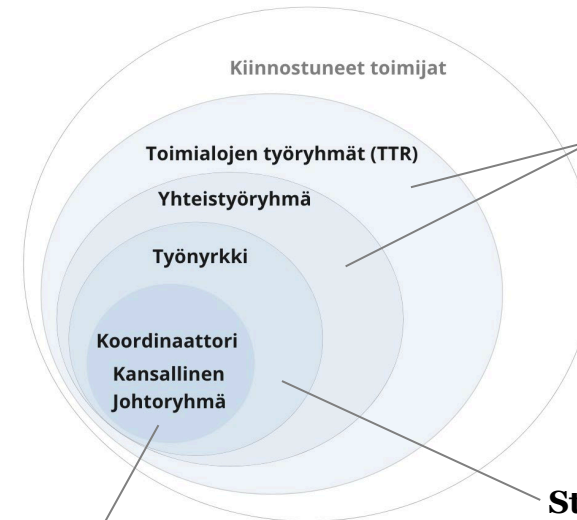
✓ What does this mean?

- Active communication on regulatory developments related to the sharing, management and use of data
- Monitoring the progress of EU Directives that are being updated and actively communicating changes in legislation
- Participating in the discussion on the interpretation of legislation in Finland
- Providing assistance in the creation of clear and effective contractual practices
- Harnessing the network's linkage points as drivers of communication to ensure that messages reach the largest possible audience as effectively as possible
- Establishing a working group/network consisting of specialists in legal and contractual issues
- Summarising challenges related to legal issues from the participating companies to the leadership group to support regulatory advocacy efforts

✗ What does this not mean?

- Providing legal assistance to companies
- Providing advice on the organisation of business activities or actively evaluating innovations from the legal perspective

Primary responsibility for this task



Leadership group

- Actively influences the development of European data legislation and communicates relevant information to its network

Co-operation group and DWGs

- Actively distribute up-to-date information across their networks and highlight their own best practices and development needs on legal and regulatory issues

Strike team

- Shares best practices (on templates and rule books, for example), participates in the discussion around legislation in Finland and compiles information on the companies' wishes

General observations on the key tasks

- Gaia-X is a changing and constantly developing ecosystem whose development will be reflected in the development of the Finnish hub's operations.
- This strategy document reflects the current views on the Finnish Gaia-X hub's objectives and tasks. The strategy needs to be updated with a high degree of responsiveness whenever changes in the field are observed.
- Just in case, Finland should also consider what will happen if Gaia-X ends up not becoming the next winning horse in the data economy field. How will Finland recognise this and reorganise the activities that have already been initiated?
- The steering group has recognised that this strategy has links to the Finnish Government's work and decision-making.
- The starting points for Gaia-X stimulate discussion on the motives and influence of various participants in the pan-European project. Equality between the various participants needs to be ensured so that participants of all sizes are willing to get involved.
- It is in Finland's interest to ensure that the level of technical development of the European Gaia-X undertaking is attractive even to companies and other entities with a high degree of maturity.
- The technical perspective has not been particularly addressed in the development of this strategy as a result of the work still being in its early stages in both Finland and Europe. Finland has a good opportunity to actively introduce its views pertaining to technical solutions to the Gaia-X development effort.
- From the companies' perspective, it is important that Gaia-X's technical solution is flexible and modular so that, going forward, companies can take advantage of technological solutions that suit their business needs.