



**ENGAGE//
'NNOVATE**
Strategy & Innovation
Consulting Company

BUILDING INNOVATION SUPERCLUSTERS

*Economic Development
for the 21st Century*



A REPORT BY ENGAGE // INNOVATE & STRATEGY TOOLS

by Christian Rangen & Jolene Foo-Hodne



About Building Innovation Superclusters

This report is a collaboration between **Engage // Innovate** and **Strategy Tools – the Modern Strategist's Platform**.

The report is built on our work with innovation clusters and cluster programs over the past four years and our ongoing research program into Innovation Superclusters.

The research behind this report is funded entirely by Engage // Innovate.

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#Supercluster



Global strategy & innovation consulting company. Advising and supporting governments and Innovation Clusters globally.

Extensive experience with cluster programs from the Nordics, Europe and Asia.

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Why we wrote this...

In December 2017, we published our first report on Malaysian Innovation Superclusters.

Since then, we have spent thousands of hours helping understand, start and evolve Innovation Clusters and Superclusters around the world. We have worked directly with over 30 clusters or cluster initiatives, from autonomous mobility, drones, energy transformation, heavy industries, aquaculture and more.

Our work has taken us to drone valley, smart societies and the leading hot spots for the energy transformation. Along the way, we have met and worked with thousands of people, sharing the passion to successfully building new, high-growth ecosystems around future growth industries.

Former CEOs, cluster managers, national policymakers, innovation park builders, interns, investors, researchers, cluster boards and ambitious nation builders; all sharing the ambition to build better innovation clusters.

This report is our way of giving back to the community we have met along the way. We hope the research, insights and tools gathered in these pages will help existing clusters grow into global Superclusters. We hope to inspire and enable new Innovation Superclusters. This report is also a preview of our forthcoming book, **Innovation Superclusters - A New Playbook for Economic Growth.**

Most importantly, we hope to inspire a generation of politicians and national leaders to build Innovation Superclusters for sustainable economic growth.

Thank you.



A handwritten signature in black ink that reads "C Rangen".

LEAD AUTHOR

CHRISTIAN RANGEN
STRATEGIST, ADVISOR, FACULTY

FOUNDER OF
ENGAGE // INNOVATE,
STRATEGY TOOLS,
X2 INC



This report was written for change-makers like you...

It is written for anyone with a passion to drive national economic development, improve the wider innovation ecosystems and create the companies and industries of the future.

We hope this report will bring value to:

- Politicians
- Consultants
- Policymakers
- Cluster boards
- Cluster leaders
- Business schools
- Academic faculty
- Innovation leaders
- Ecosystem builders
- National innovation agencies
- National transformation heroes

Who might find this most useful...

NATIONAL TRANSFORMATION PLANS

Globally, national transformation leaders are looking for ways to accelerate national transformation and build new, future growth industries. Visionary politicians, national leaders, governments, ministries of trade, economy and finance, are likely to find Innovation Superclusters very relevant to shaping new economic growth.

NEW INNOVATION SUPERCLUSTERS

Founders, leaders, boards, CEO and staff at newly emerging Superclusters might find this report very useful and inspirational. This also includes government leaders, industry leaders or lone heroes with an ambition to develop one or more Innovation Superclusters. Consider this your roadmap.

UPGRADE, DEVELOP EXISTING CLUSTERS

With nearly 7,000 clusters worldwide*, global policymakers, cluster managers and cluster boards might want to upgrade or develop the clusters in line with emerging best practices.

Hopefully, this report can be useful in creating a strategic momentum to upgrade and build a future-fit innovation cluster.

Executive summary



SUPERCLUSTERS ON THE RISE GLOBALLY

Innovation Superclusters are engines of economic growth.

Built around the industries of the future, Superclusters can accelerate transformation and drive system-level innovation at scale.

From China to Norway, Canada to Latin America, this reports finds most stakeholders are just starting to explore the potential of Innovation Superclusters.

We expect to see a number of new Supercluster initiatives leading up to 2030 and beyond.



FACING A CLUSTER PARADIGM SHIFT

The world is stuck in an old paradigm.

Our research shows most of the world has very limited understanding of Innovation Superclusters.

Most policymakers, cluster managers and national innovation agencies work within an established and outdated understanding of clusters. Anchored in academia-industry-government, or the triple Helix framework, this framework is fundamentally insufficient to drive economic growth and transformation at scale.

Our work shows most clusters and policymakers face a cluster paradigm shift as they try to learn how to build Innovation Superclusters.



VISIONARY GOVERNMENTS REQUIRED

Successful Innovation Superclusters require government leadership.

Smaller Innovation Clusters often start as small, bottom-up, initiatives, either in industry or academia.

However, building and scaling Innovation Superclusters requires a 10+ year horizon and a strong national framework.

To be successful, Superclusters need to be anchored in economic policies, national transformation plans and require visionary government leadership to fund, build and support over decades.

Innovation Superclusters are engines of future growth

How can we build an Innovation Supercluster?

What does it take to build a global Innovation Supercluster?

What are the key elements to building a successful Supercluster?

These questions are being asked by government leaders, national innovation agencies and national transformation leaders from Singapore to Zagreb, from Sao Paulo to Johannesburg, from Dubai to Shenzhen.

Leading innovation ecosystems around the world, California, Shanghai, Beijing, London continue to pull in capital, talent, corporates and breed the next generation of high-growth, high-value scale-ups, the unicorns, decacorns and hectocorns.

As we continue to race into the knowledge-driven economy, with industry 4.0, digital business models, lean startups, large scale industry shifts; local and national leaders take note.

“How can we compete globally?”, “How do we create more high-impact, tech jobs?”, “How do we create – and keep – tech scale-ups in our local economies?” are frequent questions discussed at roundtables and conferences.

The best leaders shift that conversation. Instead, they ask and act on strategic questions like, “How can we attract the very best startups and scale-ups to our region?”, “How can we combine our old legacy industries, with new technologies at scale”, “How can we enable and support unprecedented collaboration at scale?” and “How can we accelerate innovation across research, corporates, startup and beyond?”

Increasingly, the answer to those questions are to build strong innovation clusters, in many places – build global Innovation Superclusters.

Over the past few years, we have had the privilege to work with government leaders in Asia and Europe to design, build and implement Innovation Superclusters. We have seen the impact possible, and believe we will see a sharp rise in the number of Superclusters around the world.

What are Innovation Superclusters? (and why are we so passionate about them?)

Business clusters, or agglomeration economies, are a natural phenomenon in many regions and to many economic activities. Clusters have been recognized in management literature since the 1890's, but tracing back to the earliest days of human organized economic activities, as suppliers, customers and partners naturally would group together.

In most parts of the world, clusters are understood as **geographical clusters**, often around a specific industry or field. Media, high tech, life sciences, med-tech, space travel, maritime, finance, seafood, energy; these all have strong geographical clusters that have evolved and matured naturally over time.

Today, we are learning to build, shape and design far more impactful clusters. We see new clusters rapidly emerging, often built around the **"industries of the future"**, helping regions, nations and national leaders navigate economic shifts and prepare for new economic growth in future growth industries.

Since the early 2000's, **the term Supercluster** has been evolving, shaping ambitious political and industrial thinking in Asia, Americas and Europe.

Having personally worked with Supercluster development projects in Europe and Asia, **we deeply believe in the power of Innovation Superclusters** to accelerate industry shifts and help race a region, a country or an industry into the future.

Yet, we recognize the work, the complexity and the massive amount of stakeholders to engage to successfully scale a Supercluster. Looking into the future, we hope to continue to advance our own understanding of global clusters, continue our research activities, evolve our toolkit for future Superclusters and help build a generation of new engines of innovation around the world. We wish all policymakers, cluster managers and leaders all the best on their exciting journeys.

In the following pages we will share our key research findings, and present a roadmap for building new Innovation Superclusters over the coming decade.



Cluster

Innovation clusters can be both **naturally emergent or built**. EU alone has 3,000 clusters, most aligned with an academic institution.

Often very **local by design** and focus. Built around supply chains and/or the Triple Helix framework.

Small in size, limited funding. Often relying on project funding.



Creative Hubs

Office spaces, innovation parks, co-working space, incubators or creative lofts.

These physical spaces will very often be members of one or multiple innovation clusters.



Innovation Supercluster

Innovation Superclusters are massive innovation systems, **built around a single theme** (i.e. solar energy). Designed around **industries of the future**, they are expected to generate significant value as they develop.

Built around the five stakeholder groups, often clustered closely together.

Has a **formal organization**, board, CEO, staff, budget and annual reporting.



Ecosystem

Innovation ecosystems are thriving hot spots, often focused on entrepreneurship, capital & corporate innovation. Mostly emergent but supported by government policies. Universities play a critical role.

Will encompass multiple themes, i.e. tech, hardware, AI, mobility, health tech, & software.

Does not have any single formal organization. Does not have a CEO.



Innovation Districts

Large scale innovation areas in cities and regions. Often developed by long-term public planning and intervention.

Frequently located in amenity-rich residential and commercial environments, often near universities.

Clusters might be located within Innovation Districts.



Research Parks

Found at or near to universities, research parks tend to practice a more closed approach to innovation.

Most Parks will also have a Tech Transfer Office (TTO) to help commercialize the research.

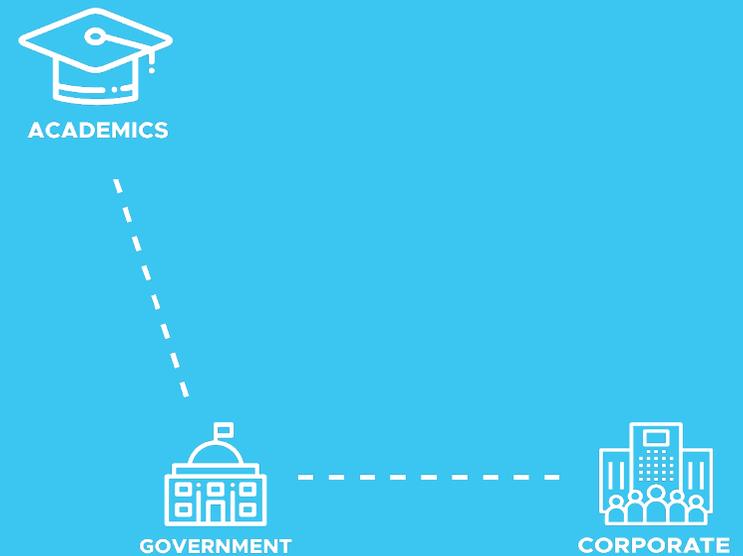
In China, Zhongguancun Science Park hosts 19 clusters and 65 Unicorns.

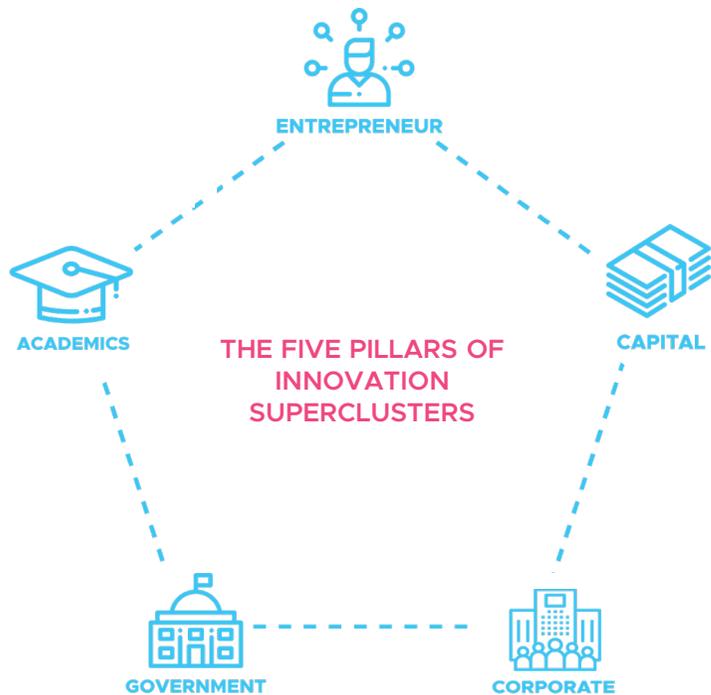
Definitions

The Triple Helix

In the 1990's, Professors Henry Etzkowitz and Loet Leydesdorff conceptualized the Triple Helix framework, laying the groundwork for 25 years of Western innovation policies. The Triple-Helix framework was seen as a “university-industry-government in the Knowledge Society”.

Over the coming years, the Triple Helix model made its way into most western government's innovation policies, leading to a large number of Science Parks, Technology Transfer offices and close industry-university relations. Eventually, the Triple Helix would become the backbone of many innovation cluster programs, connecting research, government and industry into a close partnership.





The shifting paradigm

Over the past 10-20 years, researchers, practitioners and emerging innovation economies have shown that the Triple Helix is insufficient to explain and support the entrepreneurial ecosystems emerging around the world.

From China to Israel, recent economic growth has showcased the power of the more “entrepreneurial economy”.

Academics from Harvard, MIT, BI have all added to the framework, eventually coming up with the entrepreneurial ecosystem model, the Five-Point or Pentagon model. In it, entrepreneurship and private risk capital is recognized as equally important pillars to the modern economy. Combined, these five make up the five pillars of Innovation Superclusters.

Superclusters are shifting from Triple Helix to Pentagon*. They actively recruit key members from Corporate, Capital, Government, Academia and Entrepreneurship, then go on to build a system-level innovation engine for national and international impact.

*The Supercluster Structure is built on excellent work by MIT Reap; MIT's Regional Entrepreneurship Acceleration Program, Harvard Business School and further adapted by BI - Norwegian Business School.



Startups and venture capital is naturally integral to any innovation cluster.

Jerome Engel
UC Berkeley

Explaining the Five Pillars

Private Risk Capital

In Western innovation policies, private risk capital was largely irrelevant. That is no longer the case. Looking to innovation hotspots like San Francisco, Tel Aviv, Beijing and Stockholm, private, competent risk capital matters.

Today, you can not build a strong ecosystem without a large number of capital actors (hint: this is not your local credit- and savings bank). With growing access to capital, good ecosystems are able tap into, raise and activate larger amount, from highly capable investors. A dynamic and liquid ecosystem will also create opportunities, investments, rapid investment rounds and – hopefully – strong exits. This again fuels the next generation in the ecosystem, creating a positive reinforcing mechanism, allowing strong ecosystems to get stronger.

Superclusters, looking to compete globally need private risk capital. A lot of it. In many forms. A single venture fund in your local market might sound like a great initiative, but it is a drop in the bucket. What is needed is a coherent Supercluster Capital Strategy.

How many investors, in total, do you have in your Supercluster? What's the access to angels and Superangels? How many investors are previous founders? What is the access to Corporate Venture Capital?

Do you have a large enough portion of lead investors, helping pull in outside capital beyond the local region? Do you even know the top 50 investors in your field? Are term sheets, CLN's and SHA's readily available in the Supercluster? How does the Supercluster help connect startups and the right kind of investors?

These kinds of questions all fall under the domain of a Supercluster's work on activating private risk capital.

Don't build a Capital Strategy all by yourself. Gather a wide group of stakeholders with different skillsets and expertise. Please, make sure you have minimum 30% scale-ups and 30% investors in the room. Hint: public funding sources don't count here.

What is the
average financial
velocity in your
Supercluster?



CAPITAL



ENTREPRENEUR

What is your
Supercluster
Accelerator
Strategy?

Startups, Scale-Ups, and Accelerators

The “Entrepreneur” pillar is a broad one.

Here, we place all aspects of entrepreneurship in relation to the Supercluster. That usually include startups, scale-ups, growth companies, accelerators, incubators, meet-ups and events.

How many startups are active members of the Supercluster?

How many new startups can the cluster help develop over the next decade?

How many scale-ups (fast growth companies, have raised more than \$25M) are members of the cluster?

How can the Supercluster help them grow faster?

How many accelerator programs does the Supercluster have? Should the cluster develop its own, in-house accelerators or partner with others?

How many Incubators, around your Supercluster theme, do you partner with?

How can the cluster help scale a number of scale-ups over the coming three years? How can the cluster build a more entrepreneurial culture within the cluster? How can the cluster enable more “power-coupling” between startups and corporates? How many scale-ups can the cluster help reach IPO in the coming decade?

These are typical questions explored within the Entrepreneur pillar.

Note: the cluster does not have to build everything in-house. Strategic partnerships, international partners and collaboration models are core assets that can be nurtured at the cluster level and benefit all members, at less operating costs. We call this the Supercluster Accelerator Strategy.

Explaining
the
Five Pillars

Corporate Members; Local, National, International

Most clusters start out with a focus on “what does our handful of corporate members and partners need?”, “How do we serve them best”.

This is not the case in a Supercluster.

A strong Supercluster captures key industry leaders and leadership, attracts all the key corporates and cornerstone companies, but it also goes beyond that, maybe even far beyond that.

A true Supercluster aims at the development of the entrepreneurial ecosystem, not just the interests of established firms. Superclusters are able to bring in and activate a broad range of startups, scale ups, world-class researchers, top notch policy makers and active investors. Corporates, while possibly not fully seeing the possibilities in the Supercluster, are equally attracted and, over time, start adapting their own, internal innovation policies, strategies and even culture.

Successfully engaging with a Supercluster should naturally nudge any corporate to open up its innovation processes, increasingly moving towards what the literature calls “Open Innovation”. By establishing trust, personal connections, identifying shared industry-level challenges and a joint ambition to solve those industry-level challenges, corporates, even head-on competitors should, over time, find avenues for collaboration within a Supercluster.

Building an early Supercluster, it makes sense to find a senior industry leader, perhaps recently retired, to take on the role of Chairman of the Board and overall senior spokesperson. Most cluster boards have a large representation of corporate leaders on its Board of Directors. That’s ok, but make sure to balance this out with investors, scale ups, academics and government too.

Have you secured
the key industry
leaders in your
cluster?



Explaining the Five Pillars



ACADEMICS

Do you have access to the most exciting research labs in your field?

Universities, Business Schools, and Research Labs

“Academics” cover a broad field and could include:

- Direct involvement of local universities and business schools
- Access to top-notch research experts and professors
- Research programs, anchored in the Supercluster topics or needs
- PhD programs, researchers and research projects aligned with the Supercluster’s needs and interests
- Education of High School, Bachelor, Master’s, PhD and MBA students in the fields of interest to the Supercluster
- The building and operations of cutting-edge research labs, like an AI-lab

Equally important, is connecting far beyond the local region. Strong Superclusters will naturally develop far-reaching partnerships for student exchange, academic and research exchange, joint research programs and educational programs.

Importantly, and sometimes forgotten, is the role the academic partners play in building the future workforce and knowledge base of the members in the Superclusters. Working closely with industry leaders, academia can shape new learning experiences and educational programs – built around future needs.

Finance Innovation, a Fintech Cluster based in Bergen, Norway, worked with the local Business School, NHH, to create a two-year Executive MBA program in Technology and Innovation of Finance. Equally, the Seafood Cluster worked with NHH to develop a part-time, two-year MBA in Seafood Management, most likely the first of its kind anywhere in the world.

Explaining the Five Pillars

Explaining the Five Pillars

Government, Policies, and National Programs

Academically, the role of government in shaping innovation is raging. Free market believers tend to argue the government should just get out of the way and let markets settle things. Others argue that market failures (early stage technology development, collaboration projects and other industry-level activities) all benefit, or even require an active government intervention.

UK-Based Chair in the Economics of Innovation and Public Value at University College London, Professor Mariana Mazzucato, has published significant evidence of the role of the government in active policies, eventually giving birth to the foundational technologies today used in smartphones, the internet and endless industries around the world.

For Superclusters, the collaboration between Government and industry, and Government and ecosystem is crucial. Without Government support and leadership, either actively (visionary, cluster programs and funding) or passively (through policies, taxes and selected grants), few natural innovation hotspots would exist today.

Many look to and learn from the success of the Start-Up Nation, Israel. Few realize the critical role the Government played in both policies, funding and establishing a generation of publicly-funded, but privately-run venture capital funds in Israel, playing a key role in kickstarting the tech clusters that emerged in the following years.

Today, any Supercluster wants to actively involve and collaborate with Governments. Most Superclusters would build on the existing national economic development plans, in “industries of the future”, like AI, Seafood, Tech or Tourism.

Malaysia built its early Supercluster Program on the 2050 National Transformation Plan, TN50, looking at the long-term economic development of the nation towards 2050.

Are the right
government
policies supporting
your cluster?



Innovation Superclusters are...



Engines
of economic growth,
by connecting 100's of
members and partners



Magnets
that attract talent,
capital, researchers
and companies



Collaboration networks
built around the
industries of the future



Solving **Industry level**
challenges &
opportunities



Private-public
Partnerships,
developed by
design



Trust-based
collaboration
platforms

Three Types of Innovation Superclusters

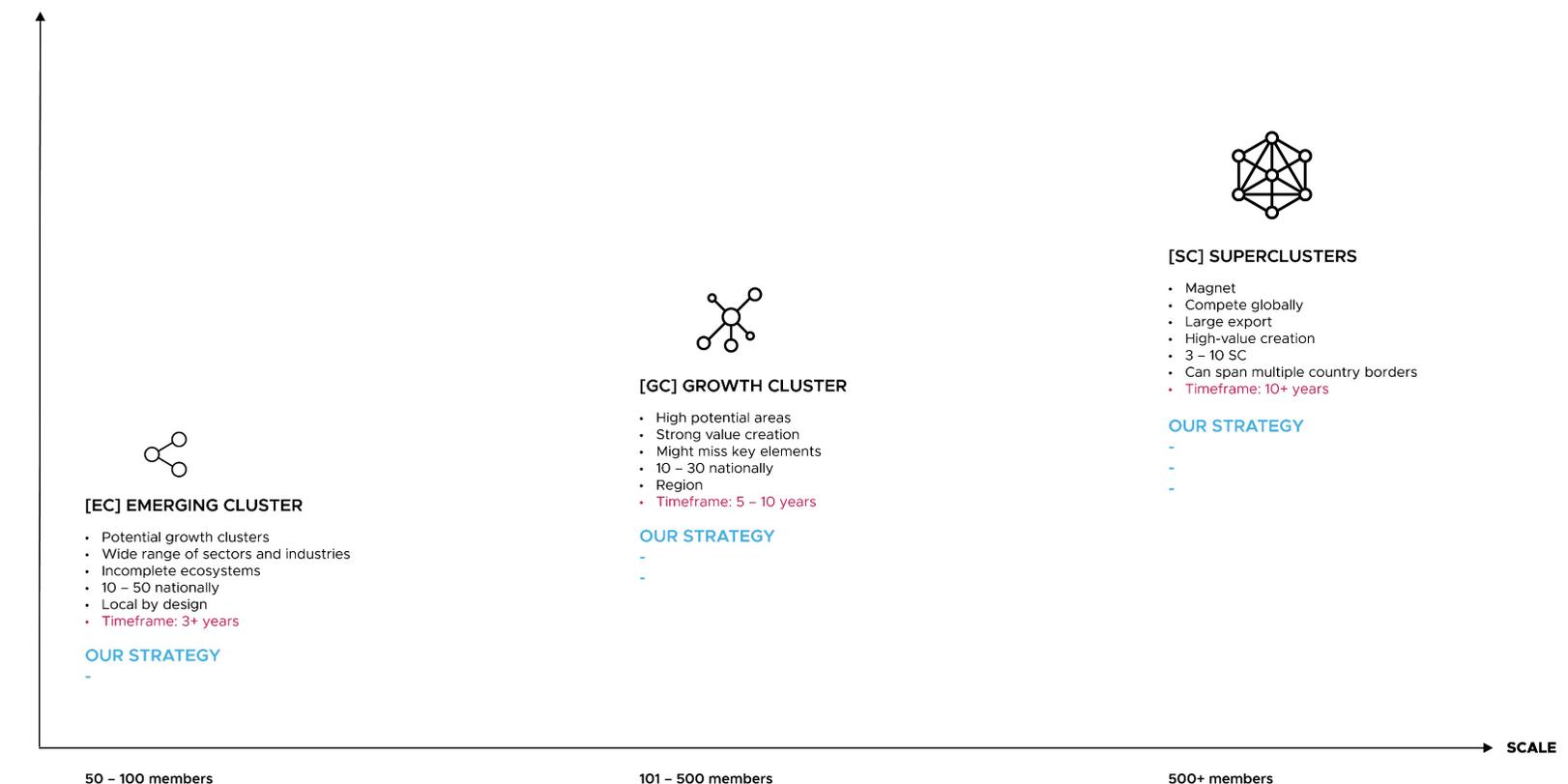
In our research, we frequently find three distinct types of clusters.

Emerging Clusters are small, incomplete and very local by design. They typically count 25 – 50 members, with easy outlook up to ca. 100 members.

Growth Clusters are stronger organizations, enjoy more stable funding, have far higher levels of activities and generate more value to their stakeholders.

Superclusters are rare and few between. Once fully developed, they become global magnets for talent, capital and ideas. They easily span regional and national borders and have a significantly higher value creation than their smaller peers. From start to full potential, a Supercluster should expect a ten-year timeline or more.

IMPACT



Three Types of Clusters



Get yours at www.strategytools.io
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Superclusters vs. Ecosystems

Innovation Superclusters vs. Innovation Ecosystems, how are they different?

Specific theme

No specific theme

Clear organization, legal entity

No specific organization, no single entity

CEO, Management team

No specific management team

Actively recruiting, supporting and developing around one theme

Multiple themes, industries and domains overlap

Specific funding, usually government and industry collaboration

Multiple themes, industries and domains overlap

Counting members, partners

Usually not able to count members across a wide ecosystem

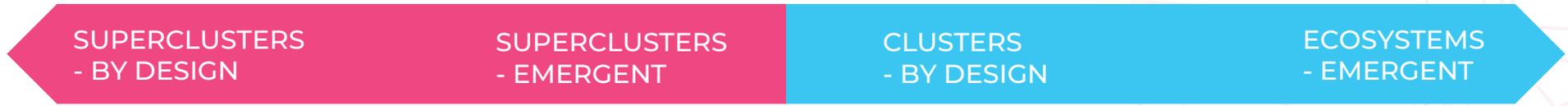
Annual report and frequent communications

No official reports and communications

Actively built, nurtured and led over 3,5,10+ years

Emergent, supported by policies and communities, but often naturally evolving

Understanding the landscape



Canada
 Digital Supercluster
 Ocean Supercluster
 Protein Supercluster
 AI-Supply Chain SC
 Advanced Manufacturing SC

Drone Valley,
 Switzerland?

Clean Energy,
 EU?

Ocean space,
 Norway?

Seafood,
 Norway?

Norway,
 Energy?

Malaysia?

SUPERCLUSTERS
 - EMERGENT

Silicon Valley,
 Tech

China,
 AI, Tech

Boston, Med Tech

Tel Aviv,
 Tech

CLUSTERS
 - BY DESIGN

3,000 in EU*

Close to 7,000
 globally *

ECOSYSTEMS
 - EMERGENT

Beijing

London

Berlin

New York

Stockholm

Shenzhen

Singapore

Examples. Not exhaustive.
 Examples not ranked in any order.

*Numbers based on sources and interviews.
 Global number of clusters highly dependent on definitions
 across the Chinese landscape.

Understanding the landscape

SUPERCLUSTERS - BY DESIGN

Supercluster Initiatives

Specifically designed and built.

Strong focus on the story and narrative of building large Innovation Superclusters.

Legal structure, Board, CEO in place.

Focus on financial velocity, connecting startups and corporates, growing a stronger collaboration culture.

SUPERCLUSTERS - EMERGENT

Global clusters of innovation

Very strong collaborative ecosystems around specific themes (best-in-class globally)

Only in various degrees organized as a formal Supercluster

Might aspire to developing a formal Supercluster. Might lack certain elements.

Usually very professional and well-developed funding landscapes.

CLUSTERS - BY DESIGN

Traditional innovation clusters

Often built around the Triple Helix Framework

Local by design.

Often organized around legacy industries. Focus on sustaining old, cornerstone industries in the region.

Closely linked with local universities.

Suffer from limited resources.

Poor environments for investors, capital and scale-ups.

Might transform into Superclusters.

ECOSYSTEMS - EMERGENT

Innovation Hotspots

Globally recognized innovation hotspots.

Will have all the pieces of a complete innovation ecosystem.

Can contain multiple different industries and topics.

Strong cross-over between different industries.

Generally strong investor scenes, high deal-making activity.

May have one or multiple Superclusters in the ecosystem.

What does a Supercluster actually do?



CONNECT & COLLABORATE

The core activity of any Supercluster is recruit members, connect and launch collaborative projects.

By building a trust-based collaboration platform, members create higher economic value.



BUILD BETTER INNOVATION SYSTEMS

Superclusters educate, train, coach, mentor and develop innovation skills at the ecosystem level.

This is open innovation in practice.



BUILD NEW GROWTH INDUSTRIES

Long-term, Superclusters exist to accelerate the development of new, high-growth industries.

Develop a strategy today for building your key national industries in 2050.

Think, a magnet.

Think of an Innovation Supercluster as a magnet.

Fully developed, an Innovation Supercluster attracts. It pulls in. It naturally draws in the very best companies, startups, investors, researchers, policymakers and future shapers.

A successful Innovation Supercluster pulls in the best people in the field, from all over the world. It represents a unique, world-class break-through environment for the very best people, brains, companies and investors to create the future in that specific field, whether that is clean energy, drones, autonomous mobility or fintech.

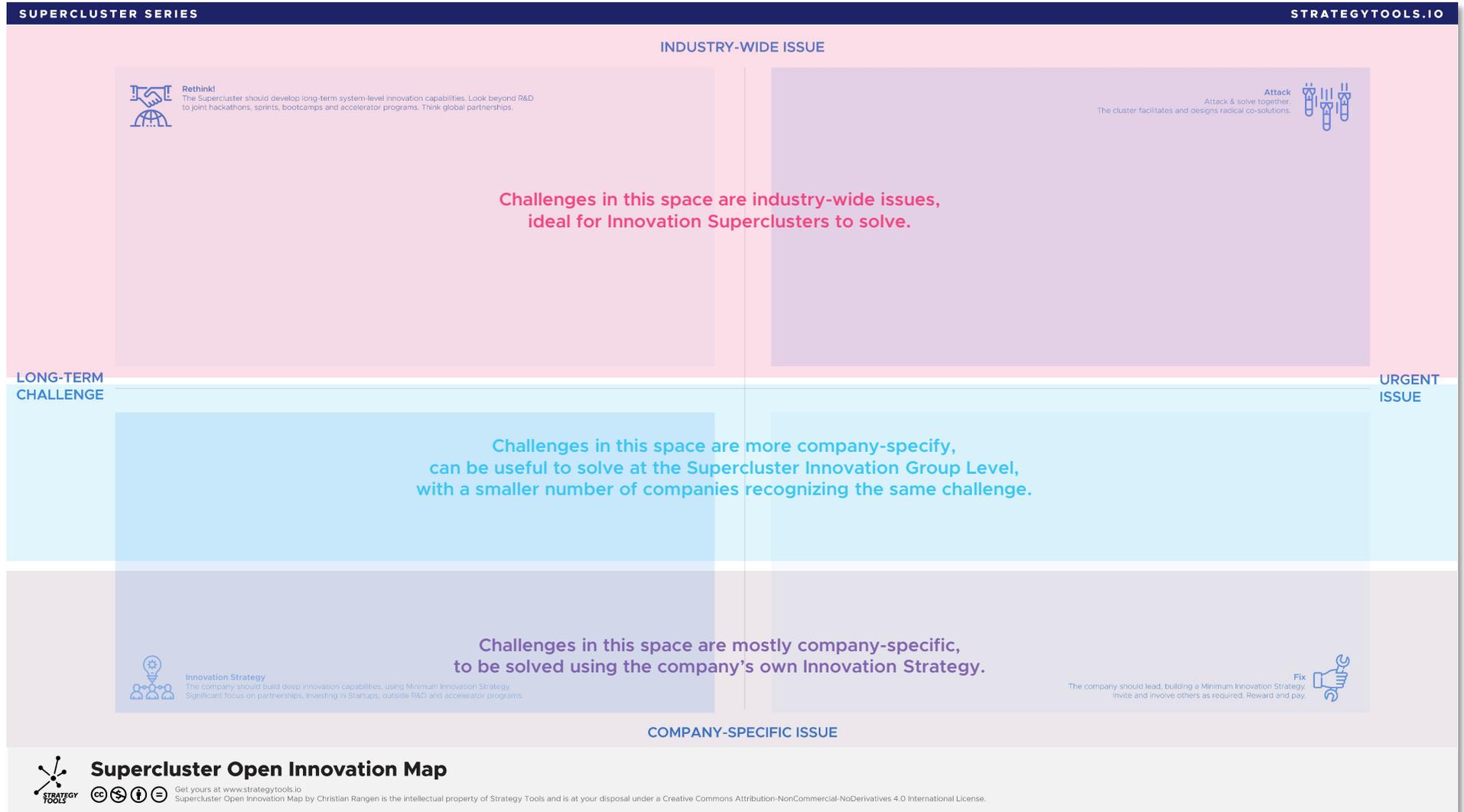
Think, a magnet.

**Great Innovation
Superclusters
solve industry-level
challenges.**



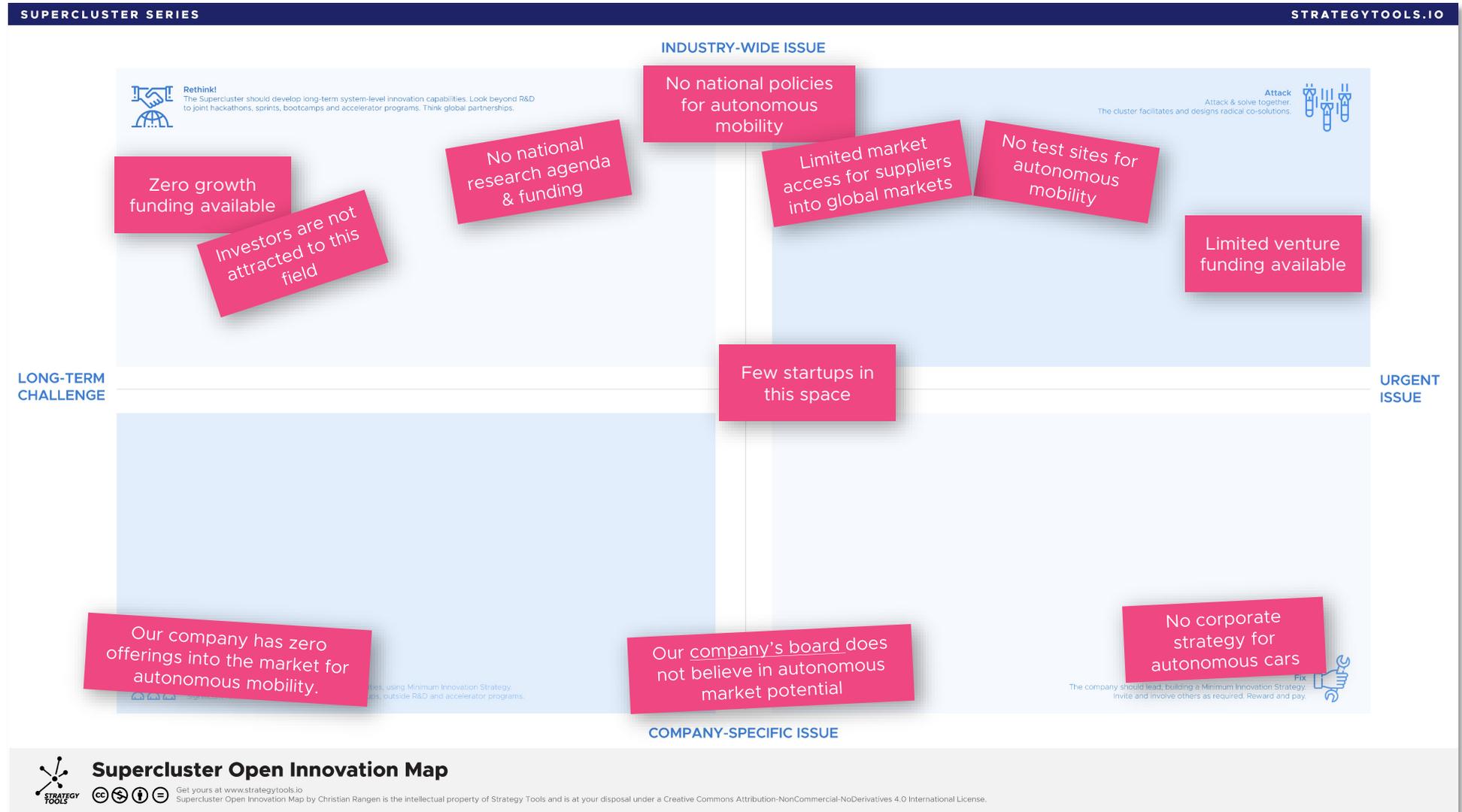
Open Innovation at the Supercluster Level

Successful Superclusters build on the deep principles behind open innovation. They identify industry-level challenges, challenges that cannot be solved by any one entity alone, and combine focus, funding, innovation, energy and insights to develop shared solutions to solve these challenges. Go to www.strategytools.io to download your Supercluster Open Innovation Map or try the free software app.



Case: Open Innovation in the Mobility Space

Superclusters are ideally built around future growth industries. These industries are still being shaped and will always have structural gaps or challenges. Use the Open Innovation Map to gather challenges from participants and stakeholders. Map these challenges on “Urgent vs. Long Term” and “Industry wide vs. Company specific”. Below example from the autonomous mobility space shows how a number of issues can rise to become shared challenges, ideally positioned for the cluster to address and solve.

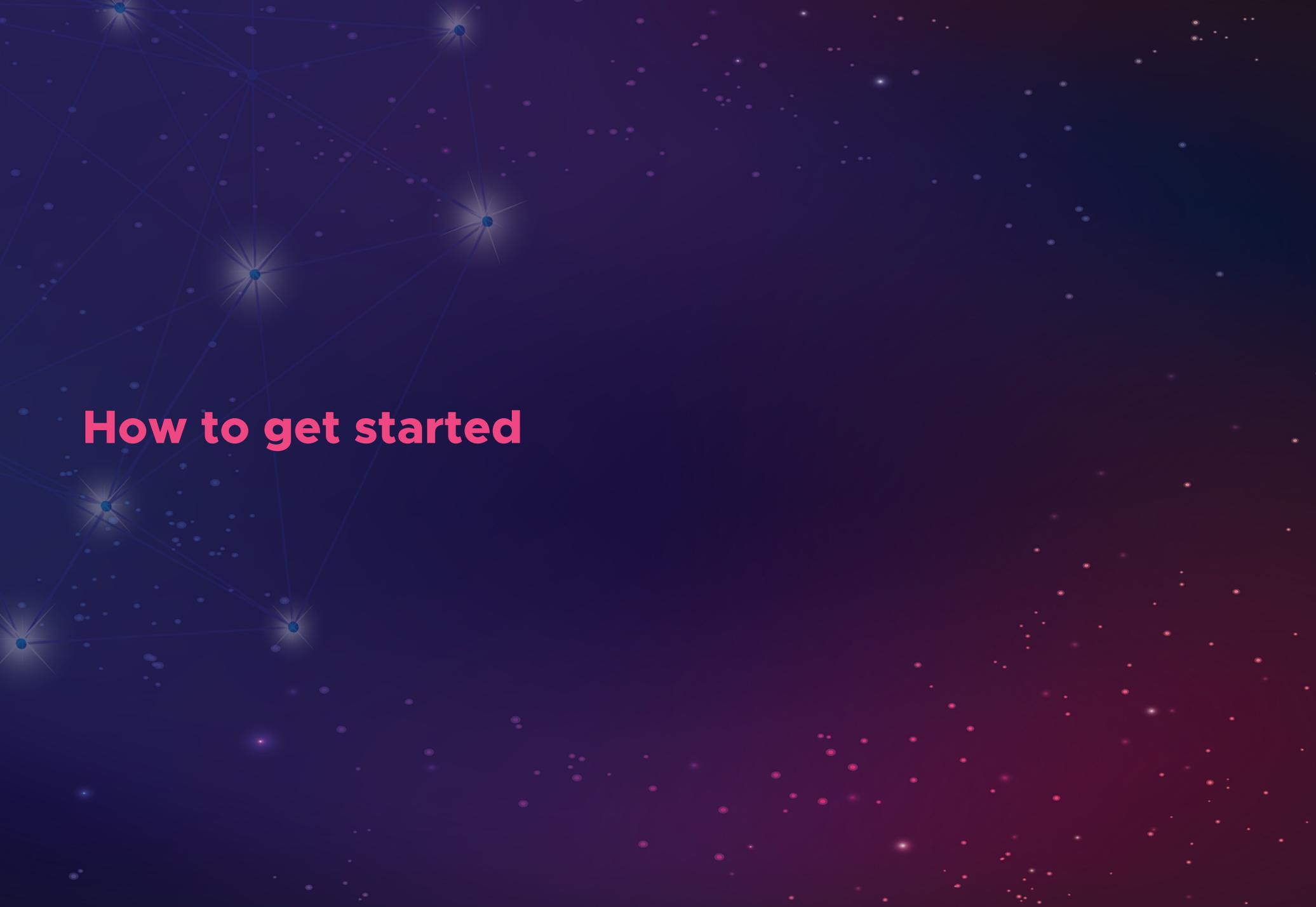




**Europe should
develop stronger
global clusters.**



Merete Daniel Nielsen
President, TCI Network



How to get started



Problem Statement

What are the problems you hope an Innovation Supercluster might help you solve?



Future-fit the economy

Digitalize local industries

Industry 4.0

Create new, high-tech companies

Build entirely new industries

Create new jobs

Improve industry collaboration

Economic growth

Shift local economic activity into the knowledge-driven economy

Increase GDP

More entrepreneurs

A lack of unicorns

More spin-outs from universities

Energy transformation

Value creation from new economic areas

What
problem
are you
trying to
solve?



What problem are you trying to solve?

In our work, we have come across a large number of leaders, CEOs, national innovation agency staff and policymakers.

Many have expressed their strong interest in building Innovation Superclusters.

Few, however, are able to pin-point what problem they are trying to solve with a Supercluster initiative.

Most have very strong arguments for why a Supercluster program would be good, even important, but few can sharply define the problem it aims to solve.

We think that is important.

Where did our unicorns go?

The background leading up to the Canadian Supercluster program reveals some strong problem statements asked by key leaders and politicians.

What do we envision as the future of the province and the country in 20 years?"

"How can we develop (and keep) more Unicorns (or Narwhals, as some Canadians prefer)?"

"How can we develop more digital growth companies" (Canada has surprisingly few)

"How can we shift our economy from natural resources (forestry, oil, oil sands) into high-tech?"

"How can we generate more value from our oceans (Atlantic and Pacific). Canada has 1% of GDP from the ocean economy. By comparison, Norway has 25%.

What are the problem statements your region or country should be exploring? Make sure you have outlined this before you jump into your Supercluster initiative.



Supercluster Pre-Assessment Card

Want a small guide for your first steps into the world of Innovation Superclusters?

Try the Supercluster Pre-Assessment Card.

This Supercluster Strategy Tool helps you quickly ask and answer the key questions you need to have in the very early pre-Supercluster phase.

While the questions are easy, the answers might be harder. Consider that part of the challenge.

Try it on the next page or download the high quality PDF version at www.strategytools.io.

SUPERCLUSTER SERIES

PROBLEM STATEMENT

What are the problems you hope an innovation supercluster might help you solve?



ECONOMIC CON

Describe the current eco
your country or region.

ASPIRATIONS

What are the potential long-term ambitions and aspirations for the Supercluster project?



LEADERSHIP

Who are the key leaders you have across the five areas?

INDUSTRY

GOVERNMENT

ENTREPRENEURSHIP

CAPITAL

ACADEMICS



Supercluster Pre-Assessment Card



Get yours at www.strategytools.io

Supercluster Pre-Assessment Card by Christian Rangen is the intellectual property of Strategy Tools and is at your disposal

Pre-Assessment

How do we clarify expectations amongst a wide range of stakeholders? How do we align goals and aspirations before seriously getting started on a Supercluster initiative? The Pre-Assessment Card is developed to align early and often. Get it at www.strategytools.io

PROBLEM STATEMENT

What are the problems you hope an innovation supercluster might help you solve?



ECONOMIC CONTEXT

Describe the current economic situation in your country or region.



FUTURE - 2050

Describe the transformation vision for your country or region towards 2050



ASPIRATIONS

What are the potential long-term ambitions and aspirations for the Supercluster project?



LEADERSHIP

Who are the key leaders you have across the five areas?



INDUSTRY

GOVERNMENT

ENTREPRENEURSHIP

CAPITAL

ACADEMICS

GOALS

What are the top 3 goals you hope to achieve?



1.

2.

3.

DESIGN



BOARD MEMBERS:

.....

.....

OWNER:

.....

FUNDING:

.....

.....



Supercluster Pre-Assessment Card



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Case: Country in Asia

The following fictitious case shows how you can clarify the problem statement, economic context, aspirations, goals and designs early.

PROBLEM STATEMENT

What are the problems you hope an innovation supercluster might help you solve?



We need to develop new, high-tech industries.
 We need to develop new tech-based growth companies, shifting away from agriculture.
 New national culture for innovation.

ECONOMIC CONTEXT

Describe the current economic situation in your country or region.



Slow growth
 Rising unemployment
 Political infighting
 Lack of national policies

FUTURE - 2050

Describe the transformation vision for your country or region towards 2050



To build our country into the top 25 modern economies.
 Grow GDP pr. capita from 12,000 to 30,000 pr. Capita.
 Become the leading knowledge hub in our part of the world.

ASPIRATIONS

What are the potential long-term ambitions and aspirations for the Supercluster project?



Develop three Superclusters
 Build new growth industries
 Align education, corporates, startups and investors.
 Connect to global knowledge hubs

LEADERSHIP

Who are the key leaders you have across the five areas?



INDUSTRY Multiple CEOs, families
 GOVERNMENT President's office
 ENTREPRENEURSHIP Two startup communities
 CAPITAL World Bank, Softbank,
 ACADEMICS Three Universities

GOALS

What are the top 3 goals you hope to achieve?



1. GDP: 30.000
 2. Value Impact: 3X 2050
 3. List 30 new companies on international stock exchanges from the Superclusters

DESIGN

BOARD MEMBERS:



OWNER:

FUNDING:

Government: 3
 Investors: 2
 Industry: 2
 Startups: 1
 Academia: 1
 International Cluster
 Experts: 2
 Ministry of Finance
 50% Government
 25% Industry
 25% World Bank



Supercluster Pre-Assessment Card

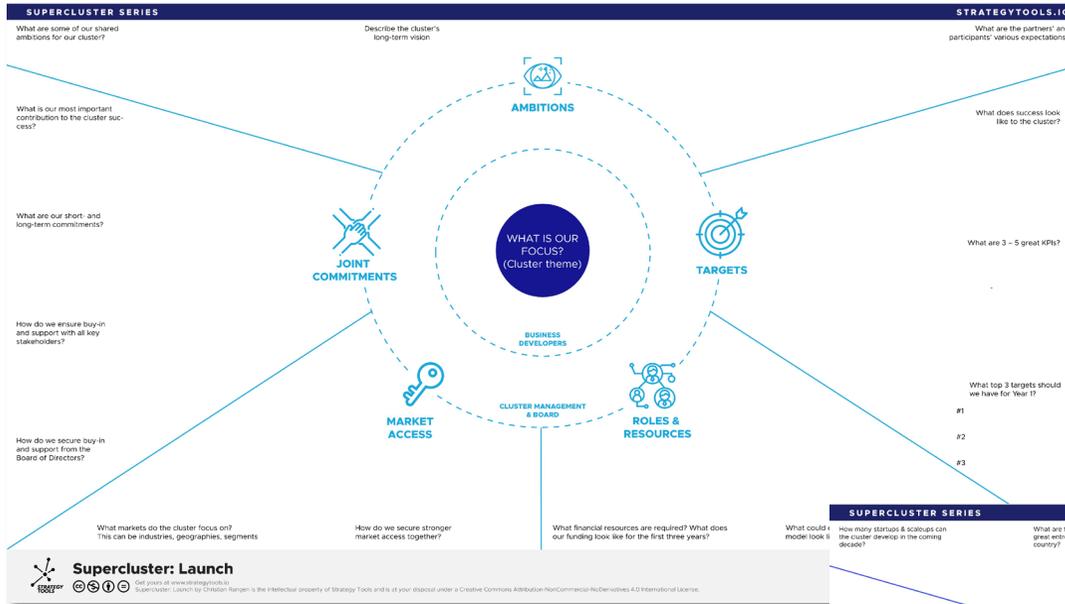


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Getting started

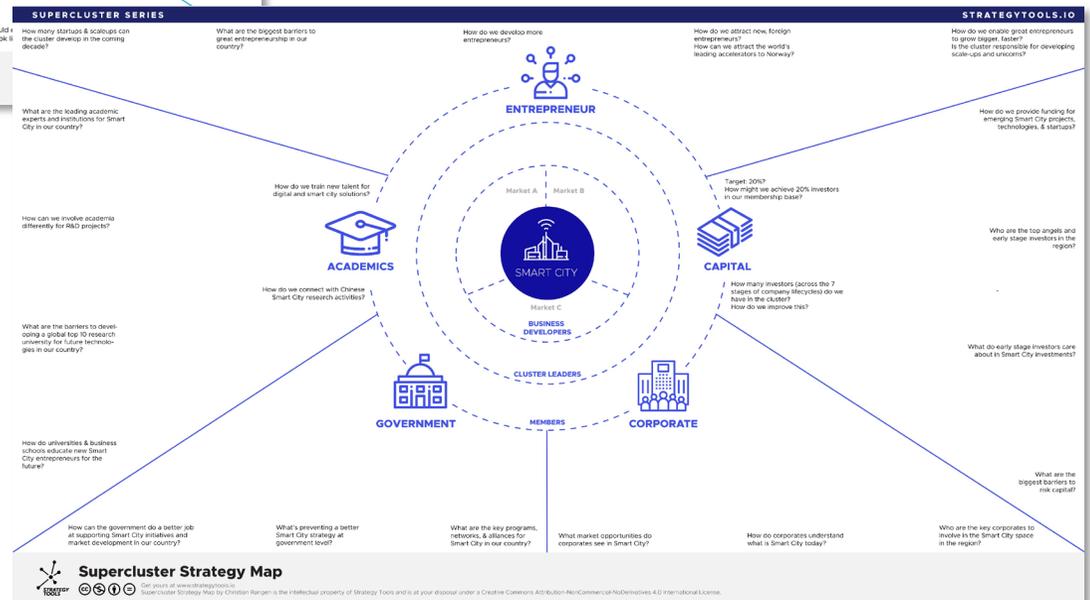
Are you just at the starting point of your Innovation Supercluster journey? These two Strategy Tools might be helpful. They have helped kickstart cluster projects across more than 30 different industries and themes. Get them at www.strategytools.io



Supercluster: Launch is designed for very early stage cluster initiatives, with aspirations and ambitions to develop a large-scale Supercluster program over time. Helps clarify expectations, roles and focus across diverse stakeholder groups.

It is best used printed out on big formats (100 – 130 cm) and used with large groups of future cluster stakeholders.

You can start anywhere, and work from left to right or center to edges. The biggest weakness is always “Joint Commitments”, where 90% of all groups leave most space empty...



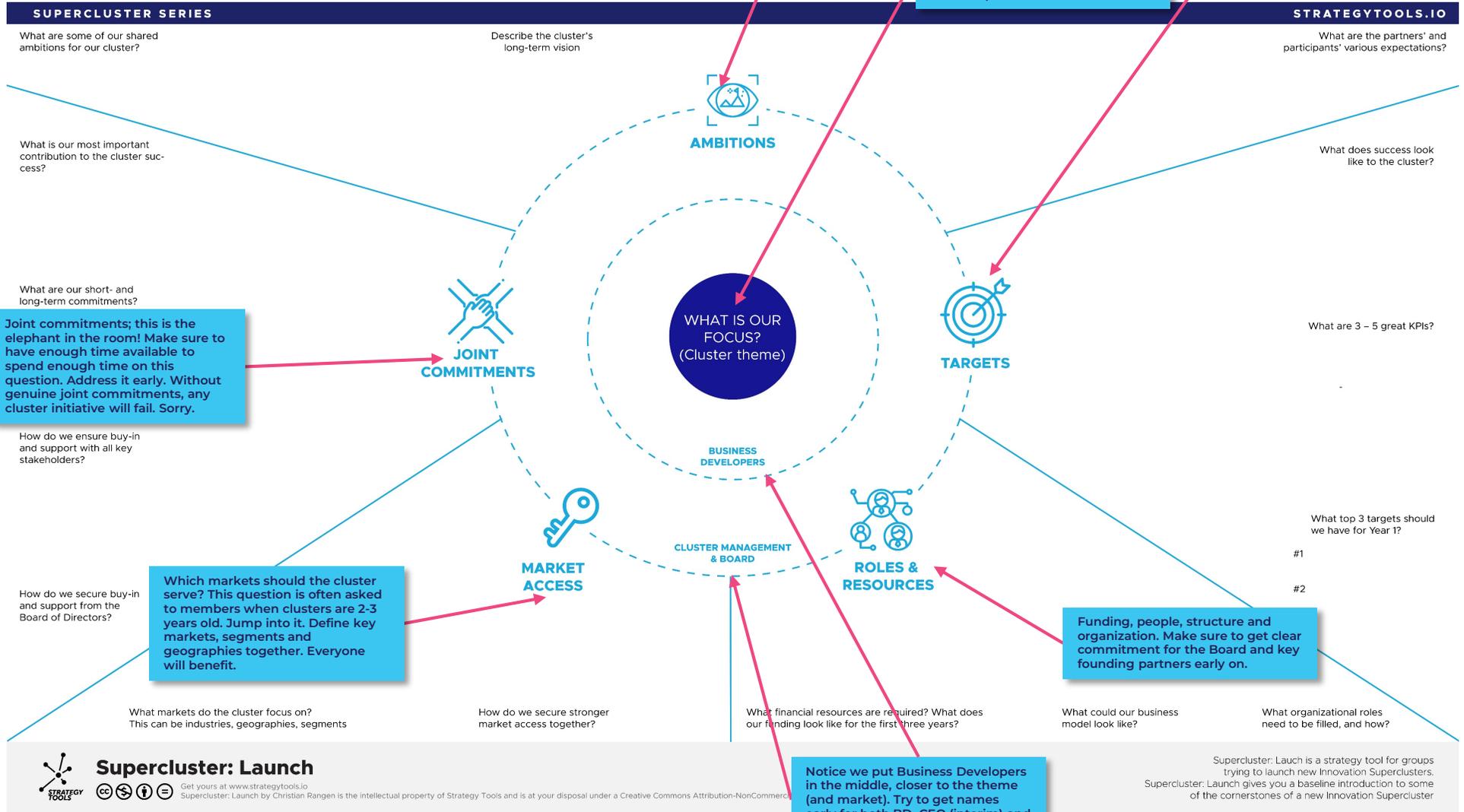
Supercluster Strategy Map is a more advanced version of the Supercluster: Launch, use it to map out and design the Supercluster Strategy.

The Strategy Map is built around the five key member groups, with strategic questions to explore. Notice the “Market A,B,C”; this is not a common perspective amongst all of the Triple Helix-based clusters.

Based on our work, we find market focus, access to customers and new market opportunities to be one of the most motivating forces for companies involved in the cluster programs.

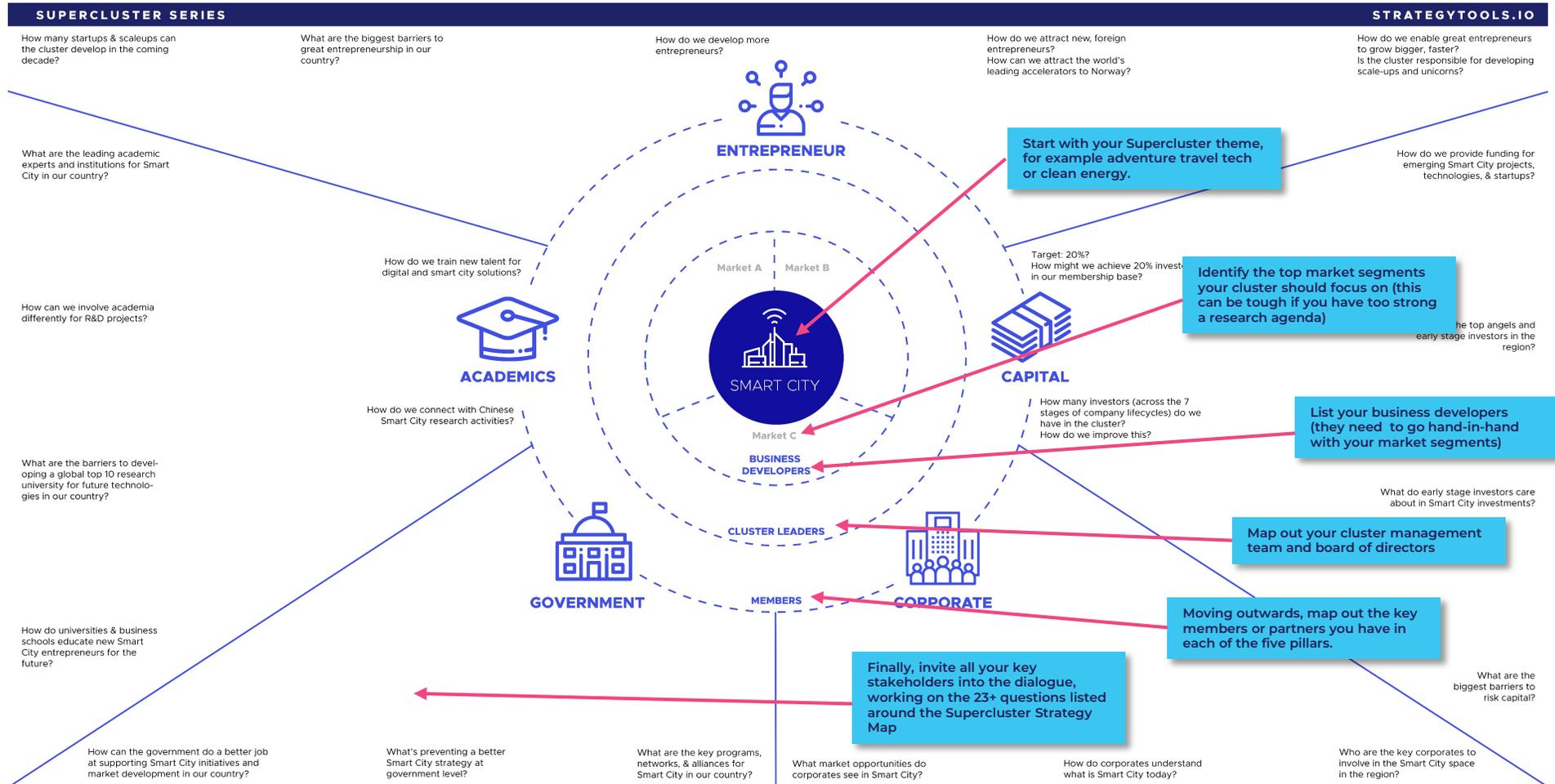
Supercluster: Launch

Supercluster: Launch is a superb tool to kickstart early group sessions for new or emerging Superclusters. Use it with large or small groups. Here is a quick intro guide.



Supercluster Strategy Map

Here's a quick example of an early outline for a Smart City Supercluster located in Norway. Each tool can easily be adapted to the specific Supercluster theme it is addressing. The Supercluster Strategy Map can be used individually, by the management teams or in any large-scale group session with partners and members. We have used this in groups of 2 – 150 people at once, often with 10 – 15 tables and Maps in the same room.



Supercluster Strategy Map

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How it works



Start with your Supercluster theme

Your Innovation Supercluster should always be built around a specific theme or topic. Future mobility, AI, Proteins, Subsea Mining, FinTech are all good examples of Supercluster themes. They should be specific, highly relevant to your economic region and defined as future growth industries.

Don't mistake Superclusters for general innovation ecosystems. They are close siblings, but very different.



Activate the ecosystem

You can never design and build an Innovation Supercluster by yourself. You need to reach out, activate all the stakeholders across your region country or pan-national borders.

Bring them in early, get them to co-design, ideate, share their networks. You need the professors, business leaders, venture capitalists, young founders, super angels, tech heads, foreigners and international partners. Don't restrict yourself to your local community.

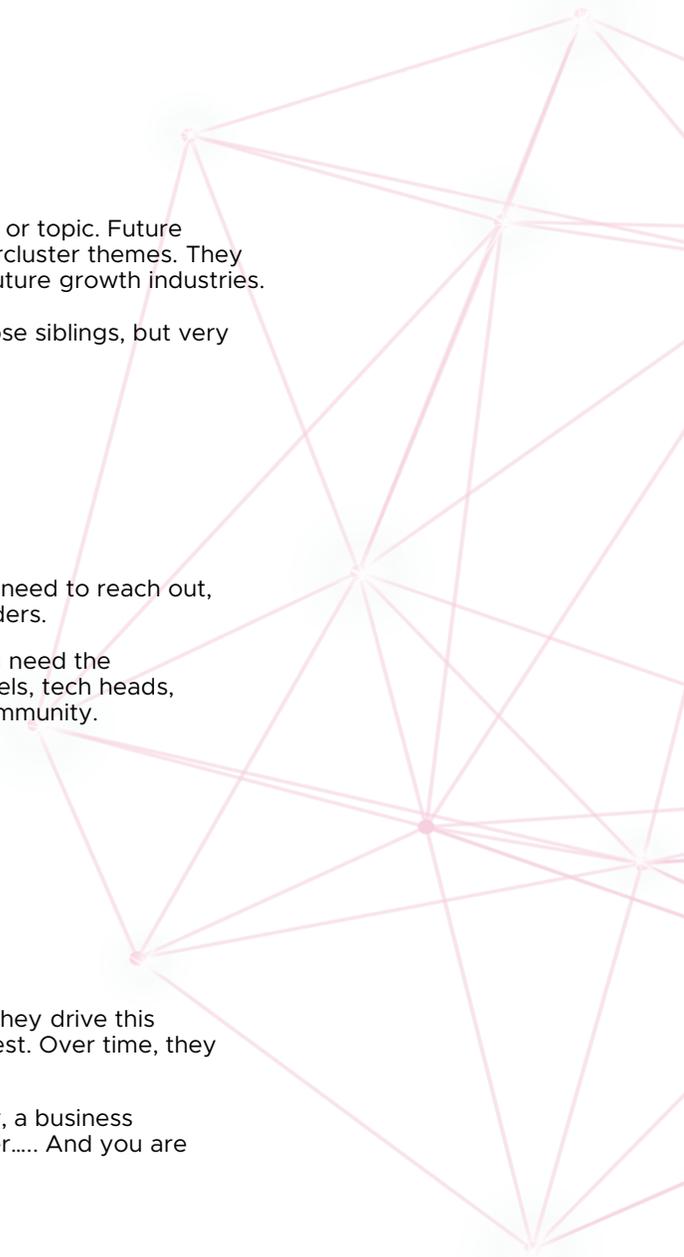


Build a core organization, then start building

You are going to need a team.

Every Supercluster starts out with a core team of enthusiasts and idealists. They drive this forward out of passion, a belief in the opportunities and deep personal interest. Over time, they often shift into strategic board seats and remain excellent board members.

Quickly, you will need a CEO, a communications manager, a project manager, a business developer, an innovation manager, an event manager, a partnership manager..... And you are up and running.



Case: Norwegian Solar Cluster

In the summer of 2018, the young, Norwegian Solar Energy Cluster decided to raise its ambitions.

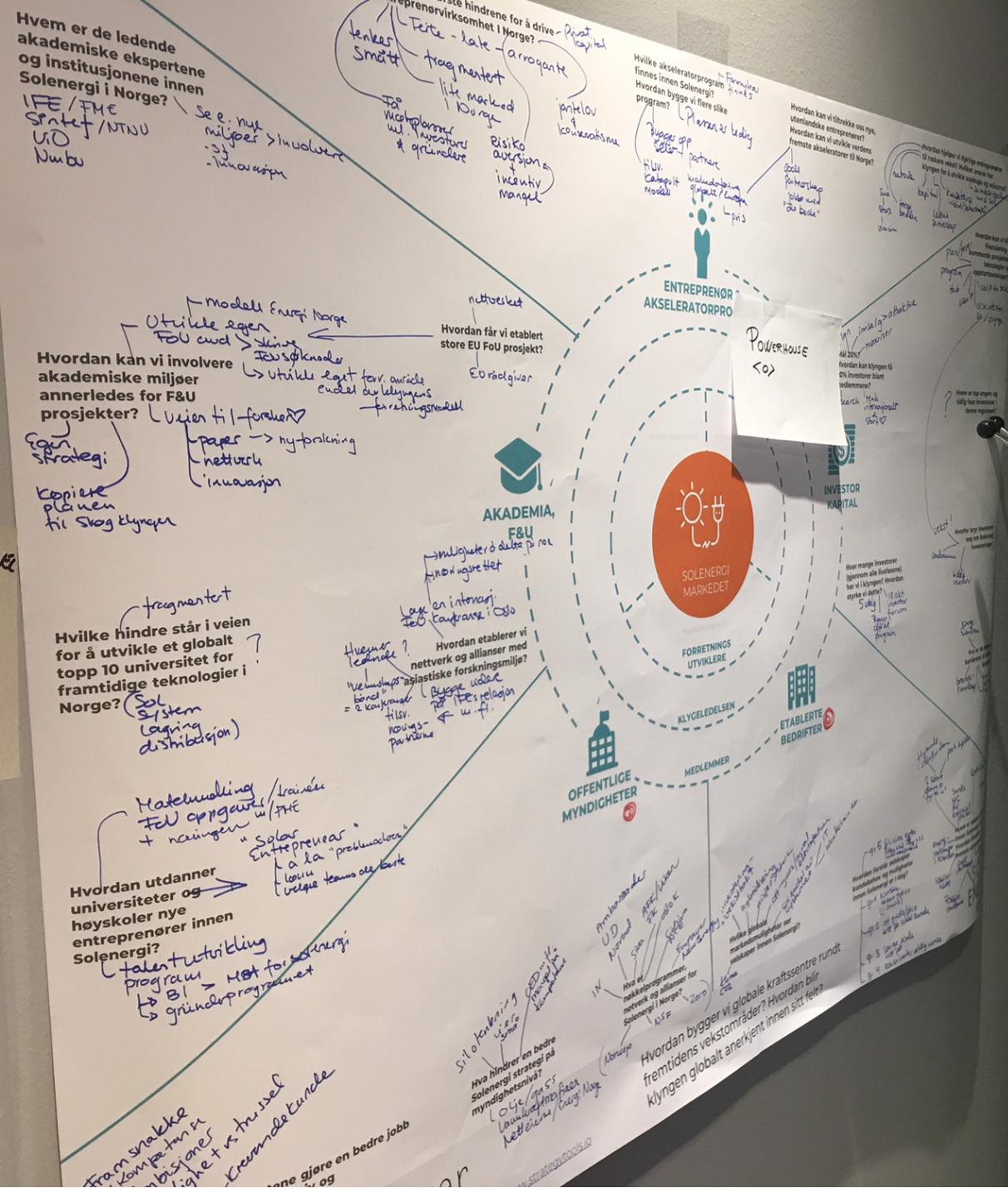
They started exploring what would a potential Growth Cluster or even Supercluster look like? What were some of the key pieces they were missing?

What were the emergent strengths and obvious gaps?

The initial working session led to a clear understanding of inherent advantages and the acute need to develop a solid Capital Strategy.

Only weeks later, under the leadership of CEO Trine Kopstad Berentsen, the cluster hired its first Cluster Investor Relations Manager, Harald Olderheim.

To the best of our knowledge, Mr. Olderheim is the first Cluster Investor Relations Manager in the Nordics, possibly globally?



Taking on the challenge

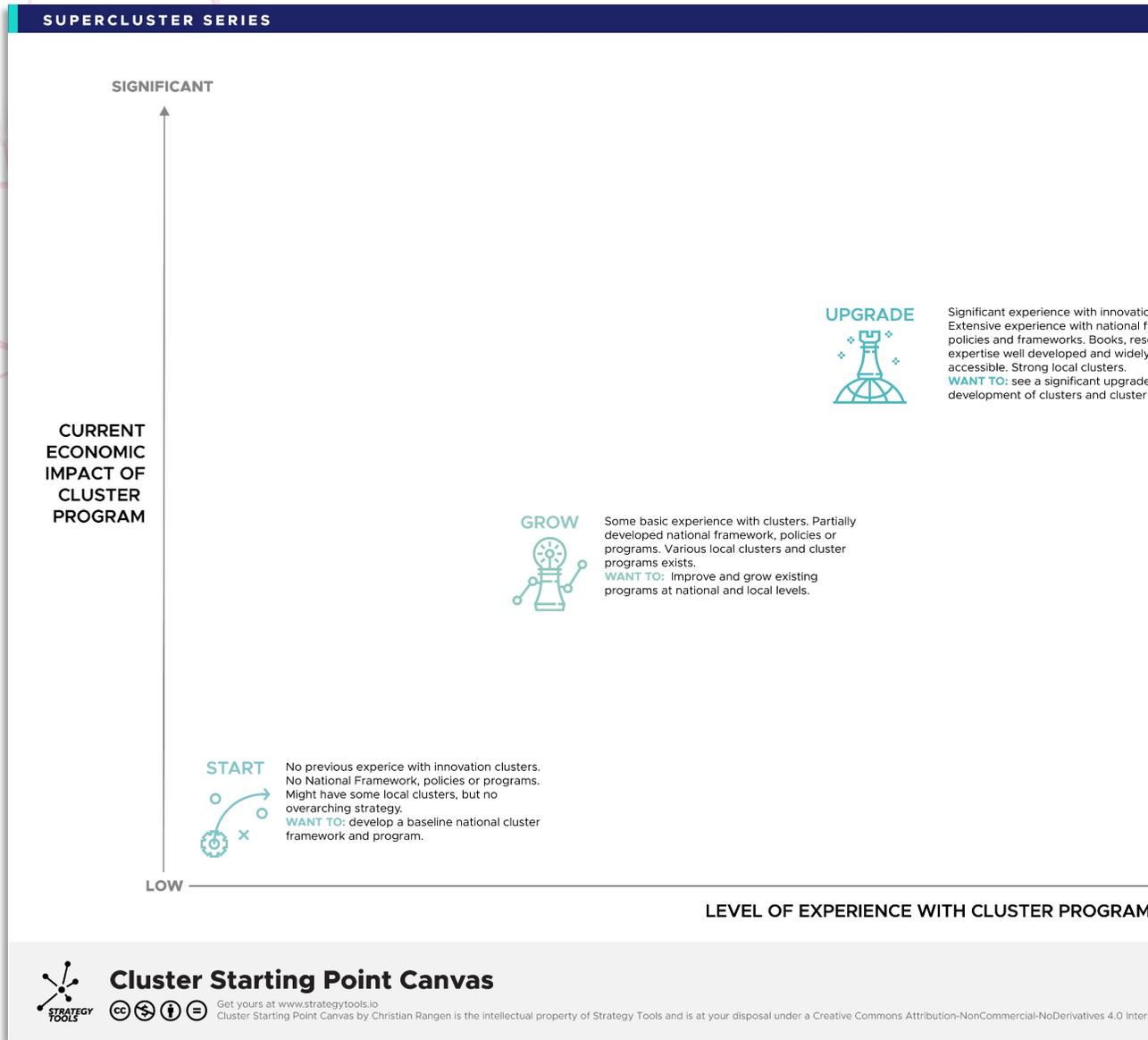
Assess your starting point

Before you start exploring your Innovation Supercluster strategy, it might be wise to take a moment to assess your starting point.

Are you at

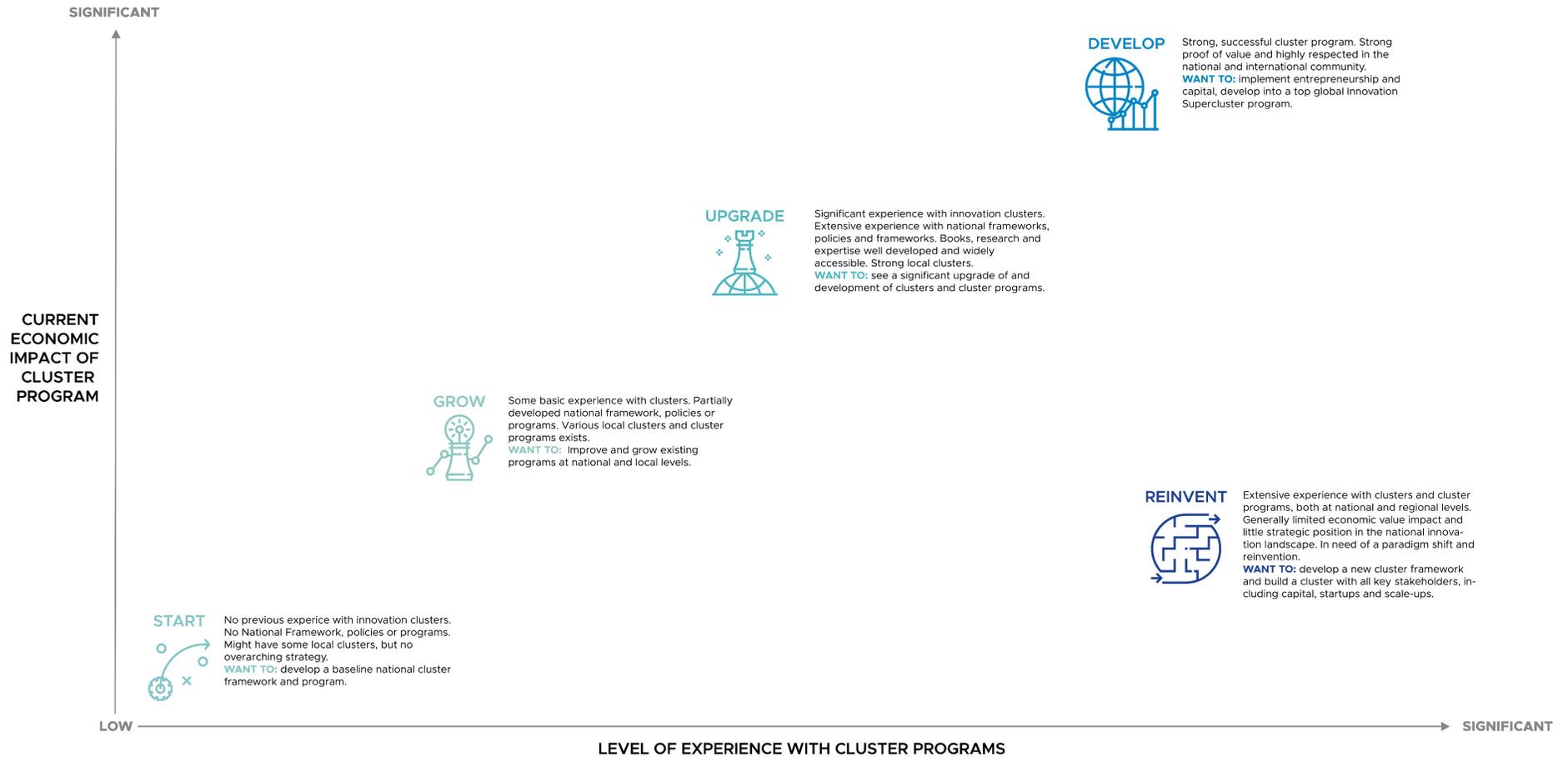
- Start?
- Grow?
- Upgrade?
- Develop?
- Reinvent?

Your answers will greatly impact how you design, develop and build your Innovation Superclusters.



Cluster Starting Point Canvas

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What is your starting point?



Start

Starting from scratch, with no previous national or regional experience, you face a blank canvas. Design your program from scratch. But expect a massive stakeholder management and educational effort as you build awareness and support for the cluster initiative.



Grow

You have the basics, but you also have a weak starting point. Expect to invest in capabilities, basic collaboration networks and building the foundation for a long-term Supercluster program.



Upgrade

You are doing well, and your existing cluster programs are probably well-recognized with some economic and strategic impact. Upgrading your existing programs will require a policy shift, investments and massive training as you develop from a Triple Helix to a modern cluster mindset.



Develop

Congratulations! You have a thriving and highly successful cluster program – but you want more. Most likely, it is time to introduce startups, scale-ups, accelerators, future technologies, business angels and venture firms into your cluster program. Expect a shift from research to market as you develop the cluster program from the traditional cluster policy to a future-fit, pentagon-driven model of Innovation Superclusters.



Reinvent

While your program might have been running for decades, the financial impact likely has been limited. It's time for a major reinvention. Expect natural and healthy resistance. Plan for slower uptake, less support and major challenges as you lead a paradigm shift. Aim to invest in capability building, ecosystem development, new policies and training programs at all levels.

4 ways Superclusters get started

While often sparked by Lone Heroes and Industry Leaders, Top-Down Government-led are the most common way of developing Innovation Superclusters and national cluster programs. This allows the government to take on the role of the leader, facilitator and co-funder of the programs.

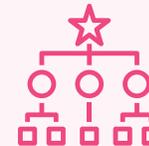
Research, Study What It Is

Research project, shines a light on what already exists. Help drive attention and boost investments to the area.



Top-Down, Government-led

Initiated and funded by the Government; Ministry of Finance or national innovation agency.



Lone Hero, Evangelist

Driven by a small band of enthusiasts, funding from sponsors, corporates, grants.



Bottom-Up, Industry led

Owned and funded by the industry and key industry partners.



4 key steps to help you get started on your supercluster



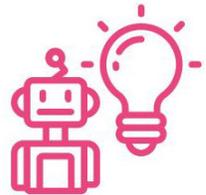
Build the Baseline

First pre-project, outline and introduction to Supercluster building.

Small team with a clear mandate, deliverables and deadline.

Close collaboration with industry and politicians.

Fit with national policies.



Identify a Supercluster Theme

Any Supercluster is anchored in existing capabilities, but considered a likely key industry of the future for its nation.

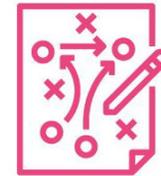
Clean energy, AI, Mobility, Tourism, Digital, Seafood, Smart City and Fintech are common cluster themes.



Build the Early Team

Secure industry leaders (former CEOs are great), secure political leaders (Ministries of Trade, Finance), Involve the National Innovation Agency), invite key ecosystem people, including investors, startups and Professors.

Accelerators, Incubators and Angel Networks are great early resources.



Develop the Strategy

Build the core organization (legal entity).
Analyze the current ecosystem.
Secure funding.
Build international partnerships (TCI Network)
Build a 5 – 10-year roadmap

Conclusion

Our understanding of Innovation Superclusters is rapidly evolving.

Governments, national transformation leaders, industry leaders and lone heroes all contribute to the growth of Innovation Superclusters around the world.

Following the early successes of the Canadian program, the rise of Asian clusters of innovation, the ongoing changes in the Nordics and across Europe, we are likely to see a number of new Innovation Superclusters towards 2030.

Yet, truly developing Innovation Superclusters will set in motion a fundamental paradigm shift at both policy, national frameworks and cluster levels.

To navigate these changes, industry and government need to come together to build long-term, durable and well-funded national cluster frameworks.

Countries, regions, ecosystems and clusters will need to invest in training, capacity building and the development of new frameworks, operating models and cluster programs.

Under the right leadership and policies, regions and countries will be declared winners under a new paradigm of Innovation Superclusters.

Innovation Superclusters

A New Playbook for Economic Growth

#Supercluster



Coming
in 2020

National Cluster Frameworks – Cluster Value Impact – A New Cluster Paradigm
– Cluster Configuration – Supercluster Strategy - Building New Growth Industries
and more

Selected Publications





Get your free toolkit

Over the past three years, working at the intersection of action research and hands-on innovation cluster development, our team has developed a large Supercluster Strategy Tools Toolkit.

Having worked closely with Innovative leaders in Asia, Europe and, most recently, Norway we have strived to build simple, easy-to-use strategy tools for innovation clusters.

Learn more and get your own Strategy Tools Supercluster Toolkit at www.strategytools.io

Strategy Tools Canvases

The Supercluster Toolkit

Special Thanks

A special thanks goes to the Malaysian Government, MaGIC, and Ashran Dato' Ghazi (former CEO), Innovation Park Zurich (IPZ) and members of the Swiss ecosystem, the Norwegian cluster program, with Kristianne Paasche, Martin Hennum, Espen, Line, Vivian and Professor Torger Reve, often referred to as the “Godfather of the Norwegian Cluster Program”.

Equally, a big thanks goes out to the many cluster leaders we have met with or interviewed for this report. Notably, the teams at NCE Seafood Innovation Cluster, Arild of Smart Care Cluster, Helen of Tunnel Innovation Cluster, the team at GCE Ocean Technology, the team at Solar Cluster, the leadership team at Norwegian Energy Solutions.

Jerome Engel, Adjunct Professor Emeritus at Berkeley, Merete Daniel Nielsen President of TCI Network and, Iain Evans, Strategic Advisor in Canada's Digital Supercluster were early voices in our exploration.

Most importantly, a sincere thank you to all the cluster managers, board members, government leaders and cluster builders, that have had the patience to answer our questions again and again, as we kept digging for insights, understanding and clarity in the space of Building Innovation Superclusters.



Core Team



CHRISTIAN RANGEN LEAD AUTHOR

Over the past 18 years, Chris has advised companies and governments globally on strategy, innovation, transformation and developing ecosystems. Over the past three years, he has worked extensively on Innovation Superclusters, working closely with the Malaysian and Norwegian Governments to support their national innovation programs. Chris has led multiple National Transformation Projects, including launching new accelerator programs, venture builders and early stage VC funds. He is an active angel investor in disruptive technology firms.

Chris is also business school faculty, teaching strategy, transformation and the clean energy revolution at BI – Norwegian Business School (Norway) and Zigurat (Spain). He is an active public speaker and presents frequently at international innovation and strategy conferences

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Over the past years, Jolene has developed the visual design for over 40+ Strategy Tools, guidebooks and three strategy simulation board games. In her role, she leads the overall design development and UX for users on paper, web and software platform on both Strategy Tools and Engage // Innovate.

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Adelina Manolache is VP Growth at Strategy Tools. She is a commercially and technically minded marketer, with a demonstrated history working in the tech industry.

In this role she leads all growth initiatives and user acquisitions at the company.

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Ian Pallister brings deep experience and expertise in helping organizations make innovation happen. With over 25 years track record across a range of sectors including energy, high tech, life sciences and financial services, Ian helps organizations create new, innovative concepts and develop breakthrough ideas. He had held senior positions in both boutique and large consulting firms. He was Global Head of the Palladium Innovation Practice, as well as Head of Europe for Strategos Inc., the renowned strategy and innovation consultancy founded by Gary Hamel.

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Roberto heads Engage // Innovate's operations in Latin America and development of Strategy Tools in the region. He comes with more than 18 years of experience in multinational companies like The Clorox Company, British American Tobacco, and The Coca Cola Company, and in leading regional companies in their industries such as Dos Pinos and Ingenio Magdalena.

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