

innocities

Defining collaboration, clusters and networks

Finnish case - Speeding up innovation ecosystems

NATIONAL FINNISH CLUSTERS EVENT
Kokkola, 3 Sept 2024

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Ministry of Economic Affairs
and Employment of Finland



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3 questions

- 1) What are "old" collaboration models for innovation – such as clusters and value networks?
- 2) What new is it in the (Finnish) innovation ecosystem approach?
- 3) How have these models appeared over time in the Finnish city-driven innovation policy?

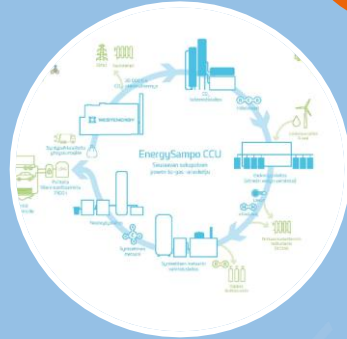
Partner Campus



Sustainable Technology Hub

Energy Storage

EnergySampo CCU



Wasa Innovation Center

H-Flex-E



Aurora Botnia



Service Center Know-how

Digital Economy

Ravilaakso



40%

of coal can be replaced with renewable biofuels

The export rate is over

80%

Co-Creation Vaasa

Innolab



Vebic

Logistics

Digitalization

EnergySpin

VASEK



GigaVaasa

Hybrids

Merinova



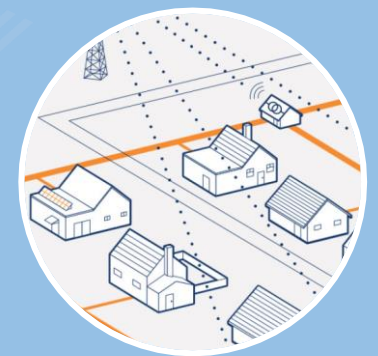
Vaasan Sähkö

The largest Nordic Energy technology hub employs

13 000

Team Finland

Robotics & 3d Printing



Sundom Smart Grid

Ecosystem, clusters and value chains & networks as complementary cooperation models

Definition ¹⁵
Participants
Management and constraints
Dynamics (competitiveness, sustainability)
Examples
Theoretical background

Value chain and network

A chain built by the focal company in which the tasks of the chain ~~actors, the requirements they must meet and the prices they must pay~~ are specified on a contractual basis. A value network is a cooperation model in which interconnected partners create value for end users (customers).

Companies possess mutually supportive expertise, which is required for supplying the product or for offering more extensive packages as a joint effort.

Responsibility lies with a centralised spearhead company or group; functions are very similar even though individual actors belong to several different value chains. The value network is steered by shared core functions and interconnected earning models.

As a rule, cooperation is on a mutual basis and the roles and tasks are well-defined. The value network is a structure combining expertise and arising from interaction between the parties.

Supply chains of Nokia and Ikea, project delivery networks and alliances

Porter 1990, Stabell, Charles B., and Fjeldstad, Ø. 1998

¹⁵ Definition based on ISO 44001 standard (Collaborative business relationship)

Source: VTT Technical Research Centre of Finland, Collaborating for a sustainable future – Ecosystem guide)

Ecosystem, **clusters** and value chains & networks as complementary cooperation models

	Cluster
Definition ¹⁵	Brings together companies operating in the same business segment to give the companies more visibility and to highlight common views on development agendas towards the public sector.
Participants	Industrial actors share the same knowledge base and business logic; may be geographically concentrated.
Management and constraints	Decentralised/shared; sectoral boundaries may place constraints on the creation of new expertise.
Dynamics (competitiveness, sustainability)	Cooperation may be constrained by the competitive situation between the companies; overlapping expertise areas may slow renewal.
Examples	Finland's forest industry, regional wine producers and airline alliances.
Theoretical background	Porter 1990, Waits, 2000

¹⁵ Definition based on ISO 44001 standard (Collaborative business relationship)

Source: VTT Technical Research Centre of Finland, Collaborating for a sustainable future – Ecosystem guide)

Ecosystem, clusters and value chains & networks as complementary cooperation models

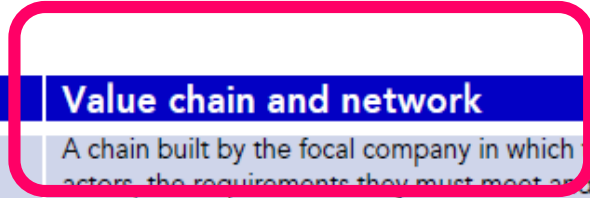
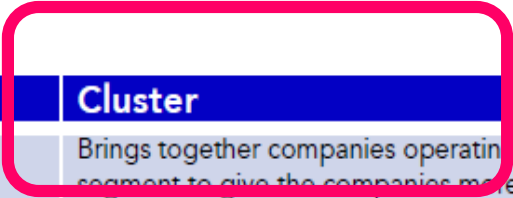
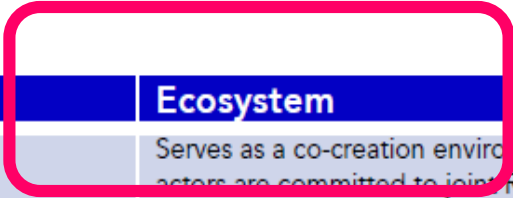
Ecosystem	
Definition¹⁵	Serves as a co-creation environment in which actors are committed to joint RDI functions and business initiatives.
Participants	A heterogeneous group of participants representing a broad range of different sectors and tackling common challenges that may involve technologies, business operations or wicked problems.
Management and constraints	Decentralised and hybrid; openness contributes to innovation and renewal
Dynamics (competitiveness, sustainability)	Actors are often engaged in competition and cooperation; diversity of actors makes the system more sustainable.
Examples	One Sea, Taltioni, Smart Otaniemi, GreenE2 mobile ecosystems (Apple and Microsoft)
Theoretical background	Moore 1993 ja 1996, Lansbury & Levien 2004

¹⁵ Definition based on ISO 44001 standard (Collaborative business relationship)

Source: VTT Technical Research Centre of Finland, Collaborating for a sustainable future – Ecosystem guide)

Ecosystem, clusters and value chains & networks as complementary cooperation models

	Ecosystem	Cluster	Value chain and network
Definition ¹⁵	Serves as a co-creation environment in which actors are committed to joint RDI functions and business initiatives.	Brings together companies operating in the same business segment to give the companies more visibility and to highlight common views on development agendas towards the public sector.	A chain built by the focal company in which the tasks of the chain actors, the requirements they must meet and the prices they must pay are specified on a contractual basis. A value network is a cooperation model in which interconnected partners create value for end users (customers).
Participant	technologies, business operations or wicked problems.	Industrial actors share the same knowledge base and business logic; may be geographically concentrated.	Companies possess mutually supportive expertise, which is required for supplying the product or for offering more extensive packages as a joint effort.
Management and constraints	Decentralised and hybrid innovation and renewal	sectoral boundaries may place restriction on new expertise.	Responsibility lies with a centralised spearhead company or group; functions are very similar even though individual actors belong to several different value chains. The value network is steered by shared core functions and interconnected earning models.
Dynamics (competitiveness, sustainability)	Actors are often engaged in cooperation; diversity of actors makes the system more sustainable.	Unconstrained by the competitive situation between the companies; overlapping expertise	As a rule, cooperation is on a mutual basis and the roles and tasks are well-defined. The value network is a structure combining functions between the parties.
	One Sea, Taltioni, Smart Otaniemi, GreenE		ject delivery networks and Fjeldstad, Ø. 1998



Innocities Initiative
(2021 =>)

INKA Programme
(Innovative Cities, 2010's)

Centers of Expertise Programme
(from 1990's to early 2010's)

However: No explicit national cluster policy in Finland

¹⁵ Definition based on ISO 44001 standard (Collaborative business relationship)

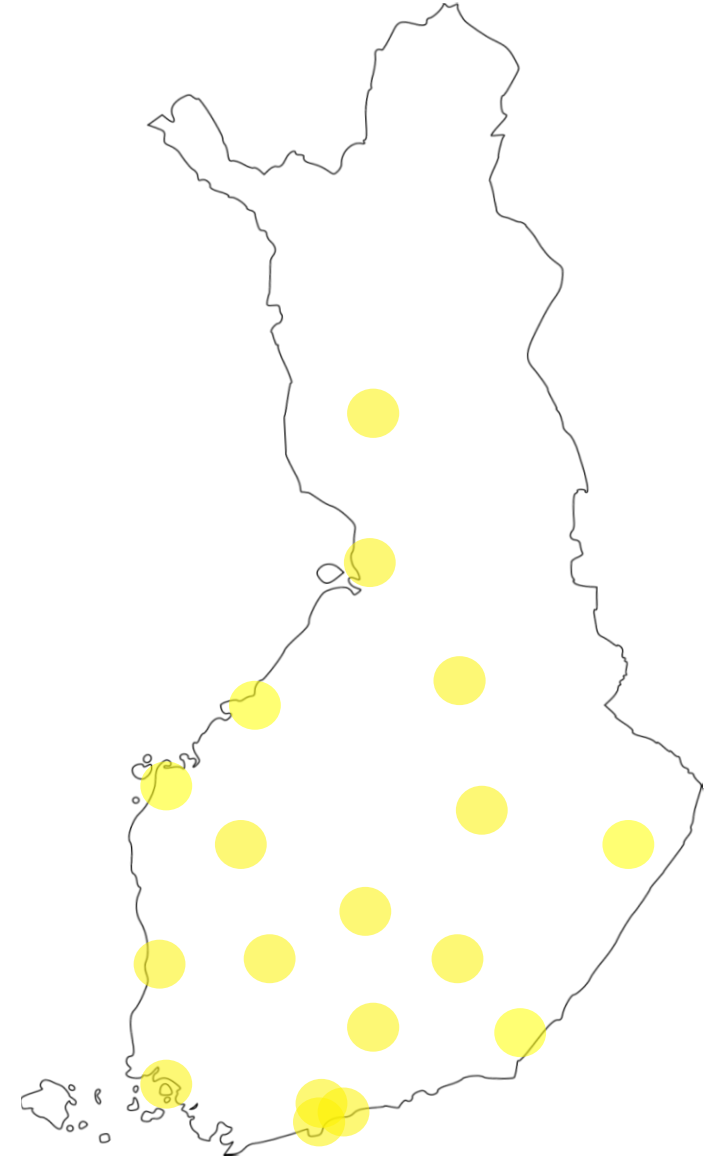
Ecosystems: Policy response

Innovation Agreements - key issues

- Strategic focus areas
- Large scale future investments as platforms for innovation
- New sources of growth – creation of new business ecosystems
- Local solutions to global challenges
- New ways to innovate – dynamism
- Mutual insight fuelled by annual dialogue between national and local stakeholders

Cities' Ecosystem Agreements - Main characteristics

- Altogether **16 city regions**, all university-driven - 50% of the population of Finland and 90% of RD-spending
- Agreements **designed and written in joint process** between each city and the Government
- Clear priority setting with **spearhead competencies**
- **Ambitious** and strategic approach, global level competencies and knowledge
- **Long-term partnership** between cities and national Government (2021-2027)
- Combines innovation policy to urban development policy





Mission

Innovative and pioneering cities aiming at innovation-led and sustaining growth by linking their own strengths to the opportunities of digitalization and carbon neutrality

Different roles for cities

- ✓ Neutral **platforms for strengthening collaboration** between companies, universities and research
- ✓ **Large scale infrastructure investments** for RDI-collaboration
- ✓ **Innovation hubs capable to allure international** and national RDI-investments and talents to Finland
- ✓ **Pioneers** as building digital, low carbon and resource effective urban area – offering at the same time new business opportunities
- ✓ **Reference markets** for export companies (investment and innovative public procurement as tools)
- ✓ **Leading roles** for thematic networks (ie. Clusters)

Concept of Innovative cities and communities initiative



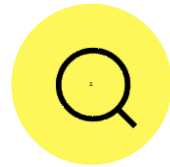
Partnership between state and university cities

16 long term agreements 2021-2027

Co-funded by ERDF, State and Cities

Focus in strategic spearheads in each agreement

Sparring and exchange of ideas with National Steering Committee led by the Ministry of Econ. Affairs and Empl.

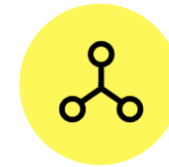


Smooth RDI collaboration at local level

Shared vision and ambitious goals set by local stakeholders: Companies, universities, research institutes, city and other public institutes.

Catalysing and pooling resources

Local leading groups led by the city



National and international networks

6 selected themes led by champion cities

Innovation and competence networks: applied research for companies

Thematic activities within the Ecosystem agreements 2021-2027

Green transition

- Technology metals and circular economy
- Circular economy of urban water system
- Smart and sustainable urban solutions
- Circular economy of industrial waste water treatment
- Sustainable and smart energy systems
- New business in the forest bioeconomy and circular economy
- Green electrification
- Sustainable circular economy and clean solutions in urban areas
- Buildings, energy and infrastructure
- Battery chemicals
- Circular economy and intelligent solutions for industry
- Carbon-neutral circular economy

Digital transition and new technologies

- Automation and robotics
- New learning environments and digital solutions of skills development
- Digitalisation in the changing urban environment
- Sustainable regeneration of the food ecosystem
- Photonics business
- Renewing industry
- Measurement technology
- Intelligent regeneration of industry
- High-performance computing, artificial intelligence and data centres
- Sustainable industry X

Wellbeing

- Health and wellbeing technology
- Life sciences
- Digital wellbeing and health solutions
- Sports business
- Physical activity, health promotion and wellbeing
- Arctic tourism
- Wellbeing services of future and management of distances
- Digital health solutions

Ecosystem approach more in depth – What is new in it?

Idea of ecosystem

Companies are dependent on both their *partners* and *customers*

Both of these create value to a company

*Partners as sources
of know-how or as
co-producers of
solutions*

*Customers as designers and
co-creators of new demands
that renew products*

**Various and different
competencies which in a
close interplay can
complement each other**

Source: Applied from
Nadja Nordling 2023

Summing up ecosystem of innovation

Based on: Nadja Nordling 2023

- **Interaction:** Various players and elements are in interaction with each other with an aim to support each and everyone. Development takes place in close relation to customers and markets.
- **Merge:** Several themes, industries and branches overlap and merge. The number of participants is sometimes not possible to count.
- **Scales:** Ecosystem may cover a broad geographical area as well as several administrative regions.
- **Combination:** Number of different funding sources are utilized and combined.
- **Dimension:** To innovate means 'outreach' even to legislation or designing new demands
- **Society:** Increasingly, major societal challenges are complex and require collaborative action. Cities in particular are in key position since they provide testing platforms and have a natural mandate to call parties to joint actions.

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More information:

tem.fi/en/ecosystem-agreements

innokaupungit.fi/en



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