

# CLEAN INDUSTRIAL TRANSFORMATION FORERUNNERS

20 November 2025

*This position paper has been iteratively developed in collaboration with the board of the World Alliance for Low Carbon Cities and other relevant stakeholders that have an interest in promoting the idea of Finland becoming a European role model for the clean industrial transformation with the help of the Green Deal Going Local initiative.*

## ABSTRACT

There is an urgent need for public-private collaboration among policymakers, companies, cities, and researchers to drive the clean industrial transformation by building capabilities for breakthrough innovations and scale new local solutions internationally. By forming industrial hubs, or springboards, Finland wants to be at the forefront of this development and a role model for the together we are stronger -principle. This requires a more effective utilization of complementarities across different excellence domains. The collaboration will engage policy makers through their missions, companies through offering-centric ecosystems, and local capability-building communities forming springboards supporting the companies in their growth ambitions. The key objective is to engage leading companies in collaboration to accelerate the clean industrial transformation.

The Finnish aim to lead the way in the next generation of the clean industrial transformation will also require collaboration across geographical borders. A multi-governance approach will be needed. Here, the Green Deal Going Local initiative has been identified as an avenue integrating the different layers. This position paper presents the conceptual foundation for springboards and introduces concrete examples of how springboards are already supporting the clean industrial transformation in Finland. These examples suggest that Finland can take a leading position when driving the European clean industrial transformation.

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## 1. INTRODUCTION

The Nordic countries are leading the clean industrial transformation guided by long-term vision and collective strategies. Researchers have introduced the term “Nordic cooperative advantage” to describe the strategic role of stakeholder cooperation in the Nordics (Strand & Freeman, 2015). Finland has, here, been at the forefront in applying the “together we are stronger” – principle (Ministry of the Interior, 2025). Finland was also the first country in the world to introduce a carbon tax in 1990. Today, Finland wants to be a forerunner in cleantech innovation driven by industry. To support the transformation, the aim is to increase the RDI share of GDP from 3% to 4% by 2030, out of which two thirds should come from the private sector. A broad range of policies will accelerate the change needed.

For companies, Business Finland has launched a program called the Challenge Competition (Business Finland, 2025). The direct support to individual companies is seen as a necessity to accelerate innovation efforts in addition to the funding provided to universities in the form of the Flagship programs through the Research Council of Finland funded by the Ministry of Education and Culture (Research Council of Finland, 2025). The transition to a climate-neutral economy is also supported by funding for investment projects to decarbonize industrial production processes and to improve their energy efficiency (Finnish Government, 2025).

The Finnish Ministry of Economic Affairs and Employment (MEE) has established ecosystem agreements with leading Finnish cities. Prioritized development topics are clean transition, digitalization, wellbeing, and health. The objective is to intensify cooperation within networks, strengthen key competences and increase effectiveness (MEE, 2025). Establishing new industrial hubs should enhance the competitiveness of the Finnish industrial sector by combining shorter- and longer-term development efforts into a shared agenda for collaboration (MEE, 2024). The private sector supports this through the Climate Leadership Coalition (CLC), a non-profit business network developing business-driven solutions to mitigate climate change.

This position paper shows how leading Finnish companies engage industrial hubs, or springboards, to drive industrial transformation: ABB accelerating the hydrogen economy, Kempower scaling EV charging solutions, Neste pioneering innovations in sustainable aviation fuel and renewable diesel, and Nokia driving wireless innovation and 6G. To enhance their impact these springboards look for ways to align with the EU and connect local action to European transformation. An avenue for alignment is the Green Deal Going Local initiative, chaired by Markku Markkula and launched by the European Committee of the Regions.

The recommendations in this paper derive from the study of, and engagement in, key Finnish springboard showcases, presented in Appendix 1, and the conceptual foundation presented in Appendix 2. The will address how springboards can enhance Finland’s potential to take the lead in introducing this new perspective on public-private innovation collaboration accelerating the clean industrial transformation. The paper is thus the response to the declaration issued at the Green Deal Going Local Forum, organized 21.-22.10.2025, recommending Finland to capitalize on its leading position in the clean industrial transformation and integrate Finnish springboards with EU-level policies (see Appendix 3).

This position paper by the World Alliance for Low Carbon Cities provides a concrete proposal for how Finland can strengthen the Green Deal Going Local initiative. This will ensure that the unique Finnish springboard-related competencies will accelerate innovation and strengthen Finnish competitiveness and simultaneously Finland can be a role model when increasing EU-level industrial collaboration to accelerate the clean industrial transformation.

## 2. ANALYTICAL FRAMEWORK

When analyzing how to accelerate the clean industrial transformation, we will use a tool called the Excellence Framework (Wallin et al., 2017) to structure the analysis. The Excellence Framework identifies four excellence domains that enterprises must consider in their strategy: process excellence, offering excellence, innovation excellence, and societal excellence. The Excellence Framework highlights the importance of building capabilities across all four excellence domains to ensure long-term success.

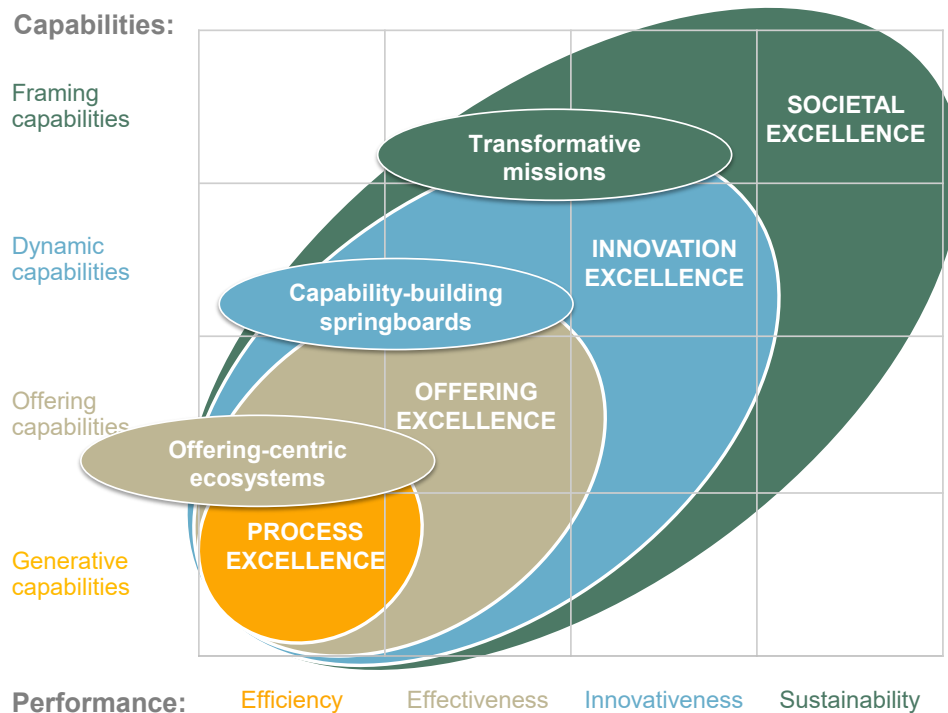


Figure 1. The Excellence Framework (based on Wallin et al., 2017)

The excellence domains represent a systemic entity that cannot be managed as such but is the result of the underlying capabilities that enable excellence in performance. The four excellence domains are additive, meaning that you should ensure process excellence as the foundation to benefit from excellence in the higher domains. Innovation excellence will be of limited value if you are not excelling with offerings. The fourth domain, societal excellence, is becoming an increasingly crucial part ensuring the social license to operate for any company.

Different types of capabilities are required for excellence in respective domains. Traditionally, capabilities are divided into ordinary capabilities and dynamic capabilities (Teece, 2014). Ordinary capabilities refer to a firm's ability to use and coordinate existing resources to reach a desired goal. In the excellence framework, the ordinary capabilities are divided into generative and offering capabilities, where the former are related to how a company mobilizes resources for its products and services and the latter relate to the engagement with customers to create and capture value. The dynamic capabilities of an enterprise refer to its ability to build upon existing capabilities while developing new capabilities to explore and exploit new value creation opportunities. (Teece, 2009)

Societal excellence calls for both ordinary and dynamic capabilities but also requires an understanding of the surrounding context and an ability to influence the environment. To achieve this, the enterprise should develop framing capabilities. Framing capabilities involve influencing and engaging the surrounding landscape through socialization and role modelling.

Socialization concerns how the enterprise passes on and teaches its values and culture to members of society (Nonaka & Takeuchi, 1995), whereas role modelling is the way the leading actors demonstrate values and culture through their own behavior (Schein, 1997).

The capability portfolio must be managed as an entity to provide the enterprise with both internal and external consistency when pursuing its strategic ambitions. The capability portfolio will subsequently support the four key objectives of the enterprise: efficiency, effectiveness, innovativeness, and sustainability.

Co-orchestrated springboards mobilize resources for joint capability building to accelerate innovation. The springboard concept has been introduced by Mikko Kosonen and Timo Santalainen in the book *Elinvoimaetu (Viability advantage)*. The concept has its origin in the development of the Finnish innovation landscape in the 1990s. Nokia became a global telecom leader at this time thanks to its innovation collaboration with the Finnish government, Tekes, and VTT to fulfil the mission of making Finland a forerunner in mobile telecommunications. This was enabled by local springboards in the capital region, Tampere, and Oulu.

A unique characteristic of springboards is that they represent public-private innovation collaboration, where one or several companies have a strong ownership in the collaboration. This makes a springboard different from clusters or more loosely formed innovation ecosystems, often facilitated by universities or research institutions. The springboard is thus a capability-building community that provides the participating companies with valuable insights relating to the development of the capabilities that will be needed for next-generation offerings and solutions.

Springboards represent a middle-level form of collaboration linking policy-level missions with ground-level offering-centric ecosystems orchestrated by individual companies. How springboards unite the public and private sectors is illustrated by the following figure, showing how the City of Porvoo is working with companies to engage in the co-creation of the energy infrastructure that will be needed to enable the clean industrial transformation in Porvoo.

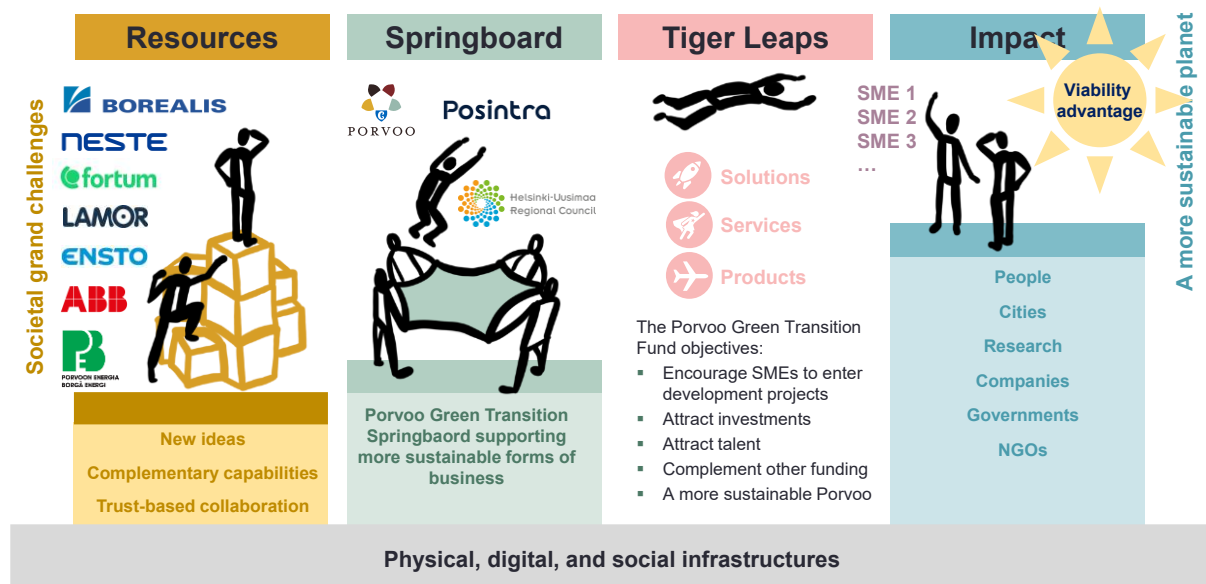


Figure 2. Innovation collaboration to accelerate transformation in Porvoo

The Porvoo Green Transition springboard encourages diverse efforts to accelerate the clean industrial transformation such as decarbonization and strengthening the circular economy.

### 3. SPRINGBOARD SHOWCASES

The public sector provides the infrastructural foundation for transformative change. Springboards complement these efforts by building capabilities needed for breakthrough offerings, “tiger leaps”. In the 1990s, such springboards enabled both Nokia and the Finnish economy to propel into unprecedented growth. In the case of Porvoo, the city has taken a proactive role in preparing the springboard for the transition from fossil-based hydrogen to green hydrogen in Kilpilahti, the largest cluster of oil refining and petrochemistry in the Nordic countries. The City of Porvoo thereby actively engages in the co-creation of the physical energy infrastructure that will be needed to operationalize the springboard.

Through multi-level governance the springboard can benefit from institutional support on the local, regional, national, and EU levels by selectively strengthening interdependencies with other networks and ecosystems. For the participating companies the opportunity to leverage upon such networks will enhance their dynamic and framing capabilities.

The institutional foundation of the Finnish innovation environment provides a high level of trust among the participants, which is rather exceptional. When Europeans are asked whether people in their home country can be trusted, 85 % of Finnish respondents agree with this. This is the highest score of any European country (European Union, 2018). Such trust spurs grassroots dynamism and indigenous innovation through collaboration. At the heart of this dynamism are people with the desire to innovate. As entrepreneurial individuals have different motivations, this will also boost creativity and novelty (Phelps, 2013). Encouraging joint learning and collaboration thus becomes a key trait of a successful systemic transformation.

The Finnish springboard showcases behind this position paper are as follows:

Porvoo Green Transition Springboard		<ul style="list-style-type: none"> <li>The City of Porvoo actively engages in the co-creation of the energy infrastructure that will be needed to enable the the transition from fossil-based hydrogen to green hydrogen in Kilpilahti.</li> </ul>
H <sub>2</sub> Springboard		<ul style="list-style-type: none"> <li>The H2 Springboard is a next-generation hydrogen technology development ecosystem. The partners cover the entire value chain to ensure that the developed solutions are market ready.</li> </ul>
Electric Mobility Research Center		<ul style="list-style-type: none"> <li>EMRC supports cross-disciplinary research on transportation electrification accelerating the development of new mobility technologies and solutions.</li> </ul>
Hiedanranta Research Center		<ul style="list-style-type: none"> <li>HRC will enable public-private collaboration to build capabilities needed to develop solutions that will accelerate the green transition for the built environment.</li> </ul>
MEX Finland		<ul style="list-style-type: none"> <li>MEX Finland supports manufacturing excellence through innovation collaboration addressing transformational opportunities created by digitalization and climate change.</li> </ul>
Kajaani Data Center Ecosystem		<ul style="list-style-type: none"> <li>KDCE strengthens data-center driven business and integrates local companies into the value chain to make Kajaani a world-leading and sustainably operated data center hub,.</li> </ul>
Nokia LEAD		<ul style="list-style-type: none"> <li>LEAD focuses on the industrial metaverse aiming to drive sustainable digital transformation across industries while accelerating continuous business opportunity development and growth.</li> </ul>
Espoo Growth Engine Springboard		<ul style="list-style-type: none"> <li>The Espoo Growth Engine Springboard seeks joint capability building to accelerate innovations supporting the clean transition with the Microsoft data center as the first showcase.</li> </ul>

Figure 3. Springboard showcases

More detailed descriptions of each springboard showcase are presented in Appendix 1. This provides the foundation for Finland when sharing its experiences internationally and accelerating the clean industrial transformation.



## 4. SUPPORTING GREEN DEAL GOING LOCAL

The Green Deal Going Local (GDGL) is one avenue for Finnish companies contemplating how to maneuver in the present, highly dynamic business landscape. In the context of the Excellence Framework companies today meet four areas of great uncertainty:

- Geopolitical uncertainty in the societal domain.
- Economic uncertainty in the innovation domain.
- Technological uncertainty in the offering domain.
- Governance uncertainty in the process domain.

For companies, geopolitical, economic, and technological uncertainty are global issues. In these areas the companies must treat the different continents as separate entities. Manufacturers continue to invest in increasing levels of localization to apply a local-for-local model to limit tariff-related costs. A global company engaging in the GDGL initiative sees this as part of a broader ecosystem portfolio strategy. For the officials responsible for GDGL it is, therefore, important to be receptive to the needs of companies that may be prepared to invest their time and resources in the GDGL collaboration. As the list of uncertainties above suggests, a key contribution that the GDGL efforts may bring is to reduce uncertainty in governance issues when companies are dependent on decisions made in the public sector on local, regional, national, and European levels. A frequently mentioned topic during the discussions at the GDGL Forum in October was the need for improved predictability.

During periods of uncertainty, companies focus on what they can control: serving customers and improving their market position and profitability even if market uncertainties remain. Therefore, companies engaging with the public sector want to direct their efforts into activities that will lead to concrete outcomes. Unfortunately, Europe is in a difficult situation here due to the political challenges related to Russia's invasion of Ukraine.

Finland is a role model of consistent actions by both public and private actors to contribute to increased Western unity regarding security, political and business matters. Finnish companies have engaged with global leaders illustrated by the collaboration between Fortum and Microsoft, SiloAI joining forces with AMD, and the partnership between Nokia and Nvidia. In the same way, Finnish politicians have paved the way for strengthening the position of Finland on the global arena, visible e.g., in the recent ice breaker deal between Finland and the United States. Finland has also actively tried to strengthen the position of the EU globally. This is, to great degree, a question of leadership, and, here, the very solid democratic foundation of the Finnish political leadership has proven to be an asset to not only Finland but all of Europe.

The springboard showcases combined with the results from the GDGL Forum suggest that there are three main areas in which Finland can support GDGL:

- Share Finnish experiences around innovative clean industrial solutions relating to energy challenges, mobility, transport, manufacturing etc., and improve the transfer of knowledge between Finland and other European countries through springboards scaling innovations supported by City Climate Contracts, where applicable.
- Support the establishing of more efficient governance processes for investments related to infrastructures, planning permits, and innovation funding.
- Work towards clearer European industrial policies, which will guide collaboration both on European and national levels.

With these actions, Finland can demonstrate how industrial innovation and regional collaboration strengthen both competitiveness and climate neutrality.

## 5. CONCLUSIONS

Just as input from Finland is one component of the agenda-setting for Green Deal Going Local (GDGL), the Finnish springboards are intended to engage various stakeholders through collaborative activities. With GDGL as the European-level influence target, the springboards are also intended to influence national and local agendas in Finland.

The GDGL Forum held in Porvoo and Espoo in October 2025 marked a key step forward in the GDGL process. The Forum identified promising candidates to serve as springboards for next-generation clean industrial solutions. Leading Finnish cities—many of them EU Mission Cities—are now advancing the clean industrial transformation through their Climate City Contracts, which act as strategic frameworks for innovation, investment, and the co-creation of concepts supporting the achievement of the EU's ambitious climate and energy goals.

The World Alliance for Low Carbon Cities was the initiator behind the efforts to position Finland as a clean industrial transformation forerunner. Based on the positive response, the WALCC Board will take ownership in facilitating the efforts to use the GDGL initiative as a venue for these efforts. Practically, this means that the WALCC will establish a collaboration platform called Springboard Plaza that will invite partners to oversee the realization of the ideas presented in this position paper.

The Springboard Plaza partners will engage in market shaping, capability building, and experience sharing as follows:

- Being spokespersons for the Clean Industrial Transformation Forerunner efforts.
- Strategic/institutional marketing relating to Finland as a forerunner in the clean industrial transformation.
- International research collaboration relating to common substance matters.
- Joint capability building for common activities, e.g., promoting European-level clean industrial solutions.
- Supporting competence building and springboard training together with partners' HR experts.
- Giving recommendations on national and regional educational priorities.
- Knowledge dissemination and communication regarding the springboard partners' achievements.
- Experience sharing.

The next step is to integrate local Finnish springboards with national and EU-level policies to ensure the multi-level governance needed for maximum impact. Finland can lead by example as a European role model for systemic transformation. We hope that this position paper will provide the foundation to accelerate this process. As the original signatories of the declaration submitted to Minister Joakim Strand at the GDGL Forum we are prepared to continue as spokespersons for this collective initiative with the support of all those individuals that have contributed to this position paper.

20 November 2025

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Chair,  
EU CoR Green Deal  
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**Johan Wallin**

Honorary Chair,  
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**Peter Lindgren**

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## APPENDIX 1. SPRINGBOARD SHOWCASES

### 1 H<sub>2</sub> Springboard

To prove the viability of the hydrogen economy and capture its full business potential, it is necessary to develop new hydrogen solutions as close to real markets as possible. Today, many hydrogen economy subsystems are either too expensive to manufacture, operate or maintain, or they do not align with the dynamic needs of the renewables-based energy system. A viable hydrogen economy requires consideration of the economics of scalable and cost-efficient solutions for hydrogen production, storage, and transport systems. Active, flexible, and intelligent subsystems are needed to balance the overall energy system. Affordable hydrogen (~\$2/kg) requires an entire energy system built on orchestrated coordination between different grids (electricity, H<sub>2</sub>, and CO<sub>2</sub>) to minimize capital investments in energy transfer. Cost effective designs must be developed to ensure that the grids actively balance each other.

The H<sub>2</sub> Springboard is a next-generation hydrogen technology development ecosystem. The partners cover the entire value chain to ensure that the developed solutions are market ready. The springboard model aims at reducing the time to implementation to a fraction and achieving an exponential curve of development. The ecosystem is orchestrated by ABB, with the responsibility to lead joint development projects and connect them to investments. The following figure illustrates the roadmap to competitive hydrogen.

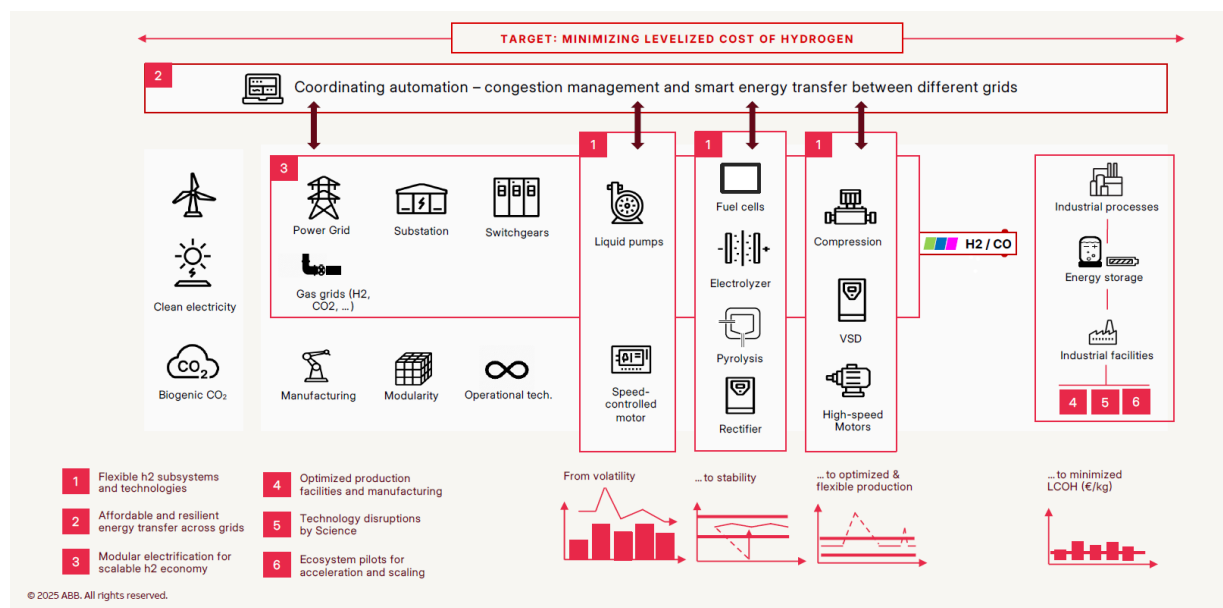


Figure 4. The Roadmap to Competitive Hydrogen Economy

The H<sub>2</sub> Springboard is a lean, integrated collaboration model where technological research, solution development, validation, and piloting are run in parallel engaging the entire value chain. By accelerating development cycles, time to implementation is reduced to a fraction, enabling exponential progress in capturing the value of the hydrogen economy. The solutions created in the ecosystem are modular, standardized, and immediately scalable to markets, allowing industrial companies to make high-impact investments faster and more cost-effectively than before. The aim is to accelerate the clean industrial transformation, building industrial and societal resilience to generate significant growth and opportunities for partners and establish Finland as the world's most competitive platform for H<sub>2</sub> technology developers.



As the hydrogen economy is still evolving, the H2 Springboard also engages in co-creating the future Finnish energy infrastructure together with national and local grid operators and regional and municipal authorities ensuring the licenses to operate for industry. Finland is a highly relevant context leading the hydrogen transformation as the country hosts large industrial plants that face the transition from using fossil-based hydrogen to green hydrogen.

Expanding the clean energy system solely by increasing electricity grid capacity carries the risk of costly overinvestments in energy transfer infrastructure. Therefore, strategic consideration of all energy transfer mediums is pivotal to driving down the costs of hydrogen and its derivatives. At the same time, hydrogen production needs electricity, implying that access to sufficient electricity supply is a prerequisite for large-scale, hydrogen-based industrial operations. The locations that provide serious investors with access to electricity and smooth planning permits will become the first sites demonstrating industrial scale hydrogen transformation.

Currently, most systems needed for the hydrogen economy are tailor-made with minimal regard for standardization. Achieving extreme cost-efficiency warrants collaboration—enabled by the H2 Springboard—to develop standardized, modular blocks that can be combined to cost-effectively build large-scale hydrogen production and use systems. Modular solutions can also significantly shorten the lead time of investment projects and reduce costs compared to traditional RDI.

A viable hydrogen economy is built on intelligent production, storage, and transport systems that enable the economics of flexibility, system resilience, and critical safety. The focus lies on implementing advanced production plant concepts that optimize energy use and integration. Additionally, new manufacturing models and concepts will be explored.

New and disruptive initiatives are needed to address the profitability challenges related to the hydrogen economy. Guided by the Roadmap to Competitive Hydrogen Economy, the H2 Springboard ecosystem collaborates with leading scientific institutions and startups to identify new solutions for reducing the levelized cost of hydrogen. The initial project pipeline is planned during the early phases of the ecosystem—the technologies to be used in the future must be developed today.

Many hydrogen economy technologies and concepts are still in their nascent phases. Practical applications must be tested, piloted, and validated—not just theorized in the lab. The H2 Springboard actively engages with partner projects to scale new concepts to industrial levels. The production-scale projects serve as testbeds for new technologies and studies. The H2 Springboard partners explore opportunities to apply for suitable funding instruments, such as the Innovation Fund, to scale these solutions to industrial capacity. Here, Finland is uniquely positioned to be the world's most competitive platform for hydrogen technology developers.

For more information see [www.h2springboard.com](http://www.h2springboard.com).

## 2 Electric Mobility Research Center

Historically, Lahti has a strong industrial foundation. However, the city was severely hit by the recession in the early 1990s. This encouraged the city to take a lead in sustainable development. The pioneering cleantech efforts were internationally awarded as the European Commission named, in 2021, Lahti the European Green Capital. In this context the City of Lahti engaged actively in different ecosystems both domestically and internationally as Lahti works with researchers and companies to promote its sustainability strategy. In the ecosystem agreement, formed with the Finnish Ministry of Economic Affairs and Employment in 2021, nurturing a carbon-neutral circular economy is an area for ecosystem collaboration. As a member of the EU 100 Climate-Neutral and Smart Cities Mission, Lahti has made a Climate City Contract, which emphasizes cutting emissions of transport and decarbonizing the energy system.

In 2020, Lahti faced a significant challenge, as one of its biggest employers, Lahden Autokori, manufacturing buses for Scania, informed that the bus production would be terminated, making over 260 employees redundant. In response, the city management decided to leverage upon already initiated piloting activities related to sustainability.

Lahti had developed an open mobility data platform and a sustainable urban mobility plan together with LUT University as a key partner. LUT University now decided to deepen its collaboration with Lahti University of Applied Sciences as LUT University was actively looking to strengthen the identity of its Lahti campus. The combination of the long industrial tradition of the bus factory and the opportunity of sustainable transportation provided the basis for positioning Lahti as a center for electrified transportation. The Lahti regional development office, LADEC, formed GEM, the Green Electrification of Mobility Cluster, to generate and maintain cooperation for developing and commercializing technologies and solutions for the cleaner future of mobility. In this manner Lahti aimed to become the leading Finnish competence center in electrified transportation.

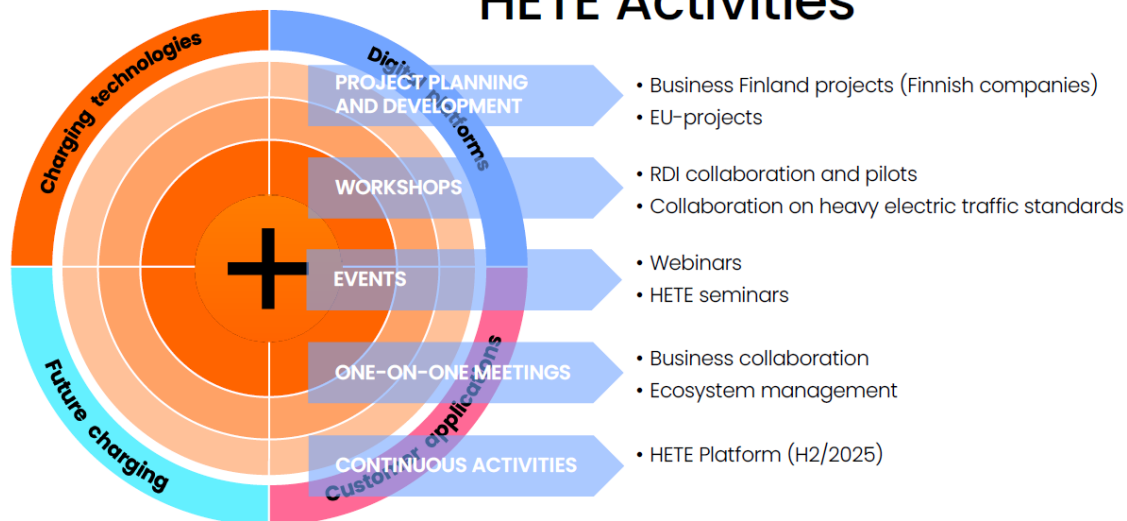
Kempower, a spinoff from welding firm Kemppi focusing on DC fast charging solutions for electric vehicles, became the anchor company for the sustainable transportation cluster in Lahti. As Kempower witnessed very rapid growth, it could use the premises of Lahden Autokori when they became vacant. Kemppi Group bought the old bus factory from the insurance company that owned the premises and rented it to Kempower. At the same time, Kempower and the City of Lahti formed a strategic collaboration agreement. At the end of 2021, Kempower made a successful IPO on the Helsinki stock exchange. The following year, Kempower employed more people in Lahti than the bus factory ever had. The city also benefited. Lahti was suddenly considered the second most vibrant and appealing business location in Finland.

To strengthen local innovation collaboration, Kempower also participated in setting up the Kempower Electric Mobility Research Center (EMRC) to support cross-disciplinary research on transportation electrification together with LUT University. This is expected to further strengthen the local innovation community in Lahti and become a springboard accelerating the development of new mobility technologies and solutions initiated through the Green Electrification of Mobility Cluster.

As Kempower had established a solid operational foundation as a stock-listed company with its R&D and manufacturing base in Lahti it decided to strengthen its market shaping efforts. The new slogan was *Powering Planet Cool - creating the world's most desired EV charging solutions for everyone, everywhere*. This meant both geographical expansion and broadening the horizon to be prepared to meet new market requirements.

Despite its initial success in the market for chargers for passenger vehicles, Kempower saw the commercial vehicle sector as its main market segment. Geopolitical instability and the threats and opportunities created by an increasingly digitalized environment led Kempower to apply for funding through the Business Finland Challenge Competition for leading companies for a five-year program called Heavy Electric Traffic Ecosystem, HETE. The aim of this program, which was approved funding, is to develop charging technology suitable for truck traffic and the software platform that supports it. The program will also study future charging models and effects of heavy traffic charging infrastructure on electric grids. The HETE program will also enable Kempower to further strengthen EMRC.

## HETE Activities



*Figure 5. The HETE program activities*

The collaboration between Kempower, Lahti, LADEC, and LUT University is an example of how the public and private sectors can jointly accelerate transformations. The case of Kempower EMRC illustrates how firm-centric ecosystems can benefit from engaging with local capability-developing springboards. In the case of Lahti, this means that Kempower has taken an active role in supporting the development of the electrification of mobility and offered the EMRC space at the Kempower premises. Nevertheless, the aim is for the EMRC to encourage other partners to take an active role in bringing the collaboration forward.

The Kempower Electric Mobility Research Center represents a springboard intensifying local innovation collaboration. Kempower provides the guidance for the development by integrating the local collaboration into its own global strategy. The public sector supports this through innovation funding and access to relevant stakeholders. A key opportunity for the research center is to link to other innovation hubs internationally. This is also encouraged through the funding provided by Business Finland.

The Lahti collaboration benefits from strong institutional support on the local, national, and EU-level through its engagement in various types of missions and ecosystems. For Kempower, the opportunity to leverage upon these networks will further strengthen its dynamic and framing capabilities.

For more information see <https://www.lut.fi/en/research/partnerships-and-cooperation/kempower-electric-mobility-research-center-emrc>

### 3 Hiedanranta Research Center

The Finnish Ministry of Economic Affairs and Employment (MEE) has established an ecosystem agreement with Tampere. One focus area of this agreement is the development of the Hiedanranta area. The aim is for Hiedanranta to become a springboard for international innovation collaboration for next generation urban built environments. This will also strengthen Hiedanranta as a frontrunner in sustainable development. Hereby, the city can actively promote itself as a leader in sustainable city planning, as have Stockholm and Malmö with the help of the Hammarby Sjöstad and Western Harbor city districts. The overarching strategic marketing role of Hiedanranta is preliminarily conveyed with the title of Hiedanranta Research Center (HRC, tentative name).

The position of Hiedanranta as a research and innovation platform for sustainable technologies and solutions is also well aligned with the ambitions of Finland to be a global leader in cleantech. The HRC would establish strong ties with leading companies and researchers that are prepared to engage in the development of the next generation solutions for sustainable urban living. As a springboard, the HRC would enable public-private collaboration to build capabilities needed to develop solutions that accelerate the green transition. Preliminary focus areas of the HRC could be:

- Integrated Spatial Development
- Systemic Urban Digitalization
- Transformative Innovation Practices

The HRC would strengthen the collaboration culture for which Tampere has already been awarded through, e.g., the Rantatunneli and Nokia Arena. The HRC would build on these experiences and make Hiedanranta a showcase not only as a leader in sustainable urban design but also as a role model for public-private innovation collaboration. The HRC's proposed role as a springboard through facility management, community nurturing, and platform orchestration is illustrated in the following figure:

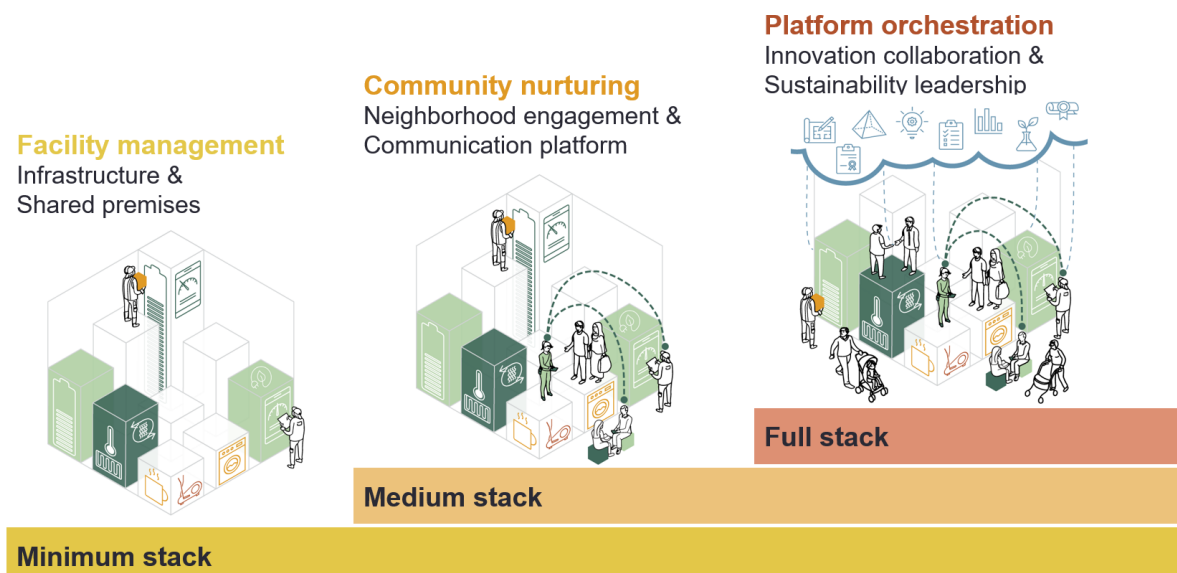


Figure 6. Hiedanranta Research Center as innovation springboard

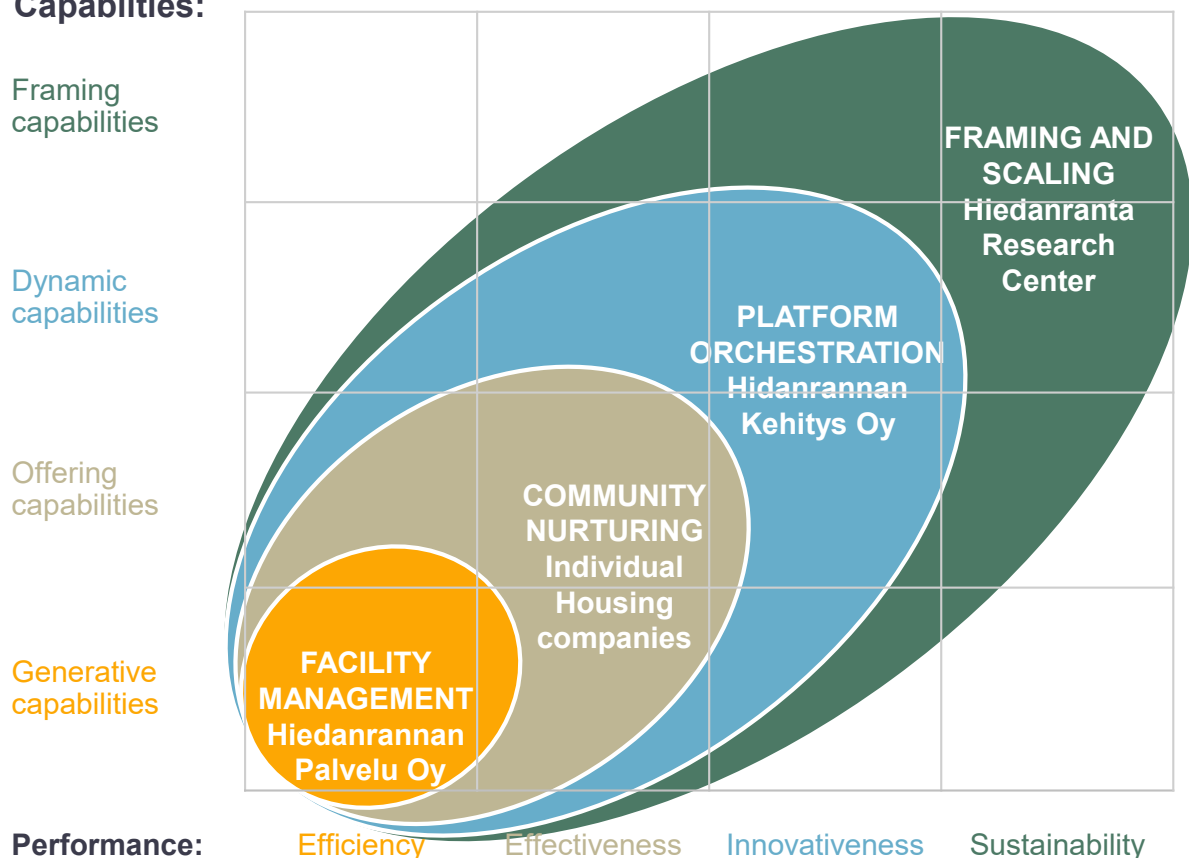
As evidenced by the agreement between the MEE and Tampere, the platform orchestration approach is conceptually an integral part of how the Finnish innovation system aims to strengthen Finnish innovation collaboration. HRC as a springboard would support the joint

capability efforts needed to accelerate the development of new solutions for systemic transformations that enhance our daily lives.

Successful transformations must unite the public and private sectors around a shared agenda. The Hiedanranta development provides the City of Tampere with the mandate to take the lead in accelerating the introduction of new solutions for urban sustainability. The first step in establishing the HRC is engaging a core group of individuals sharing the desire to engage in a common undertaking to achieve something extraordinary. By emphasizing the long-term impact, the focus is on capability building, ensuring that the collaboration will remain relevant to the partners even when the surrounding world changes. At the same time, the collaboration must be connected to the realities of the present, so that participants can find synergies between their collaborative participation and the operational demands of their respective organizations.

The HRC would intensify innovation collaboration guided by the City of Tampere that would include the local collaboration in its own international activities as one of the 100 European 2030 mission cities. Through HRC, the City of Tampere could frame and scale the Hiedanranta development internationally based upon the concrete results of the innovation collaboration orchestrated by Hiedanranta Kehitys Oy. These results would be locally integrated into the Hiedanranta community through the individual housing companies responsible for the operationalization of the Hiedanranta concept among its residents. The infrastructural integration ensuring the physical and digital foundation supports this guided by Hiedanranta Palvelut Oy.

### Capabilities:



### Performance:

Efficiency Effectiveness Innovativeness Sustainability

Figure 7. The multi-layered approach to the Hiedanranta development

For more information see <https://hiedanranta.fi/en/>.



## 4 MEX Finland

The foundation for MEX Finland was established in 2016 when a group of Finnish companies joined forces together with Synocus around a project called Lean Competence Center Finland (LCCF), which engaged lean experts from University of Tokyo. This collaboration also contributed to the Business Finland report *An attractive innovation environment* (Wallin et. al, 2017). This inspired further collaboration among Finnish manufacturing companies with Synocus as the co-orchestrator. Based on these experiences it was agreed to change the name of the collaboration project to Manufacturing Excellence Finland, or MEX Finland.

From the outset, MEX Finland was positioned as a community benefitting from the complementarities of the participating members. A legal agreement was formed between Synocus and the respective companies and within a year more than ten members joined the collaboration. This illustrates the character of an emergent springboard: the orchestrator must, on one hand, be able to explicate the immediate benefits for the individual organization, and, in parallel, also convince the organization about the benefits of engaging in the collaboration within the ecosystem. The model for MEX Finland was appreciated by Business Finland. In 2019, Business Finland encouraged the participants to institutionalize the collaboration and apply for growth engine funding from Business Finland. The growth engine application was approved and funding granted in November 2019.

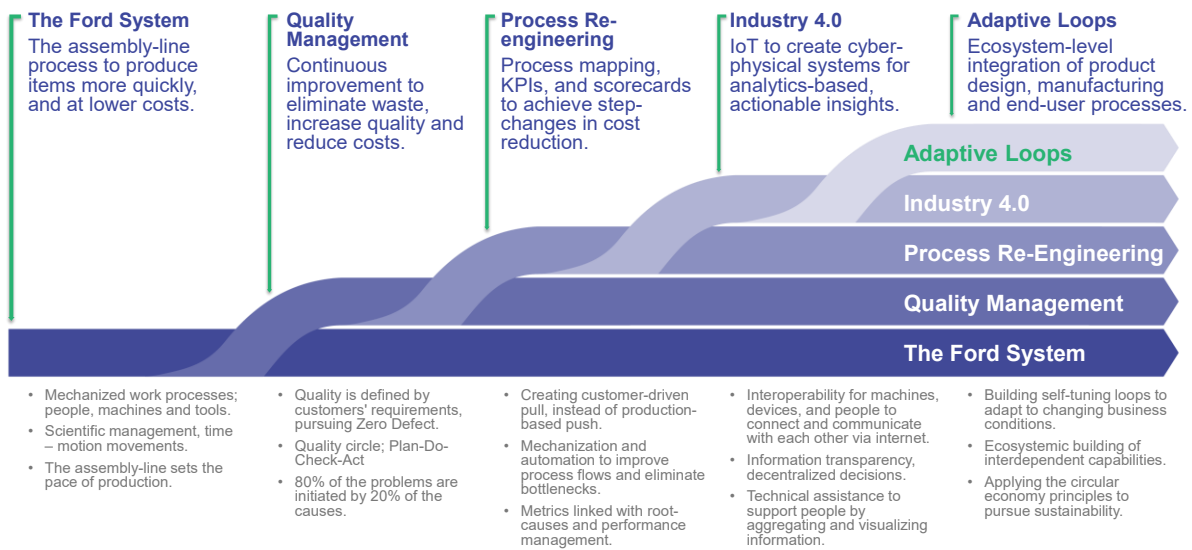
The role of MEX Finland as a community-driven capability building association was seen as important to help the participating companies generate new development projects supporting the members. This would engage innovative Finnish and international industrial firms and complementary actors. When these two main objectives were fulfilled, there would be capability building on an ecosystem level. This, in turn, would produce further ideas for projects. The flow of ideas, initiatives, and projects generates the growth of revenues, jobs, and exports that the members and other stakeholders such as Business Finland are looking for.

However, the dynamics of the innovation landscape changed in 2020 when Business Finland introduced its new Challenge Competition, or Veturi program. This program incentivized large companies to build their own firm-centric ecosystems and apply for funding for these ecosystems from Business Finland. The biggest original members of MEX Finland all used this opportunity and were also provided company-specific funding through the Veturi program. In 2023, Business Finland also decided to terminate funding for growth engines.

As MEX Finland had proven its value as a growth engine it was agreed to continue the MEX Finland collaboration in the form of a capability-building springboard supporting high-level research collaboration and promoting of Finland as a leading manufacturing competence center. This was further supported through successful application for a project titled Deepening Integration in Manufacturing, which engages the Finnish manufacturing sector through joint capability building and company-specific research and development activities.

When the growth engine application was submitted in 2019 the focus was on the new type of interdependencies affecting supply chains. The notion of adaptive loops was introduced to characterize how this requires different management practices. This demand has proven to be even more important than what could originally be envisaged and therefore provides a strong conceptual foundation when continuing the work around manufacturing excellence.





*Figure 8. Adaptive loops characterizing manufacturing interdependencies*

The present role of MEX Finland is to primarily support international research collaboration and knowledge dissemination. In the discussions with universities some relevant topics for future research have already been identified, such as the future of lean and kaizen, how to integrate AI-driven platforms with manufacturing processes and support systems, and further deepening the understanding of how the digital transformation will influence various industrial sectors.

MEX Finland will continue to support manufacturing excellence through innovation collaboration addressing transformational opportunities created by digitalization, climate change, and increased geopolitical turbulence. The integration of offering design, capability building, and end-user processes into new offerings and business models supports the springboard partners and strengthens the competitiveness of the Finnish manufacturing sector.

For more information see [www.mexfinland.org](http://www.mexfinland.org).

## 5 Kajaani Data Center Ecosystem

The Finnish government began promoting Finland as an attractive location for data centers in the early 2000s. Invest in Finland stated that Finland was the best choice for a data center due to its optimal natural conditions, low energy prices, secure society, trusted infrastructure, and a highly educated workforce. In addition, Finland has one of the lowest electricity prices in the EU and the cold climate in Finland offers a natural advantage in cooling server rooms (Weebly, 2009). The first large-scale data center investment was made by Google in Hamina in 2011 (Google, 2025). This was the starting point for the data center industry in Finland (Saunavaara et al., 2022). Today Finland has more than 50 construction-ready data center sites available for investors (Invest in Finland, 2025).

The data center market has become highly focused on fossil-free energy. The rapid expansion of wind and solar energy in combination with the availability of hydro and nuclear power has made the Finnish energy infrastructure attractive for data center investments. Fingrid, the national transmission system operator, has informed that grid-capacity inquiries for new potential industrial investments in Finland until 2030 amount to 27 gigawatts. This should be compared to the present Finnish electricity generation capacity of 15 gigawatts (Pietarila, 2025). The Hamina data center is also at the forefront of Google's ambition to run the business entirely on carbon-free energy by 2030. A case in point is the technologically advanced, first-of-its-kind cooling system that uses seawater from the Bay of Finland, which reduces energy use (Google, 2025).

A forerunner in using data centers as a foundation for sustainable innovations is the City of Kajaani, which has invested heavily in developing the Kajaani Data Center Ecosystem KDCE). The central part of the ecosystem is the EuroHPC Supercomputer LUMI, hosted by CSC – IT Center for Science. The Kajaani Data Center Ecosystem concept is promoted as follows:

### Kajaani Data Center Ecosystem

- **New brand published 3/2025**
- **Mission.** We strengthen data center-driven business and integrate local companies into the value chain.
- **Vision.** Kajaani is home to the world's leading responsibly and sustainably operated data center hub.
- **Values.**
  - **Community.** The local community is actively involved in building the ecosystem. The ecosystem fosters collaboration among industry players.
  - **Responsibility.** The ecosystem operates in an ecologically, socially, and economically sustainable manner.
  - **Reliability.** The ecosystem ensures highquality operations, providing a secure and trustworthy environment for all stakeholders. Its activities are stable and long-term.
  - **Progressiveness.** Built on strong expertise, the ecosystem is a pioneer and a driving force in enhancing the region's vitality and future development.



*Figure 9. Promoting the Kajaani Data Center Ecosystem*

CSC launched its data center operations in 2012 at the former paper mill site in Kajaani. Compared to CSC's former data center in Helsinki region, the Kajaani site offered affordable rental costs, existing infrastructure and sufficient power capacity due to the paper mill history.

Since 2012, CSC's national supercomputers have been in Kajaani and the next-generation national supercomputer Roihu will launch its operations there in early 2026. CSC hosts LUMI, Europe's 4th most powerful supercomputer ([www.top500.org](http://www.top500.org)) in the data center in Kajaani.

LUMI is owned by the EuroHPC Joint Undertaking and hosted in collaboration with an 11-country European consortium. It has been the centerpiece of the Kajaani Data Center ecosystem since 2022. Kajaani now attracts further investments, including the development of the new LUMI AI Factory, funded jointly by the government of Finland, five other consortium member countries and the EuroHPC Joint Undertaking. This will be a pioneering service infrastructure accelerating AI innovation across Europe. The presence of CSC, the government-owned center for scientific computing and data management, and the LUMI supercomputer, have made Kajaani a springboard for advanced computing and data centers.

International data center operators have shown interest in investing in Kajaani region after seeing LUMI as a data center success story. Based on regional sales efforts, two international data center operators – the UK based XTX Markets and the Icelandic Borealis Data Center – will launch their data center operations in Kajaani soon. There is also great interest in Kajaani regarding how Google will engage in the Kajaani data center ecosystem. The answer awaits Google's formal decision to build its data center in Kajaani (Moss, 2024; Business Finland, 2024).

Following these investments, the KDCE initiative is entering a new phase focused on ensuring the successful establishment and growth of companies within the Kajaani Data Center Ecosystem. The data center industry in the region presents significant potential for new business ventures and RDI opportunities, supported by a network of local service providers. The Kajaani Data Center Ecosystem also fosters collaboration between companies and Higher Education Institutions, particularly Kajaani University of Applied Sciences, Karelia University of Applied Sciences, the University of Eastern Finland, and the University of Oulu. In addition, Kainuu Vocational College is developing its educational offerings to meet the evolving needs of data center operators in the region.

Kajaani is now positioning itself as the Arctic Capital of the Data Center Industry, built on collaboration and sustainable energy solutions (KDCE, 2025). The City of Kajaani and CSC continue to work proactively to strengthen the ecosystem, with CSC serving as a leading example of sustainability and value creation in data center operations and strategy.

An active city co-orchestrating a springboard offers companies the opportunity to engage in ecosystem collaboration without taking administrative responsibility for the operational facilitation of the springboard. For the springboard to stay relevant it must, however, be able to support the business objectives of the participating companies. Therefore, the springboard must generate a portfolio of activities with different degrees of maturity, and with different clocks, to add value to the participating companies. The collaboration around the LUMI supercomputer and the data centers in Kajaani has succeeded in achieving this.

For more information see

<https://kdce.fi/>

<https://www.lumi-supercomputer.eu/>

<https://lumi-ai-factory.eu/>

<https://csc.fi/>

## 6 Nokia LEAD

Nokia has been the biggest contributor to Finnish innovation spending for the last thirty years. By the turn of the millennium Finland was considered the world's second most competitive country after the United States. This was the result of focused investments in R&D with Nokia accounting for almost half of Finland's total private sector R&D spending at that time. While the influence of Nokia on the Finnish economy has declined, the intimate collaboration between Nokia and its local partners has greatly benefited Finland by building both technological and managerial capabilities within the evolving telecommunications and electronics cluster.

By sharing its strategy with the leading actors in the government, Nokia actively influences Finnish innovation policy. The public sector, in turn, also tries to accommodate the needs of Nokia. An example of how this collaboration has evolved in the 2020s is the Challenge Competition organized by Business Finland. Here, Nokia has already carried out two so called Veturi programs. The third program, LEAD, started last year and will continue until 2028.

The LEAD program has a focus on the industrial metaverse aiming to drive sustainable digital transformation across industries while accelerating continuous business opportunity development and growth. It builds on the success of Nokia's previous Veturi programs, 'Unlock Industrial 5G' and 'Competitive Edge'. The LEAD program aims to significantly enhance energy efficiency and the security of data communication in networks. This requires real-time interaction, high data throughput, low latency, and seamless connectivity, all areas where advanced 5G technology provides substantial benefits. Along with Extended Reality technologies, these are essential components of the industrial metaverse due to their ability to create immersive, interactive experiences that optimize industrial processes and operations.

As the use of related services and applications increases, the volume of data traffic and the frequency of cyber-attacks are expected to multiply in the coming years. Without radically updated networks, platforms, and applications, the industrial metaverse cannot exist. Finland's specialized expertise positions us well to become a significant global player in this space.

The LEAD program enables the establishment of globally leading centers of excellence for the industrial metaverse in Finland, covering all key areas of the Extended Reality value chain—from future network technologies to business software applications and the versatile use of artificial intelligence that supports them. The roadmap of the LEAD program is depicted in the following figure:

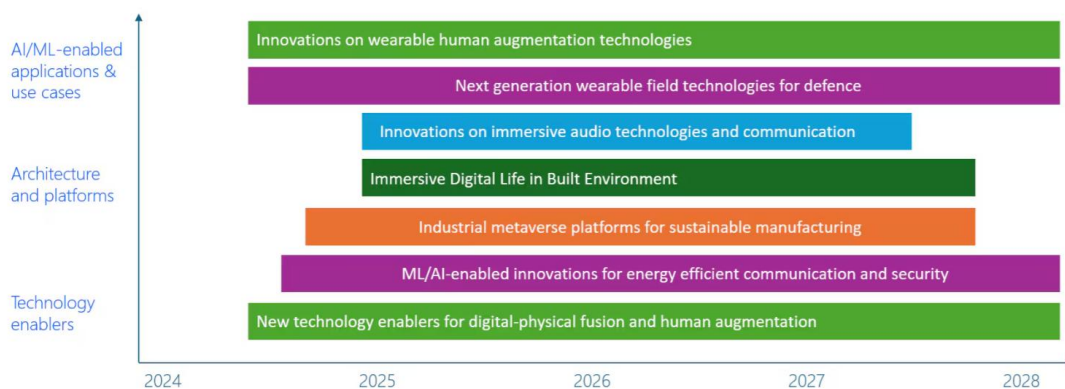


Figure 10. The LEAD roadmap

Two of the LEAD roadmap themes, Built Environment and Sustainable Manufacturing, have their own dedicated springboards already up and running: Hiedanranta in Tampere and MEX

Finland. This illustrates how springboards evolve organically, based on identified opportunities and the need for a group of actors to join forces to address some important challenge. This also means that some springboard initiatives have a character of project, like most of the Business Finland Challenge Competition programs have had thus far, whereas others are initiated with the ambition to become institutionalized with a longer life, like the efforts in Hiedanranta.

The recent announcement by Nokia regarding its strategic partnership with Nvidia suggests that the LEAD program could leverage upon this opportunity and engage with other Finnish springboards to broaden the engagement this new collaboration can provide. There is already very active collaboration between the City of Espoo, Microsoft, Fortum, and ABB around the Microsoft data center. The collaboration also engages other technology providers along with Aalto University and Omnia. This can support Nokia's ambitions to establish a center of excellence related to data centers.

Nokia is pioneering networks that sense, think, and act by leveraging Nokia's work across mobile, fixed, and cloud networks that create new opportunities for monetization and scale. Secure, reliable, and sustainable networks are a prerequisite for the digital services and applications of the future. These capabilities are the reason why Nvidia is forming a strategic partnership with Nokia to be able to launch AI-native 5G-Advanced and 6G networks on Nvidia platforms. The partnership addresses the fast-growing AI-Radio Access Network (RAN) market, which is expected to exceed a cumulative \$200 billion by 2030. T-Mobile U.S. will also collaborate with Nokia and Nvidia to drive and test AI-RAN technologies as a part of the 6G innovation and development process driving wireless innovation. Trials are expected to begin in 2026, focused on field validation of performance and efficiency gains for customers. The companies will also explore the use of Nokia's optical technologies and capabilities as part of future Nvidia AI infrastructure architecture.

Nokia has systematically built capabilities to support data centers, and Nokia possesses a wealth of expertise in network infrastructure, 5G, security, and software that holds significant untapped potential within the data center ecosystem. By fostering strategic partnerships and proactively leveraging Nokia's capabilities, Finland can further solidify its position as a leading and sustainable data center hub for the future. The continued growth of this sector promises to be a vital engine for Finland's digital economy and its transition towards a greener, more connected future. Through the Nokia–Nvidia partnership the potential in this area has significantly increased.

For more information on the LEAD program see <https://www.nokia.com/innovation/veturi-programs/industrial-metaverse-lead/>.



## 7 Espoo Growth Engine Springboard

Fortum—one of Europe’s cleanest power producers and the third-largest power generator in the Nordics—has its headquarters in Espoo. Together, the City of Espoo and Fortum co-created the Espoo Clean Heat concept a decade ago. In 2019, they committed to phasing out coal in district heating by 2025; in practice, coal use ceased in April 2024. The partnership identified the development and deployment of fossil-free solutions—including locating data centers in Espoo for using waste-heat and deploying geothermal heat—as key priorities (Fortum, 2019). Aalto University has been closely engaged as a research partner.

When Fortum and Espoo approached Microsoft, they could rely on Finland’s attractiveness as a data-center location. Fortum and Espoo aligned their interests — and Microsoft’s — with those of Fingrid, the national electricity transmission system operator, and Caruna, the local distribution system operator. To ensure the energy supply Caruna made significant investments in the local electricity grid in the Espoo area, which was essential for the Espoo Clean Heat success story (Caruna, 2023; Sweco, 2025).

As construction of the Microsoft data center commenced, Fortum approached ABB and Synocus through the World Alliance for Low Carbon Cities to support efforts to make the innovation collaboration around the data center a springboard accelerating the clean transition. ABB is a key provider of electrification technologies for data centers and had also adopted the springboard perspective for its own innovation approach by launching the H<sub>2</sub> Springboard program (ABB, 2025). Synocus was engaged to support the co-orchestration of the collaboration, outlined under the title Espoo Growth Engine Springboard.

The Espoo Clean Heat program provided an institutional foundation for deepening the innovation collaboration around the data-center development in Espoo. The strong emphasis on sustainability in Espoo’s strategy was maintained when Jukka Mäkelä retired in 2024 as mayor and was replaced by Kai Mykkänen. Prior to becoming mayor, Mykkänen was the Minister of Climate and the Environment and a member of the Espoo City Council.

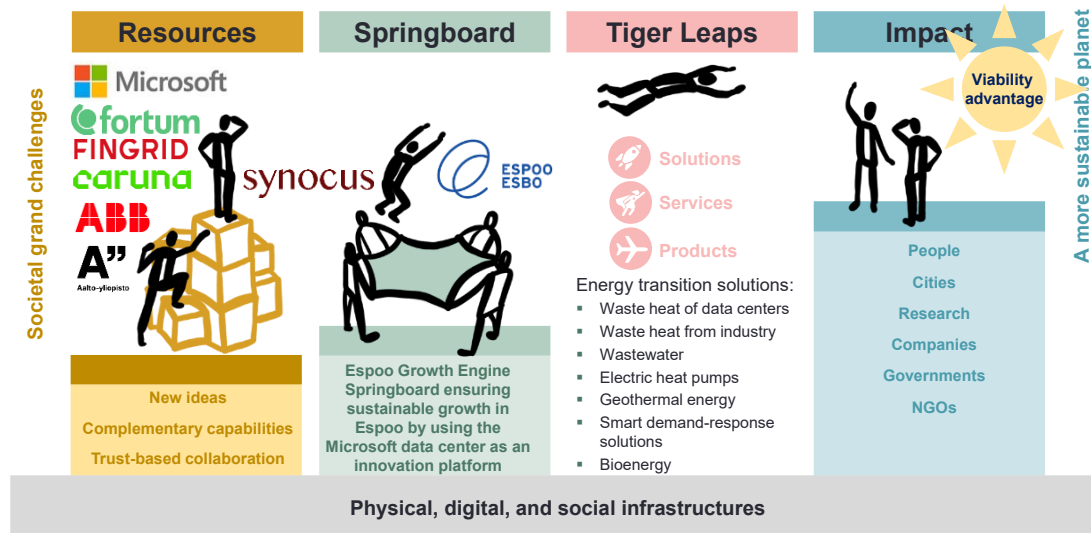
Espoo is one of Europe’s leaders in climate work in the EU Mission for Climate-Neutral and Smart Cities by 2030. The European Commission awarded the EU Mission Label to the Espoo Climate City Contract in spring 2024. Espoo also has a strong position within the European Committee of the Regions, where the Green Deal Going Local initiative was identified as a channel to integrate Espoo’s activities with similar ones in other European cities. Thus, the City of Espoo agreed to become a co-organizer of the WALCC annual forum, titled the Green Deal Going Local Forum, organized in Porvoo and Espoo in October 2025. One outcome of this forum was the agreement to develop a position paper on how Finland can support the EU’s Green Deal Going Local initiative as a forerunner in the clean industrial transformation.

Espoo, Fortum, and Synocus had started collaboration already in 2010 on a demonstration initiative for electric cars called Eco Urban Living. One outcome of this initiative was the formation of the World Alliance for Low Carbon Cities (WALCC). Eco Urban Living was also supported by Business Finland through the Electric Vehicle Systems program (2011–2015).

Piloting electric vehicles catalyzed Espoo to engage more actively with companies and researchers to drive the clean industrial transformation. Similarly, the Microsoft data center development in Espoo gives the city an opportunity to take a proactive role in co-orchestrating innovation collaboration. Unlike the electric-vehicle case, the City of Espoo will not be a direct customer in this collaboration. Nevertheless, the city will strengthen the participating companies’ ability to scale and disseminate results internationally, building on its strategic partnership with Microsoft (Espoo, 2024).



As one of the EU Mission Label Cities, Espoo aims to strengthen industry's role in the systemic transformation of the EU's climate policy. The guidelines in Espoo's Climate City Contract also emphasize industrial collaboration to accelerate sustainable growth. The Espoo Growth Engine Springboard will support this development. The initial constellation of partners engaged in the springboard is shown in Figure 11.



*Figure 11. Espoo Growth Engine Springboard*

Espoo aims to accelerate innovations for the clean industrial transformation, with the Microsoft data center as a large-scale showcase. Microsoft also recognizes the need for collaborative capability building and develops capabilities long before it becomes conventional wisdom that such capabilities are necessary to create new concepts (Kahn, 2024, p. 38).

For Fortum, the energy provider for the Espoo data center, collaboration with Espoo and Microsoft sits at the intersection of three megatrends: digitalization, the energy transition and the use of waste heat in district heating. Fortum and Microsoft are bringing together world-leading expertise and innovation in heating, energy-efficiency solutions, and cloud technology. The waste-heat recycling concept for the data center area will be the largest of its kind in the world. Together, Microsoft and Fortum aim to transform the design thinking of future data centers (Fortum, 2022).

The springboard will also support the local community. Microsoft has agreed to collaborate with the vocational training organizations Omnia and Luksia to establish a Datacenter Academy in Finland to meet the need for data-center technicians. The Datacenter Academy program will connect working life and vocational schools, bringing real-world data-center experience to students interested in technology careers. In doing so, Microsoft seeks to promote Finland's position as a leading technology nation in the era of artificial intelligence (Omnia, 2024). Previously, Microsoft had launched the Skills for Jobs program—developed with universities and mentoring companies—to accelerate digitalization and the use of AI in Finland (Microsoft, 2023).

The springboard aims to accelerate the development of clean solutions, as illustrated by waste-heat recovery for the Microsoft data center. A particular value of this initiative—for the companies and for the Finnish government—is that it is co-created with key EU policymakers. Thus, the Espoo Growth Engine Springboard provides an excellent, iterative case within the EU's Green Deal Going Local initiative, showing how industrial investments can accelerate societal decarbonization. This aligns with Microsoft's goal to be seen as a key contributor to European progress in digitalization and AI (Smith, 2025).

## APPENDIX 2. CONCEPTUAL FOUNDATION

Missions represent top-down policy guidance when aiming to accelerate the clean industrial transformation. Offering-centric ecosystems are the means by which companies engage in collaboration with partners to address transformational challenges. By mobilizing the complementary resources of the ecosystem members, the orchestrating firm can develop a solution it would not be able to create on its own. In such ecosystems, the value proposition defines which partners the nodal firm engages in collaboration and how the alignment of the interests among the ecosystem partners will be ensured (Adner, 2017).

Transformational change implies situations where one cannot specify upfront which solution will be needed to reach the goal. The emergence of the hydrogen economy is a case in point. Airbus has embraced hydrogen as an enabler of carbon-neutral aviation. The Airbus ZEROe initiative first evaluated the technological alternatives that could be used for hydrogen aircraft. Hydrogen fuel cells, hydrogen combustion in modified gas-turbine engines, and synthetic fuels were some of the technologies Airbus started to explore. In 2023, the ZEROe project successfully made its first ever 100% hydrogen-powered flight. Now there is a need for significant investments in supporting infrastructures. To address this topic, Airbus launched the Airbus Hydrogen Hubs at Airports program to promote the expansion of the global hydrogen ecosystem supporting hydrogen-powered flights. These hubs are springboards that will help Airbus reach its mission of carbon-neutral aviation. (Airbus, 2025)

Complementary capabilities are co-orchestrated through springboards to meet the requirements of capability-building competition (Fujimoto, 1999). The notion of co-orchestration extends firm-centric business orchestration to the network level.

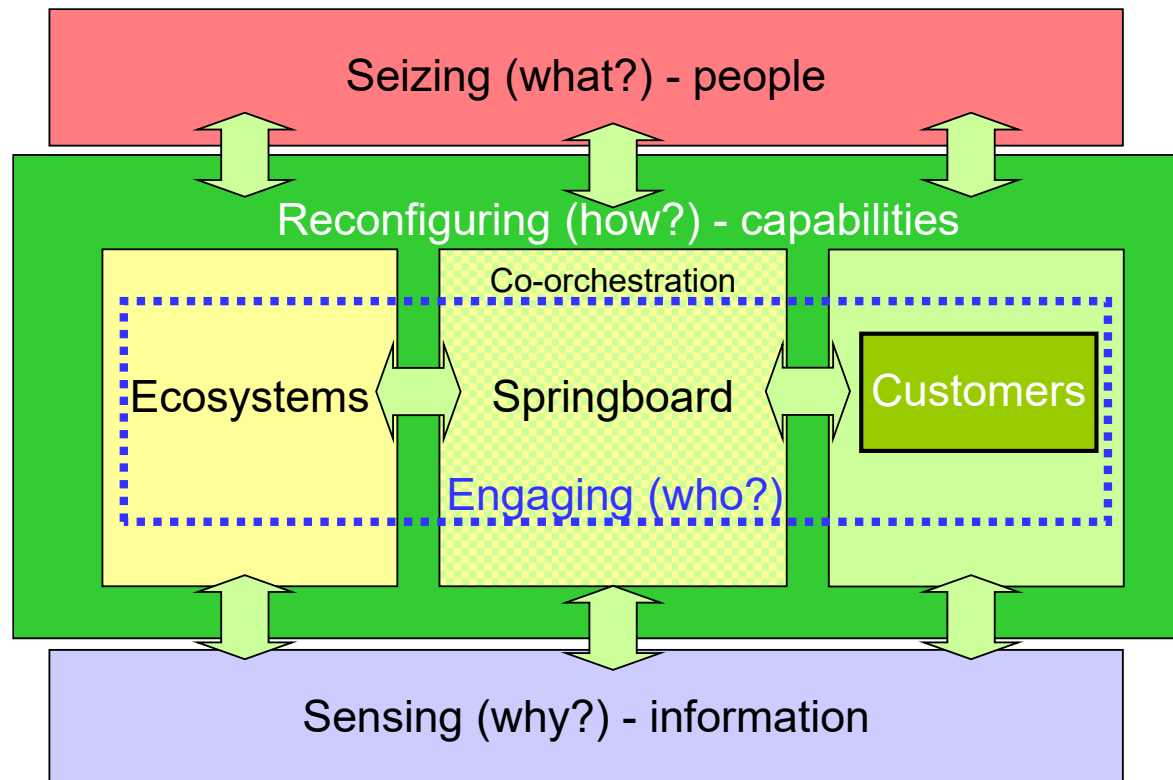


Figure 12. Co-orchestrating capability building for collective value creation (based on Wallin, 2006)

A co-orchestrated springboard supports both the ecosystems of its members and creates value from network-level collaboration. This calls for dynamic capabilities in respect of sensing, seizing, and reconfiguring resources (Teece, 2009).

Sensing and seizing new value-creating opportunities for customers provide the rationale for why the springboard members want to join forces. The partners must agree which opportunities should be prioritized and reconfigure resources to build new capabilities that will ensure the relevance of the springboard. By leveraging the members' collective capacity, the springboard can also influence the business landscape and provide the participants with additional value.

Springboards can also provide added value to cities, as the complementary capabilities of the springboard participants can be used to support the interests of the city. As public-private collaboration has become increasingly important when cities compete for investments, a springboard can offer a city the opportunity to attract more attention. Through co-orchestrated springboards, cities can support the building of ordinary capabilities for the companies engaged around the springboard. This is often missing in public-private innovation collaboration. Complementarities guide who will form the core of the springboard. This emphasizes the makeup of the springboard partners, and what types of stakeholder relationships develop among them (Freeman, 2004).

When considering dynamic capabilities in a city context, missions may guide the activities. In such a case the connection between dynamic and ordinary capabilities must be taken into consideration. Firm-orchestrated offering-centric ecosystems and co-orchestrated public-private capability-building communities can jointly enable a city to build dynamic capabilities (Kettel, 2025). The dynamics of the co-orchestrated community can also drive reconfiguration by engaging the partners on a common objective. These insights represent a new, important contribution to the theory around dynamic capabilities and the role of springboards as an important niche separate from clusters or innovation ecosystems (Teece, 2025). An example of such public-private collaboration is the City of Espoo's collaboration with Microsoft and the energy company Fortum in developing new, more sustainable data center concepts (Wallin, 2025).

Springboards are subsequently closely integrated with the firm-centric ecosystems of the springboard partners. By engaging in various networks, the participating companies can strengthen their own capabilities as orchestrators or complementors (Jacobides, 2022) when driving the clean industrial transformation. Capability-building activities on springboard level may then also become antecedents to future business models on the firm level for the individual companies engaged around a springboard (Amit & Zott, 2015; Gawer, 2022).

A transformational initiative mobilizes the interests and capabilities of the participating members. A sense of community and the ambition to contribute to something important keep partners committed to the transformation. If the surrounding world becomes hostile and transactional, it is important for the leading individuals to maintain the engagement of the followers to ride out the storm.

On the national level we see that the updated Finnish industrial policy strategy, emphasizing industrial hubs, exhibits very similar ideas to the notion of springboards presented in this position paper. Subsequently, the conceptual foundation behind the springboard approach may prove useful also for Finnish policy makers when they bring the Finnish industrial policy forward.

## APPENDIX 3. DECLARATION

### Finland as a Forerunner in the Clean Transformation

The Finnish Government has set a clear ambition: to strengthen Finland's ability to shape EU policy proactively and to accelerate the transition to a competitive, carbon-neutral economy. One of the Government's priorities is to boost innovation collaboration and raise the national R&D investment share to **4% of GDP by 2030**, exceeding the EU's 3% target. This ambition will enable the faster deployment of solutions that reduce emissions and capture carbon in industry and energy production.

To succeed, Finland must align its national policies and industrial strategies with the EU's agenda and connect **local action to European transformation**. One avenue for such integration is the **Green Deal Going Local (GDGL)** initiative launched by the European Committee of the Regions. GDGL mobilizes local and regional authorities to aim for greater impact. In Finland, these efforts are advancing through **industrial hubs—or "springboards"**—which are a priority area in the new Finnish Industrial Policy Strategy (2024).

Achieving the EU's climate neutrality targets depends on **action on the ground**, driven by public–private collaboration. Industrial investments are decisive. The European Commission's **Competitiveness Compass**, **Clean Industrial Deal**, and forthcoming **New Urban Agenda** emphasize industrial, technological, and competitiveness policies as essential complements to environmental measures.

The **GDGL Forum held in Porvoo and Espoo in October 2025** marked an agenda-setting step forward in the EU's Green Deal Going Local process. The Forum analysed Finland's most promising candidates to serve as **springboards for next-generation clean solutions**. Leading Finnish cities—many of them **EU Mission Cities**—are now advancing this clean industrial transformation through their **Climate City Contracts**, which act as strategic frameworks for innovation, investment, and the co-creation of concepts supporting the achievement of the EU's ambitious climate and energy goals.

**Business Finland's Leading Companies Programme** accelerates the creation of industrial ecosystems delivering systemic climate solutions with global impact. Experience shows that **municipal and regional collaboration with industry is essential for success**. One notable example, presented at the GDGL Forum, is the **€150 million H<sub>2</sub> Springboard Programme**, led by ABB, which aims to demonstrate the full potential and business viability of the hydrogen economy.

The next step is to **integrate local Finnish springboards** with national and EU-level policies to ensure the multi-level governance needed for maximum impact. Finland can lead by example as a European role model for **systemic transformation** by:

- **Orchestrating city–industry–university ecosystems** around Local Green Deals and industrial hubs with measurable outcomes.
- **Scaling footprint and handprint innovations** that generate economic, environmental, social, and cultural value.
- **Mobilising Finnish initiatives** to contribute to EU Moonshot Missions, European Partnerships, and European Research Area (ERA) Actions.
- **Using GDGL as a framework** to demonstrate how multi-level governance operates effectively in practice.

Through these actions, Finland can reinforce its influence within the EU and demonstrate how industrial innovation and regional collaboration strengthen both **competitiveness and climate neutrality**.

22 October 2025

On behalf of the Green Deal Going Local Forum organisers and participants

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**Johan Wallin**

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