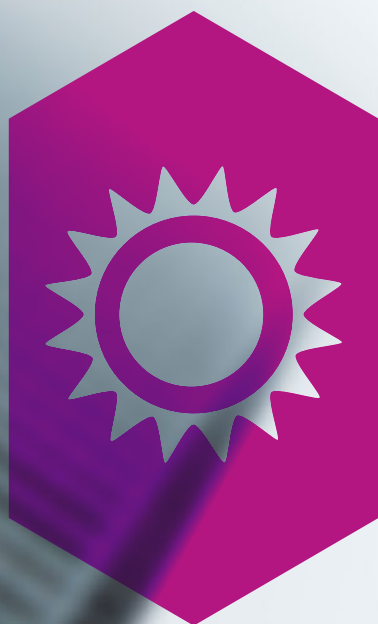




Helsinki-Uusimaa
Regional Council



BIG FIVE PARTNERSHIP

Analysis of the Regional Research and Innovation Strategy for
the Helsinki-Uusimaa Region and its Cooperation with the Peer Regions

This document has been prepared by the Helsinki-Uusimaa Regional Council for an initial discussion on forming a strategic "Big Five" partnership with the Capital Region of Denmark (Copenhagen), the Free and Hanseatic City of Hamburg, the Noord-Holland (Amsterdam Metropolitan Region) and the Stockholm County.

Acknowledgements: The author wishes to thank the contribution and support of the peer regions - Ebbe Rasmussen and Nete Pilemand from the Capital Region of Denmark, Nina Tellegen and Audrie van Veen from the Amsterdam Economical Board, Ulrika Palm from the Stockholm County and Thomas Jacob and Isabel Sünner from the Hamburg City State - to the report. Special gratitude is expressed towards the experts from the Helsinki-Uusimaa Region - Johannes Herala for the collection of the statistics and Lauri Kuukasjärvi, Kristiina Heiniemi-Pulkkinen and Johanna Juselius for their inputs to the report.

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DESCRIPTION SHEET

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Summary

This report has been produced by the Helsinki-Uusimaa Regional Council as background material to initiate and to establish the "Big Five" strategic partnership with the Capital Region of Denmark (Copenhagen), the Free and Hanseatic City of Hamburg, the Noord-Holland (Amsterdam Metropolitan Region) and the Stockholm County.

Firstly, the report had a look on how the Helsinki-Uusimaa developed the RIS3 strategy and applied the self-assessment tool to review the quality of its RIS3 strategy. Secondly, it looked at and compared the Helsinki-Uusimaa with other four regions on the innovation policies, performance of the regions in specified indicators and sectors. The results were used to suggest a set of topics for future cooperation and partnership among the peer regions.

The result of self-assessment on the RIS3 Strategy for the Helsinki-Uusimaa concluded that the current strategy for the Helsinki-Uusimaa is of high quality, whereas the elements of "outward dimensions and global context", communication and the monitoring & the KPIs had been overlooked. It suggests that the Helsinki-Uusimaa region should put efforts on connecting the regional specialisation and sectors with the global market and supply chain.

The review of the RIS3 strategies of all peer regions discovered that the take-up of this new approach to innovation policy remains diversified. In Helsinki-Uusimaa, Hamburg and Amsterdam the RIS3 has been set up as a solitary strategy to complement existing strategies and programmes. For the Stockholm County and Capital Region of Denmark, the implementation of the RIS3 is made by using the existing regional innovation strategy. The diversification of the RIS3 approaches in peer regions proves that there is no one size to fit all policy intervention of the EU. However, this process and method help regions to define a common vision among actors in the regions.

The results of the comparison work confirm that there is a common ground for cooperation among the five regions in key business sectors of

- Green industry & circular economy
- Logistics & urban transport
- Health & Wellness
- Smart City

To go further and to the next step in the formation of the Big Five strategic partnership, it is recommended that the peer regions dedicate to exchange of experience in how they implement the RIS3 strategies. When it comes to global challenges and identify concrete areas for cooperation in business and regional development, it further suggests the peer regions to commonly apply the RIS3 method and create a common vision among themselves.

Keywords

regional innovation policy, smart specialisation, regional cooperation

Notes

A pdf version of the publication can be found on our website: www.uudenmaanliitto.fi/julkaisut.

KUVAILULEHTI

Julkaisun nimi

Big Five Partnership – Analysis of the Regional Research and Innovation Strategy for the Helsinki-Uusimaa Region and its Cooperation with the Peer Regions (Big Five -kumppanuus- Helsinki-Uudenmaan RIS3-strategian analyysi ja yhteistyö verrokkialueiden kanssa)

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Tiivistelmä

Uudenmaan liitto on valmistellut raportin taustamateriaaliksi RIS3-yhteistyön vahvistamiseksi ja strategisen kumppanuuden luomiseksi verrokkialueiden Kööpenhaminan, Tukholman alueen, Hampurin ja Amsterdamin alueen kanssa.

Raportti sisältää itsearvioinnin siitä, kuinka Helsinki-Uusimaa on kehittänyt ja toimeenpannut RIS3-strategiaa alueellaan sekä vertaillut Helsinki-Uudenmaan strategiaa verrokkialueiden kärkeemioihin. Vertailun perusteella on laadittu ehdotukset siitä, mitkä aihealueet soveltuvat hyvin verrokkialueiden yhteistyöhön ja kumppanuuteen.

Itsearvioinnin tulokset osoittavat nykyisen Helsinki-Uudenmaan RIS3-strategian olevan laadukas, vaikkakin viestintää, seurantaa ja mittaristoa voisi kuvata tarkemmin. Raportin mukaan Helsinki-Uudenmaan olisi syytä panostaa alueellisen erikoistumisen ja alueellisten liiketoiminta-alojen yhdistämiseen globaaleihin markkinoihin ja toimitusketjuihin.

Verrokkialueiden tarkastelu osoitti, että alueet ovat ottaneet käyttöön tämän uuden innovaatiopolitiikan eri tavalla. Helsinki-Uudellamaalla, Hampurissa ja Amsterdamissa RIS3 -strategia on otettu käyttöön täydentämään olemassa olevia strategioita ja ohjelmia. Tukholman läänissä ja Tanskan pääkaupunkiseudulla on sovellettu jo olemassa olevaa alueellista innovaatiostrategiaa RIS3 -strategiana. Verrokkialueiden erilainen ote RIS3-strategiaan osoittaa, ettei ole yhtä ainoa tapaa tai laajuutta tehdä EU-innovaatiopolitiikkaa. RIS3-prosessi ja toimintatapa kuitenkin auttaa alueita määrittelemään yhteistä näkemystä.

Vertailun tulokset vahvistavat, että viiden alueen väliselle yhteistyölle on hyvät lähtökohdat. Näitä teemoja ovat:

- Vihreä teollisuus & kiertotalous
- Logistiikka & liikkuminen
- Terveys & hyvinvointi
- Älykkäät kaupungit.

Jotta voitaisiin edetä Big Five -strategisessa kumppanuudessa, on suositeltavaa, että verrokkialueet sitoutuvat vaihtamaan kokemuksiaan RIS3-strategioiden toimeenpanosta. Globaalien haasteiden kohtaamiseksi ja konkreettisten yhteistyöalojen tunnistamiseksi raportti ehdottaa verrokkialueiden yhteistä RIS-toimintatapaa sekä yhteisen vision luomista.

Avainsanat (asiasanat)

alueellinen innovaatiopolitiikka, älykäs erikoistuminen, alueellinen yhteistyö

Huomautuksia

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PRESENTATIONSBLAD

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Sammanfattning

Den här rapporten har utarbetats av Nylands förbund som bakgrundsmaterial för att etablera och stärka det strategiska Big Five-partnerskapet med Danmarks huvudstadsregion (Köpenhamn), Stockholms län, Hamburg och Nordholland (Amsterdams huvudstadsregion).

Rapporten ger en översikt av hur Nyland utvecklat och genomfört RIS3-strategin inom sin egen region och jämför den med de likställda regionernas spetsområden. På basis av jämförelsen har förslag utarbetats till vilka teman som lämpar sig bra för regionernas samarbete och partnerskap.

Den egna utvärderingen av RIS3-strategin för Nyland gav vid handen att den nuvarande strategin för landskapet är av hög klass, medan kommunikationen, uppföljningen och nyckelmätarna kunde ges en noggrannare beskrivning. Enligt rapporten borde Nyland ta till åtgärder som förenar den regionala specialiseringen och de regionala affärssektorerna med den globala marknaden och försörjningskedjan.

Granskningen av RIS3-strategin för alla regioner som omfattas av jämförelsen kom fram till att de tagit till sig och genomfört den nya innovationspolitiken på olika sätt.

I Nyland, Hamburg och Amsterdam har RIS3-strategin kompletterat redan existerande strategier och program. I Stockholms län och Danmarks huvudstadsregion har existerande regional innovationsstrategi tillämpats som RIS3-strategi. Skillnaderna i hur de olika regionerna förhållit sig till RIS3 visar att det inte finns ett enda riktigt sätt eller en enda riktig omfattning som lämpar sig för EU-innovationspolitik. RIS3-processen och -metoden hjälper dock regionerna att komma fram till en gemensam vision.

Jämförelsen visar att det finns en god grund för de fem regionernas samarbete inom vissa teman. Dessa är:

- Grönindustri & Cirkulär ekonomi
- Logistik & Urbana transporter
- Hälsa & Välmående
- Smart stad

För att gå vidare i bildandet av Big Five-partnerskap, rekommenderas att regionerna förbinder sig till ett utbyte av erfarenheter om hur de genomfört RIS3-strategierna. För att kunna möta globala utmaningar och känna igen konkreta verksamhetsområden för samarbete, föreslår rapporten att regionerna använder sig av en gemensam RIS3-metod och skapar en gemensam vision för sig.

Nyckelord (ämnesord)

regional innovationspolitik, smart specialisering, regionalt samarbete

Övriga uppgifter

Publikationen finns i pdf-version på vår webbplats www.uudenmaanliitto.fi/julkaisut.

FOREWORD

Solidarity is the only way forward to tackle global challenges.

In modern societies, the benefits of research and innovation increasingly form a vital part of our everyday lives. They contribute to resolve environmental threats and climate changes, fight illness and disease, and foster communication and entertainment for the wellbeing of people.

The difficulty of regional and urban development in Helsinki-Uusimaa and in Europe lies not so much in developing new ideas but in escaping from the old and outdated ones. How well we are prepared for the future is much depending on how well we reinvent ourselves and adapt new policy measures to encourage innovation.

The smart specialisation strategy for research and innovation was introduced as preconditions (ex-ante) for regions to invest in projects and development with EU structural fund in 2014. Since then, it has been one of the measures that the Helsinki-Uusimaa Regional Council adapts to encourage and boost innovation possibility and economic growth.

The Helsinki-Uusimaa Region, alongside with the Amsterdam Metropolitan Area (North of Holland), the Capital Region of Denmark, the Hamburg and the Stockholm county, are ranked top five mid-sized European region for foreign investments in a survey of the Financial Times. In the meanwhile, the regions are highly ranked in a series of indicators such as European Regional Social Progress Index, European Regional Innovation Scoreboard and European Competitiveness Index.

Going beyond the indicators, there are hidden knowledge and wisdom that these five regions can learn as peers for benchmarking and cooperation. The completion of this report is the beginning of a process and dialogues for the formation of a Big Five cooperation.

I'd like to express my sincere gratitude to the peer regions of the Helsinki-Uusimaa Region – the Amsterdam Metropolitan Area (North of Holland), the Greater Copenhagen, the Hamburg region and the Stockholm county – for their contribution to this work and for joint the effort in sharing experience and using the knowledge in boosting innovation in our territories for tackling global challenges.

Juha Eskelinen

Director, Regional Development
Helsinki-Uusimaa Regional Council

“

WE CANNOT SOLVE OUR
PROBLEMS WITH THE SAME
THINKING WE USED WHEN
WE CREATED THEM.
WE HAVE TO RISE ABOVE IT
TO THE NEXT LEVEL.”

– *Albert Einstein*



1. INTRODUCTION

1.1. Background

The world-renowned scientist Albert Einstein once said: "We cannot solve our problems with the same thinking we used when we created them. We have to rise above it to the next level." The global challenges facing by the mankind today, all the way from climate changes, nature preservation,

aging population and digitalization to cyber security, cannot be solved alone.

Economic growth has great impacts on a city, a region and a country. It spills over and improves the wellbeing of people. This growth is closely related to the ability of organizations in a territory

to innovate.¹ For a developed region like Helsinki-Uusimaa, one of its major challenges is to maintain growth in an everchanging global economy. The concept of Research and Innovation Strategies for Smart Specialisation (RIS3) emerges as a new tool for the Helsinki-Uusimaa to approach an economic and innovation policy.

The Research and Innovation Strategies for Smart Specialisation (RIS3) is introduced by the European Commission as an ex ante condition for the investment of EU Structural Fund in 2014-2020. It aims to bring cooperation between the European regions onto the next level for global challenge through increasing the efficiency of European investment in research, innovation and entrepreneurship² and increasing European countries and regions to look and cooperate beyond national and regional boundaries. In response to this, the Helsinki-Uusimaa launched its Smart Specialisation Strategy for Uusimaa in 2015 and channels its resource on smart growth priorities of the EU to R&I, ICT and SME support³.

The Helsinki-Uusimaa Regional Council is the managing authority for the Southern Finland European Regional Development Fund (ERDF) Funding Programme, and the coordination body of the RIS3 strategy for the Helsinki-Uusimaa. For Helsinki-Uusimaa, a RIS3 strategy is not merely a political will, but a designated tool to drive regional development and close its innovation gap with other European regions.

The Capital Region of Denmark (Copenhagen), the Free and Hanseatic City of Hamburg, Noord-Holland (Amsterdam Metropolitan Region), the Stockholm County and the Helsinki-Uusimaa ranked the top five European regions in a mid-sized category for foreign investments by a survey of the Financial Times⁴. Attributed to this, Helsinki-Uusimaa has identified the other four regions as peer regions for benchmarking and partnership for the implementation of the Helsinki-Uusimaa

Regional Programme 2.0. and partnership in RIS3 strategy for the Helsinki-Uusimaa Region.

1.2. Objective and methods

This report is produced by the Helsinki-Uusimaa Regional Council as background material to initiate and to establish strategic partnership with other European regions. It aims to review the content of the RIS3 Strategy of the Helsinki-Uusimaa region. Based on the result, it further defines key areas for Helsinki-Uusimaa to form a strategic “Big Five” partnership and network with the peer regions for tackling global challenges.

In the latest European Commission’s post-2020 proposal, it suggests that the Smart Specialisation approach will be continued in the next programme period as the basis for R&I investment under the ESIF. The result of this report will contribute to the preparation of the new Smart Specialisation Strategy for Helsinki-Uusimaa, which will be approved in 2019 and launched in 2020.

Method

To gain a holistic view on the quality of the current innovation policy, the tool of the RIS3 strategy self-assessment⁵ is applied for an evaluation of the RIS3 strategy for Helsinki-Uusimaa. It is a method developed by the European Commission Joint Research Centre (JRC) to assist European regions in the development process of a RIS3 strategy. The review is conducted using literature review, desktop research and with a limited number of supplemental meetings with the peer regions and their experts.

Restriction

Due to the statistical availability and the territorial scope of the RIS3 which is set at the NUTS 2 level, the innovation strategies being analysed in this report are limited to the Smart specialisation strategies submitted by the peer regions to the S3 platform.

1 Tobias Gössling & Roel Rutten (2007), *Innovation in Regions*, Pages 253-270, Published online: 02 Feb 2007

2 Lindqvist, Olsen, Perjo and Claessen (2013), *Implementing the Concept of Smart Specialisation in the Nordic Countries*.

3 Polverari and Dozhdeva (2018), *From Smart Growth to Smart Europe: Learning from Smart Specialisation delivery*

4 fDi European Cities and Regions of the Future 2018/19, https://www.wallonie.be/sites/wallonie/files/actualites/fichiers/fdi-european-cities-and-regions-of-the-future-2018_19.pdf

5 The concept of Smart Specialisation has been developed by experts under the EU research and innovation policy framework. To support national and regional actors in the process of developing RIS3, the European Commission has established the S3 platform in Seville, to provide various forms of support, including guidelines providing six practical steps for designing a RIS3.

1.3. The concept of a smart

specialisation strategy

What's so special about smart specialisation?

How does it differ from another innovation policy?

The Smart specialisation strategy is a transformation strategy to further improve the innovation process in a nation or region. It is a strategy which addresses the difficult problem of prioritisation and resourcing allocation decisions while allowing entrepreneurial actors to be involved and selecting the most promising areas for future investment.

Smart specialisation can be categorised as an “economic and financial instrument”⁶ guiding the spending of the ERDF funding in programme 2014-2020. The nature of the policy is a soft instrument and a place-based strategy that drives the coordination and cooperation improving the innovation process in a territory.

“The instrument of innovation policy is focused on fostering innovation”.

Collecting all the policies related to innovation; the European Trend Chart of Innovation classifies the innovation policies into eight groups:

- Intellectual Property Right (IPR) policies,
- Commercialising public research,
- Research and development programmes,
- Collaboration in innovation policies,
- Financing innovation policies,
- Human resources for innovation,
- targeted technology support and
- general innovation policies.

6 European Trend Chart of Innovation

The difference of a RIS3 strategy compared to other innovation policies is that it is an ongoing process where a region constantly updates and evolves the strategy to meet the current development on innovation in the region.

The characteristics of a RIS3 strategy defined by the JRC are:

Choice and critical mass: The strategy focuses on a limited number of priorities based on own strengths. It has a global outlook and growth potential, and concentrates upon funding resources

Competitive advantage: It mobilizes talents by matching research & development, technology and innovation capacity, and business needs a so-called entrepreneurial discovery.

Connectivity and cluster: It develops world

class clusters and provides arenas for internationally related variety and cross sector links in the regions. It drives a specialised technological diversification for a global match.

Collaborative leadership: The strategy develops an efficient innovation ecosystem as a collective and experimental platform based on public-private partnership (quadruple helix).

Following the logic, a regional research and innovation policy of smart specialisation is thus linked with economic development. It gives the region a roadmap to generate unique assets and capabilities, and to retain or become competitive in the global economy.

Smart Specialisation strategy, what's so special about it?

Smart

1. **Place evidence based**
2. Not top down decision but **bottom up partnership** approach
3. **Global perspective** on potential advantage & potential for cooperation
4. **Broad view of innovation** on knowledge, services, technology, talent and investors

Specialisation

1. **Priority setting** in time of scarce resource
2. **Excellence** in something specific
3. Accumulation of **critical mass**
4. Not necessarily focus on a single sector but **cross sectorial approach**

Source: Author combining the collected references



1.4. RIS3 self-assessment wheel

To help the policy makers closely monitor the policy closely and to facilitate the benchmarking among the regions, the Joint Research Centre (JRC) of the European Commission published a guide to Research and Innovation Strategies for Smart Specialisations and the RIS3 Assessment Wheel⁷. The Assessment wheel consists of six steps to allow regions to take a full-screen on the process of the strategy development, implementation and monitoring of it, and evaluate it with grading and marks. Following the template questionnaire developed by the JRC, the regions

will take a holistic review of their RIS3 process and approaches referring to the characteristics of a RIS3 strategy. The assessment tool answers the following questions:

- Is the strategy place-based, both in terms of local assets/strengths/weakness and in terms of connectivity?
- Is there a diagnosis of available capacities for entrepreneurial discovery of future speciation?
- Is collaborative leadership the governance's approach?
- Are there priorities/areas set and is there logic behind the selection?
- Is there coherence between priorities and policy mix (including finance resource)
- How is the strategy monitored? Are indicators in use and available?

⁷ <http://s3platform.jrc.ec.europa.eu/s3-guide>

RIS3 Guide Steps	Sections	Short explanatory
STEP 1 ANALYSIS OF REGIONAL CONTEXT	Regional / National Assets	<ul style="list-style-type: none"> • regional / national assets' endowment • SWOT • innovation potential & skills for knowledge-based development
	Outward Dimension	<ul style="list-style-type: none"> • connectivity - knowledge, trade & skills flows • positioning in trans-regional and international value chains • trans-regional/international collaboration networks
	Entrepreneurial Dynamics	<ul style="list-style-type: none"> • start-ups, clusters, entrepreneurial networks • FDI • new forms of self-employment, etc.
STEP 2 GOVERNANCE	Governance Structures	<ul style="list-style-type: none"> • identification of specific bodies and definition of their tasks, roles and responsibilities
	Broad Participation	<ul style="list-style-type: none"> • interactive, consensus-based application of collaborative leadership principles • quadruple helix actors (involvement of boundary spanners)
	Management & Communication	<ul style="list-style-type: none"> • use of open forum discussion and citizen dialogue • e-governance
STEP 3 SHARED VISION	Broad View of Innovation	<ul style="list-style-type: none"> • are social, organisational, service and market innovations considered beside technological and science-based innovations?
	Grand Challenges	<ul style="list-style-type: none"> • societal inclusive, environmental and sustainable economic development
	Scenario Analysis	<ul style="list-style-type: none"> • risk assessment and contingency plan for probable future changes
STEP 4 IDENTIFICATION OF PRIORITIES	Revision of Past Priorities	<ul style="list-style-type: none"> • critical revision of past experiences (from RIS to RIS3) • dynamic identification of actual or potential areas with competitive advantages
	Consistency	<ul style="list-style-type: none"> • alignment with context analysis and harvesting of entrepreneurial discoveries and DAE
	Critical Mass	<ul style="list-style-type: none"> • concentration of resources to the limited number of priorities
STEP 5 POLICY MIX	Roadmap	<ul style="list-style-type: none"> • including action plan and pilot projects
	Balance	<ul style="list-style-type: none"> • appropriate mix of targeted and horizontal measures
	Framework Conditions	<ul style="list-style-type: none"> • e.g. allowing for support to experimentation, etc.
STEP 6 MONITORING & EVALUATION	Output & Result Indicators	<ul style="list-style-type: none"> • selection of a limited number of output & result indicators linked to priorities with clearly identified baselines and targets
	Monitoring	<ul style="list-style-type: none"> • mechanisms, supported by appropriate data collection, to verify how the activities in the RIS3 are delivering the output and result targets
	RIS3 updates	<ul style="list-style-type: none"> • revision of priorities and policy mix because of the monitoring exercise

The scaling tool (from 0 to 5) estimates the seriousness of the evidence provided in the process as far as each critical factor is concerned with the following meaning:

0 = no information available on the specific element

1 = poor

2 = to be improved

3 = fair

4 = strong

5 = excellent

In this report, the assessment wheel will be used as framework to assess the quality of the regional innovation and research strategies for the Helsinki-Uusimaa Region.



“

TIME FLOWS TO THE PRESENT
FROM TWO DIRECTIONS:
FROM THE PAST AND
FROM THE FUTURE.

FROM THE PAST
AS OUR DEEDS ACCOMPLISHED,
RESULTS MATERIALISED, AND
FROM THE FUTURE
AS OUR AIMS AND VISIONS,
IDEAS OF HOPE
OR DISPAIR,
OBJECTIVES TARGETED
AND COMMITTED TO”

– Pentti Malaska



2. SMART SPECIALISATION STRATEGY FOR HELSINKI-UUSIMAA

2.1. Helsinki-Uusimaa and its innovation policy⁸

Background

Helsinki-Uusimaa is the metropolitan region of Finland at the NUTS levels 2 and 3. It consists of 26 municipalities, including the Finnish capital city of Helsinki.

With only 3% of the national territory (9,568 km²), it is the most populated area in the whole of Finland with 1,620,261 inhabitants in 2016 (Eurostat, 2017). The area can also be described as the centre of economy, culture and competence in Finland. The Metropolitan Region is also the most international and urban area (8.6% of population does not have either Finnish or Swedish as its native language), which is characterised by a strong immigration and population density closer to the European average rates.

Finland has a nationally centred governance system (including innovation policy). Various related policy areas such as the legislation, taxation and education are mainly decided upon at the national level. The primary responsible bodies for research and innovation policy is the Research and Innovation Council. At the governance level, it includes the Ministry of Economic Affairs and Employment (TEM) and the Ministry of Education and Culture (OKM). The OKM is responsible for Education, Training, Science policy, Higher Education Institutions and the Academy of

Finland (support for academic research). Regional innovation is promoted through innovation policy and regional development measures, such as the development of innovation environments, the regional innovation and promotion of growth entrepreneurship policy.

Strategies supporting innovation in the Helsinki-Uusimaa Region

The Helsinki-Uusimaa Regional Council is responsible for drafting regional programmes that, to a certain extent, covering innovation policy. The Helsinki-Uusimaa Regional Programme (Uusimaa ohjelma 2.0) sets out the development priorities of the region and is based on various other planning instruments such as the strategies of municipalities and individual organisations.

In 2015, the Research and Innovation Strategy for Smart Specialisation Strategy for Helsinki-Uusimaa was published and it was updated in 2018. The RIS3 strategy of Helsinki-Uusimaa has been developed, utilizing the Helsinki-Uusimaa Regional Programme as the basic framework. The main objective of the RIS strategy of Helsinki-Uusimaa Region is to promote sustainable growth via the value creation of research and innovation activities. To achieve this, the region has mainly utilized the ERDF and its own regional development funding for the implementation of it.

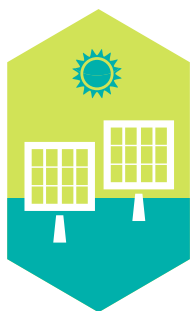
⁸ *Regional Innovation Monitor Plus*, <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/helsinki-uusimaa/helsinki-uusimaa-region>

RIS3 for Helsinki-Uusimaa State of the Art

The Goal of the RIS3 for Helsinki-Uusimaa is to be an international innovation cluster and a forerunner in the use of innovative products and services, and to double the impacts of research and innovation work in the year of 2020.

The strategy is implemented through four main priorities and their related priority portfolios: Urban Cleantech, Health & Wellness, Digitalising Industry and Citizen City. Each priority is implemented in the form of one or more portfolios that contain several projects linked to each other. Synergetic cooperation between the different actors is the key to the RIS3 strategy of Helsinki-Uusimaa. By involving the universities, universities of applied sciences and research institutes, companies

and municipalities, the implementation of the priority is set out as following⁹:



Urban Cleantech

Energy, resource efficiency, circular economy, bioeconomy, and consumer cleantech

Urban Cleantech is especially carried out by the Smart&Clean Foundation. Municipalities, enterprises, research institutes and universities work together to make the region the best testing area for intelligent and clean solutions. This spearhead supports projects to create business opportunities based on clean and intelligent solutions. The implementation of the spearhead Urban cleantech uses the Central Baltic Interreg funding instruments, as well as the structural funds.



Health & Wellness

Healthcare solutions, processes, technologies, services and taking care of yourself

The implementation of this theme supports projects in preventive healthcare and solutions in digital health. The development of services for the aged is also supported by participating in the EIP AHA network (European Innovation Partnership on Active and Healthy Ageing). Easy-to-use solutions are linked to customer-oriented health care and wellbeing. National and EU-funding are targeted to the implementation.



Digitalizing Industry

Logistics, robotics and the Internet of things

A better competitiveness for regional enterprises is the goal for Digitalizing Industry. New technologies challenge particularly small and mid-sized companies to estimate the possibilities and consequences particularly of value chains, material streams and internal logistics. ERDF- and national AIKO-funding is used for the implementing.



Citizen City

The wellbeing of all citizens, open urban development, citizen participation, usability of services and co-creation

The spearhead combines urban development and the services solutions enabled by new technologies based on people's needs. The strength of this implementation is user oriented and the open approaches are based on the development environment of everyday life. Along with the developing methods of data acquisition and

⁹ https://www.uudenmaanliitto.fi/en/development_and_planning/regional_programming/smart_specialisation_in_helsinki-uusimaa_region/strengthening_strengths

analysis methods, the operations and the decision making will change, and the utilizing of data will grow as an important competitiveness factor. The new digital methods and models are produced by municipalities, other public administration actors, private companies and citizens.

Funding by 6Aika (Six City Strategy) (among other sources), is used for implementing.

Evaluation and monitoring

The implementation of the strategy will be evaluated by monitoring the funding and the activities for each spearhead. It will be done by analyzing the networking of the actors, the level of stakeholder engagement and measuring the website

www.helsinkismart.fi and the social media impact. The indicators used for the implementation of the Helsinki-Uusimaa Regional Programme also include the strategic goals of the region's smart specialization strategy.

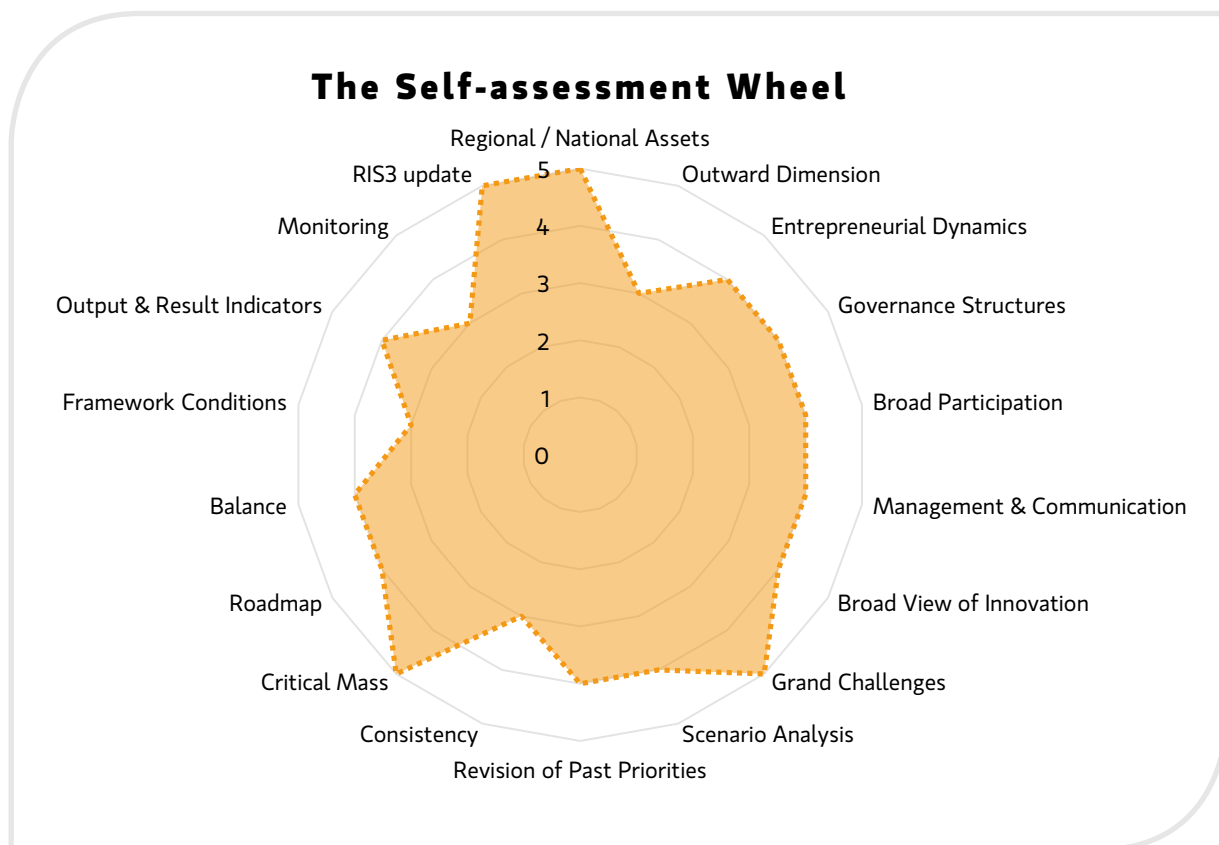
2.2. Assessment of the Helsinki-Uusimaa RIS3 strategy

Due to the fact that the RIS3 Strategy of the Helsinki-Uusimaa is based on the Helsinki-Uusimaa Regional Programme where priorities are further specified regarding access and innovation support, the assessment of the RIS3 of Helsinki-Uusimaa thus reviewed the content and texts of both the RIS3 strategy of the Helsinki-Uusimaa and the Helsinki-Uusimaa Regional Programme.

RIS3 steps	Sections	Short explanatory	Grade
ANALYSIS OF REGIONAL CONTEXT	Regional / National Assets	In the strategy, it takes a holistic view and analysis of the economic assets in the region using a SWOT to assess the technical infrastructures, knowledge, skills available in the region for innovation (RIS3 chapter 3.6). There is a general analysis about the scientific and technical specialisation in the region by mapping the specialisation sector in locations (Chapter3.1) and by industrial focus of key actors (Chapter 3.2).	5
	Outward Dimension	The economic linkages, logistic and flows of goods, services and knowledge in the region have been well described in the strategy (Uusimaa programme, Chapter 1) in general terms. It uses RCI and SPI indicators to review the position of the Helsinki-Uusimaa with other regions. However, there is weak exploration on the outward dimension of the regional position and linkage of its technical specialisation in the transregional and international value chain. For instance, how the region utilizes transregional or international collaboration networks, and with whom the region collaborates in specific sectors.	3
	Entrepreneurial Dynamics	The strategy describes the entrepreneurial dynamics in the region, its richness and the actors (RIS3 chapter 3.4). However, it is not clear on how they will be constantly involved in the entrepreneurial discovery process.	4
GOVERNANCE	Governance Structures	In the introduction of the chapter 1 and the chapter 4.6, the RIS3 strategy has described the responsible body for implementing and monitoring the RIS3.	4
	Broad Participation	In the chapter 4.4.1 of the RIS3 strategy, the goal of an open RIS3 operational model involving quadruple helix actors is stated. In chapter 4.4.2 of the RIS3 strategy, different collaborative and open development are introduced.	4
	Management & Communication	In the strategy, there is no description on how the strategy will use an open forum or e-governance for discussion and citizen dialogue. However, the Helsinki Smart platform (www.helsinkismart.fi) has been established to engage actors in profiling and promoting smart specialisation and presentation cases of the region.	4

SHARED VISION¹⁰	Broad View of Innovation	The operational mode of the RIS3 is based on a broad view of innovation. It aims to steer innovation process in Uusimaa, focusing on facilitating the interaction of actors and development of competence of RIS3 areas via adaption of interfaces and platforms. (RIS3 4.1.1.) However, it is not stated how the policy will facilitate and support the social, organisational, service and market innovation of the actors operating in the four priority areas.	4
	Grand Challenges	The grand challenges in Helsinki-Uusimaa including demographic change, urbanisation, societal inclusive are addressed in the Helsinki-Uusimaa Regional Programme page 6-17 and in the RIS3 strategy Chapter 3.6.	5
	Scenario Analysis	The RIS3 strategy (Chapter 2.3) states that foresights and scenarios have been used as a basis to develop the vision. However, there is no further elaboration on how the vision is linked to the risk assessment.	4
IDENTIFICATION OF PRIORITIES	Revision of Past Priorities	The Helsinki-Uusimaa RIS3 is based on the Helsinki-Uusimaa programme which covers all areas of regional development. And the RIS3 strategy has been able to collect critical inputs of past experiences from various innovation policies (RIS3 chapter 2.3). Potential areas with competitive advantages are selected and rationalised in RIS3 chapters 4.3.2 and 4.3.3.	4
	Consistency	The RIS3 is developed on the basis of the regional programme, which seems to be well in line with the contextual analysis. However, there is no convincing evidence on how the strategy has harvested entrepreneurial discoveries and if the EDP for the design process of the strategy has taken place.	3
	Critical Mass	The strategy focuses on four spearheads (Urban Cleantech, Health & Wellness, Digitalising Industry and Citizen City) which help to concentrate resources to the limited number of priorities.	5
POLICY MIX	Roadmap	A general statement on how the strategy will be implemented can be found at RIS3 Chapter 4.6. and at the Regional Council's page. Only a few current projects are mentioned there. In an updated version of the RIS3 in 2018, more concrete projects are mentioned.	4
	Balance	In the Uusimaa Regional programme (appendix 2), there is an overview of how priorities can be supported with a mix of policy measures including ERDF, EC funding and national funding. And in the RIS3 strategy chapter 4.6., there is a general description about how each priority can be funded. (https://bit.ly/2EBd4r1)	4
	Framework conditions	There are general statements in the RIS3 strategy that it aims to encourage experimentation. However, no specification on how it can be supported, is included.	3
MONITORING & EVALUATION	Output & Result Indicators	A selection of impact indicators can be found at the RIS3 strategy chapter 4.6. and at the Council's website. Still there is no clear linkage to the priorities nor clearly identified baselines and targets.	4
	Monitoring	The mechanisms of monitoring the RIS3 has been stated in the strategy Chapter 4.6. However, it is lacking plans on how data is collected in order to verify the activities in the RIS3 that delivers output and result targets.	3
	RIS3 update	The RIS3 was updated in 2018 and priorities have been modified from five priorities to the current four. The Region is currently preparing a new strategy after this current one.	5
This assessment is carried out by the author.			

¹⁰ Vision is a mobilising power to attract and reach willingness of actors to act towards the transformation of the region.



Observation and consideration

The result of the assessment indicates that the RIS3 of Helsinki-Uusimaa is of a high overall quality. Overall, the Helsinki-Uusimaa has developed its RIS3 following the analysis of the regional context and potential for innovation, governance, vision, focused priorities, policy mixed and monitoring. However, three areas are identified which need further improvement: outward dimension and global context, communication and monitoring and KPIs (Key Performance Indicators).

Outward dimension and global context

- RIS3 is about finding and creating opportunities for the sectors in a region that have potential to grow in the global market. For the Helsinki-Uusimaa Region, an understanding of the position of the four spearheads in their global value chains is crucial for policy making and investment. It is advisable that in the strategy,

there could be more exploration on the outward dimension of the regional sectors and linkage to the technical specialisation in the trans-regional and international value chains. A higher quality and business intelligence data should be sought and reviewed in formulating the strategy and its priorities.

- RIS3 is an investment tool of the European Union. For the implementation of the strategy, it could further elaborate how the region utilizes trans-regional and international collaboration networks and with whom the region collaborates in specific sectors.
- By establishing regular contacts and formal innovation partnerships with European regions, the peer regions can jointly exploit territorial potential and interregional comparative advantages.

Communication

- The goal is to communicate and share the actual implementation of the RIS3, for instance in a coordination structure such as the Helsinki Smart page.
- Involvement of actors is important in the further development of the RIS3 and entrepreneurial discovery.
- More communication on the implementation, and policymaking should be further developed. For example, how has the culture of experimentation been encouraged by the RIS3 in general? What kind of projects are funded for this?

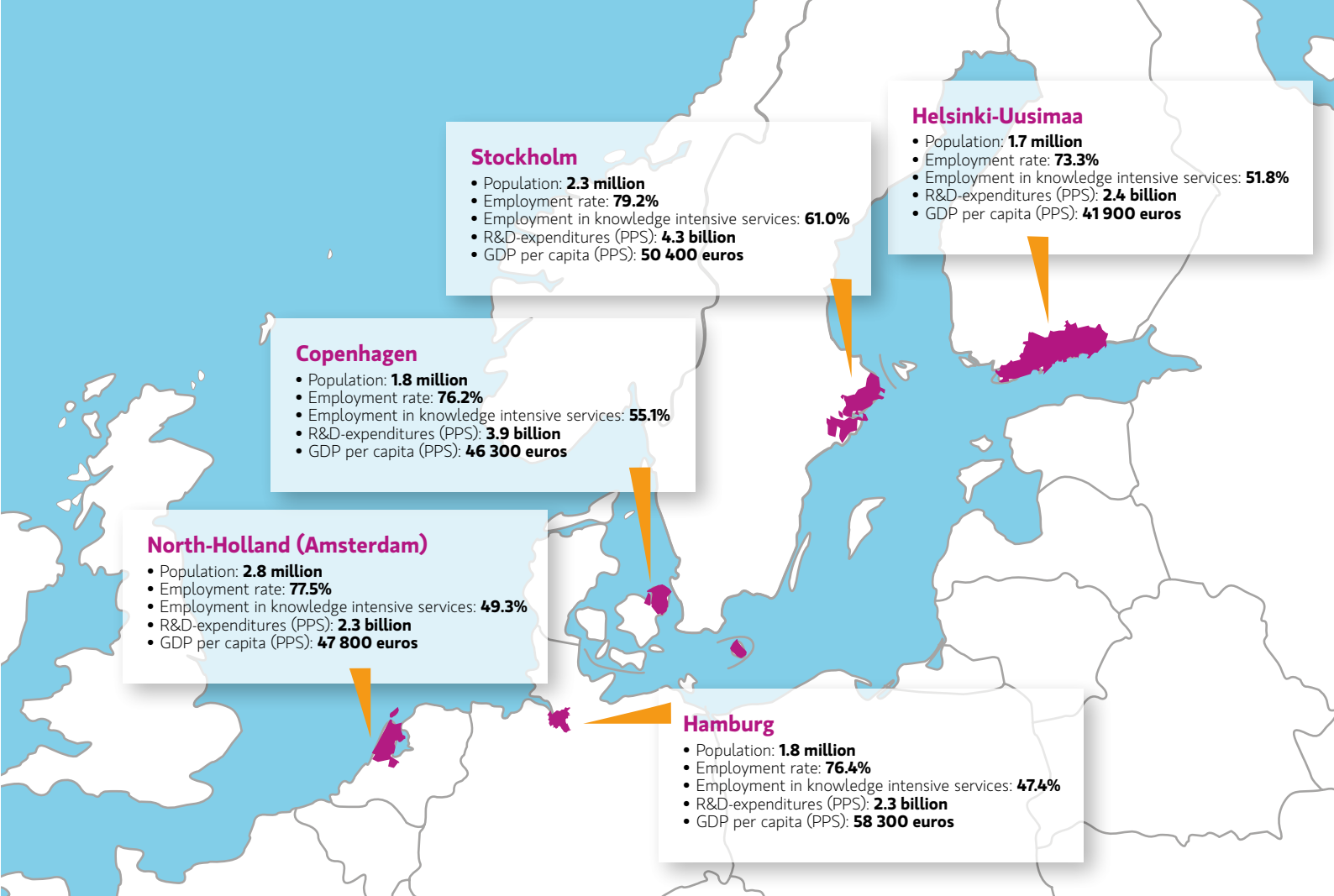
Monitoring and KPIs

- The RIS3 is a transformation strategy. It sets goals to improve innovation processes in the regional innovation ecosystem, and consequently strives for the outputs of innovation in the region. The method stated in the Helsinki-Uusimaa RIS3 for monitoring the goal of “double the innovation effects” remain vague. It should be concretised by giving a better possibility to measure the impacts of the strategy.



**PERFECTING
ONESELF IS AS MUCH
UNLEARNING AS IT IS
LEARNING.”**

– Edsger Dijkstra



3. PEER REGIONS AND THEIR APPROACHES TO RIS3 STRATEGY

The Helsinki-Uusimaa Region, The Capital Region of Denmark (Copenhagen), the Free and Hanseatic City of Hamburg, Noord-Holland (The Amsterdam Metropolitan Region) and The Stockholm County ranked the top five European regions in a mid-sized category for foreign investments in a survey by the Financial Times. Most of these regions are engines for their national economies and contribute to a significant growth. For instance, the Helsinki-Uusimaa Region generates 38.2 %, the Stockholm County accounts over 32%, and the Capital Region

of Denmark generates about 40% of the national GDP. The proportion of Noord-Holland is around 21% of the Dutch GDP, whereas Hamburg's GDP was €118b and accounting for 3.6% of the national German GDP in 2017.

This chapter investigates how these peer regions of Helsinki-Uusimaa take on the challenge in driving regional innovation, research and entrepreneurship. Together with its peer regions, Helsinki-Uusimaa collects evidence and interest for a future cooperation in the prioritised areas.



“
YOU MUST COME TO
COPENHAGEN TO WORK
WITH US. WE LIKE PEOPLE
WHO CAN ACTUALLY
PERFORM THOUGHT
EXPERIMENTS!”

– Niels Bohr

3.1 Capital Region of Denmark (Copenhagen)¹¹

The Capital Region of Denmark (regional capital: Hillerød) has a population of 1.8m people (2017), corresponding to around 31% of the Danish population, and is the most highly educated, innovative and cosmopolitan region in Denmark. The region is geographically the smallest in Denmark, with only 2,561 km², or 6% of the Danish area, and it stretches from the capital city Copenhagen in the south, to Elsinore in the north and Hundested in the west. The region also includes the island of Bornholm.

Much emphasis is put into developing the metropolitan area of Greater Copenhagen. The core is city of Copenhagen and 3rd-largest Swedish city of Malmö only 30 km away. This cooperation covers two Danish and two Swedish regions.

Copenhagen

- Population: **1.8 million**
- Employment rate: **76.2%**
- Employment in knowledge intensive services: **55.1%**
- R&D-expenditures (PPS): **3.9 billion**
- GDP per capita (PPS): **46 300 euros**

The high innovation performance is expressed in the high growth rate compared with the rest of Denmark. According to the Regional Innovation Scoreboard 2017 (RIS 2017), the Capital Region in Denmark is an “Innovation Leader +”, with innovation performance decreasing over time.

¹¹ Regional Innovation Monitor Plus, <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/capital-region-denmark>

Denmark is a country made up of 5 regions (Nordjylland, Midtjylland, Syddanmark, Sjælland and Hovedstaden). Until end of 2018, in the capital region Hovedstaden the most important organisation for developing and implementing the regional strategies was the Capital Growth Forum. In this forum key policymakers from business, research, the political system and the labour market are represented. Together they prepare a long term-strategy for developing the region which sets a course for the business development within the region for a four-year period. The use of the regional development funds (given through a national block grant) is linked to the strategy, as is the use of the EU regional funds.

Innovation and RIS3 Policy

The RIS3 policy of the Capital Region of Denmark is the region's growth and development strategy, officially labelled "Copenhagen – all of Denmark's capital". One important focus area of the strategy is to increase public-private innovation collaboration and one concrete target is the region's participation in eight larger public-private collaboration efforts between 2015 and 2018.

The strategy has two frameworks and four strategic growth areas.



Framework 1: Efficient and sustainable mobility



Framework 2: Highly-skilled workforce and internationalization



Growth area 1: Health and welfare technology growth



Growth area 2: Green Growth



Growth area 3. Creative growth; and



Growth area 4: Smart growth.

The Growth Forum in Capital Region was the key actor in implementing the strategy emphasising the importance of strong and broad partnerships involving relevant triple-helix players. In 2017, 27 projects are active and running, some until 2019, and from those, 17 already received a total of €8.7m from the Growth Forum and €22.9m from EU structural funds canalised through the Growth Forum.

In year 2018, Denmark has conducted a national reform of the local and regional landscape of business development bodies. The mandate of the region is now further secured in the regional development, in the areas of healthcare and life sciences, traffic infrastructure, green solutions, climate changes, clean soil and water, skilled workforce, nature and recreation and culture. More focus is put on international cooperation and access to funding. The mandate of business and tourism development is transferred from the region to the national government and local municipalities.

A new cross-municipal body including the 29 municipalities within the Capital Region-area has been formed – Copenhagen Business Hub. This body puts much emphasis on one-to-one SME/entrepreneur/business services. The board of Copenhagen Business Hub consists of representatives from municipalities, private companies, knowledge institutions, labour market and the regional council.

Applications for financial support (national as well as EU Structural Funds) for business development activities at local level is now centralised at a national board.

Key-words in the approach is: Focus on business demands, fewer business-development bodies, digital one-point-entry.



3.2 Free and Hanseatic City Hamburg¹²

The Free and Hanseatic City of Hamburg is the second smallest German federal state (755,264 km²) and one of the three city-states. In 2015, the Hamburg gross domestic product (GDP) per capita in purchasing power standards (PPS) per inhabitant was €59,500 (Eurostat, 2017). This is the highest figure in Germany representing 166.2% of the national average, and the third highest of a European region (after Inner London and Luxembourg).

According to the Regional Innovation Scoreboard 2017, the Free and Hanseatic City of Hamburg is ranked as an “innovation leader” with an innovation performance above the EU average. The governance of the innovation ecosystem of Hamburg is characterised by a multilevel

Hamburg

- Population: **1.8 million**
- Employment rate: **76.4%**
- Employment in knowledge intensive services: **47.4%**
- R&D-expenditures (PPS): **2.3 billion**
- GDP per capita (PPS): **58 300 euros**

governance. The State is the main implementing body of the innovation strategy and works according to frameworks enacted at both federal and European levels.

The Free and Hanseatic City of Hamburg is one of 16 German federal states and one of three city states. As a federal state, Hamburg has a considerable autonomy regarding the legislation and in some fields of policy. Particularly in higher education, the German federal states independently develop their own legislative

¹² Regional Innovation Monitor Plus, <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/hamburg-0>

frameworks. Together with the neighbouring districts of the federal states of Lower Saxony, Schleswig-Holstein and Mecklenburg-West Pomerania, the Free and Hanseatic City of Hamburg forms the Metropolitan Region of Hamburg.

Innovation and RIS3 policy

Key responsibilities in Hamburg's research and innovation policies lie with the Ministry of Economics, Transport and Innovation, and the Ministry of Science, Research and Equalities. In Hamburg, the RIS3 has been implemented as a solitary strategy to complementary strategies and existing programmes¹³ There are thematic links with other specialised programmes, but not yet an explicit approach to foster coordination through RIS3.

Innovation policies in Hamburg are designed at three levels:

- At the European level, the ERDF/ESF 2014-2020 Operational Programme and the Regional Innovation Smart Specialization Strategy (RIS3);
- In 2014, the Federal Cabinet adopted a new German High-tech Strategy entitled "Innovation for Germany". Within this frame, the Federal Government and the Federal States (Länder) are consulting each other in describing and presenting the various relevant programmes and measures;
- At the regional level, the Innovation strategy is described in the document ["Regionale Innovationsstrategie 2020 der Freien und Hansestadt Hamburg"](#). The current government, elected in February 2015, developed the vision "Together we are creating modern Hamburg". In addition, the RIS3 is linked to the thematic priorities set out in the [Cluster policy in Hamburg. Reaching the top together](#) and [Innovation Alliance Hamburg - Strategic Guidelines](#).

Hamburg's RIS3 is based on the Innovation Alliance's Strategic Guidelines that have been developed in a participative approach involving 160 stakeholders from the fields of science, industry, policy, institutions and associations (2008-2009). The RIS3 was set up in December 2014 and is being applied ever since. Referring to the EU 2020 strategy increased R&D-expenditures, the use of synergy effects, the inclusion of all relevant actors and the abundance of double structures are at the core of the strategy.

Eight Clusters form the framework of Hamburg's RIS3: Aviation, Life Science, Healthcare, Logistics, Maritime Industry, Renewable energies, Media & IT and the Creative Sector. In addition, supportive initiatives are in place for Location of Law, Finance and Insurance, as well as a SME-Alliance and Master Plans for Industry and Craft.

As one of six European model regions for a modern cluster policy, Hamburg has started to develop a cross-clustering concept for tapping the potential for innovation and added value in the thematic intersections between the clusters. All Hamburg clusters have the potential for further internationalization. However, most of them are already highly integrated into international value chains.

The current RIS3 is based on the findings of a SWOT analysis that revealed several weaknesses in the regional innovation system in Hamburg. Despite of being one of Germany's innovation regions, particularly the innovative regions in the south of Germany rank before Hamburg in many indicators. To focus upon the financial measures in effective ways, Hamburg initiated the cluster strategy.

Within the participation process, certain areas of future importance were defined, such as mobility and traffic; energy, climate and environmental protection; healthcare; materials, systems and processes; information and communication; transnational cooperation and qualification. Global megatrends and key technologies were taken into account by this selection.

¹³ RIS3 strategies in Germany 2014-2010 – Managing the strategy journey, Presentation at the JRC-Peer review workshop by Dr. Jan-Philipp Kramer, Head of Brussels Office Magdeburg, 8.3.2018.



3.3 North-Holland (Amsterdam Metropolitan Area)¹⁴

The province of North-Holland includes the city Amsterdam, the capital of The Netherlands. It has a surface of 2,663.86 km² and 2,784,854 inhabitants (Eurostat, 2017). The province includes Agglomerate Haarlem, which is the capital of the province; Alkmaar and surroundings; Amsterdam city and surroundings; Gooi en Vechtstreek; IJmond (along North-Sea Canal); Kop van Noord-Holland (North) and Zaanstreek (one of the oldest industrial regions in the world).

The regional gross domestic product of Noord-Holland is €141.8b, which is around 21% of the Dutch GDP (Eurostat, 2017). The GDP per capita in PPS was 47,400 in 2015, which is the highest of all Dutch provinces, and above the EU average.

North-Holland (Amsterdam)

- Population: **2.8 million**
- Employment rate: **77.5%**
- Employment in knowledge intensive services: **49.3%**
- R&D-expenditures (PPS): **2.3 billion**
- GDP per capita (PPS): **47 800 euros**

North-Holland is an Innovation Leader, with a performance above the EU average. The innovation performance has improved over the recent years, with an increase in the Regional Innovation Index of 11.1 points from 2011–2017.)

¹⁴ Regional Innovation Monitor Plus. <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/noord-holland>

Innovation and RIS3 strategy

The innovation policy of the Netherlands is primarily the responsibility of the national government, where the largest budgets were spent, and where the decisions upon (semi-) public research institutes were mostly made. Provinces had no formal role in the policy regarding research or higher education, though they do have an informal role in the Dutch consensus oriented consultative culture in these areas.

Since 2010 the involvement of the national government in regional economic policy has gradually phased out. Innovation policy is now absorbed into the national top sectors approach and is based on making use of existing strengths instead of trying to develop laggard regions. Consequently, the regional economic and industrial policy has become a more prominent responsibility of the provinces (besides spatial development). Provinces get their funding from the national authorities, as well as from EC funds, but receive no direct tax income.

The NUTS 2 regions in the Netherlands do not always correspond to economic or traditional regions. The RIS3 strategy covering the area of the Amsterdam area is the RIS3 strategy for West-Netherlands. The RIS3 strategy for West-Netherlands is a combined strategy for the provinces: Noord-Holland, Zuid-Holland, Utrecht, Flevoland, and also for the four largest cities: Amsterdam, Rotterdam, The Hague and Utrecht. The RIS3 strategy could be seen as a solitary strategy that indicates cross-over topics of all existing strategies and existing programme. The topics are thus broadly listed in order to cover the interests and priorities of the regions/provinces and cities included.

In North-Holland, innovation policy and regional clusters are stimulated through the Amsterdam Economic Board (AEB) in the south of the province (part of the Metropolitan Region of Amsterdam (MRA), in which the Amsterdam Economic Board gives substance to a cluster approach and the Development Company Noord-Holland North (NHN). The strategic priorities of the Amsterdam Metropolitan area are circular economy, energy, mobility, digital connectivity, health and jobs of the future.



3.4. Stockholm County¹⁵

The NUTS 2 regions in Sweden do not always correspond to economic or traditional regions. The NUTS 2 region Stockholm covers a surface area of 6,779 km² and 26 municipalities. It corresponds to Stockholm Metropolitan Area (NUTS 3) and is dominated by Sweden's largest urban area and capital city, Stockholm, but also includes large rural and forestry areas.

According to the European Regional Innovation Scoreboard 2017 (RIS 2017), Stockholm is an "Innovation Leader +", and innovation performance has increased significantly over time. Stockholm's performance has remained above the EU 28 average.

Stockholm

- Population: **2.3 million**
- Employment rate: **79.2%**
- Employment in knowledge intensive services: **61.0%**
- R&D-expenditures (PPS): **4.3 billion**
- GDP per capita (PPS): **50 400 euros**

¹⁵ Regional Innovation Monitor Plus. <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/stockholm>

Innovation and RIS3 strategy

The regional governance structure of Stockholm is a mixture of public and private initiatives, involving actors at various levels. The responsibility of the regional development has been shared between the County Administrative Board and the Regional County Council. In 2006, the OECD Territorial Report of Stockholm criticised the regional governance structure. Since then, the regional partnership responsible for developing and implementing the operational programme of the ERDF has become an important platform for regional prioritisation, despite limited funding. And since January 1st, 2019, most of the responsibility of regional development, including the ERDF-priorities, is on the Regional County Council.

The regional development plan of the Stockholm region (RUFS) has been adopted as both a regional land use plan, and a regional development programme (RUFS 2001 and RUFS 2010). The current regional development plan, RUFS 2050 was adopted 2018.

In parallel, the County Administrative Board coordinated the development of an operational

programme for the ERDF 2014–2020, guided by priorities of the innovation strategy, an explicit focus on strategic initiatives and to increase the coordination between ESF and ERDF. In 2012, the Regional Innovation Strategy – 2025 Stockholm: The world's most innovation-driven economy – was approved.

The action programme of the innovation strategy for the Stockholm region consists of actions in research & innovation, innovation procurement, supply of capital, cross-sector approach and global attractiveness. Sectors are Modern production (advanced production and materials), Smart urban development (green transport and housing) and Health, care and life science.

In the Stockholm region, the implementation of the RIS3 is made via an existing regional innovation strategy. This "Stockholm model" combines the European Regional Development Fund (ERDF) Operational Programme for Stockholm, the Regional Innovation Strategy and the collaborative platform Innovation Stockholm.

3.5. Implementation of RIS3s in peer regions

According to the result of comparison, Smart Specialisation Strategy being a prerequisite for receiving ERDF funding, the take-up of this new approach to innovation policy across the peer regions remains diversified. In Helsinki-Uusimaa, Hamburg and Amsterdam the RIS3 has been set

up as a solitary strategy to complement existing strategies and programmes, with some regions having more engagement with smart specialisation more actively than the others. For the Stockholm County and the Capital Region of Denmark, the implementation of the RIS3 is made via the existing regional innovation strategy, and in the case of Denmark, via a business strategy.

Regions	Implementation model
Helsinki-Uusimaa	<p>The RIS3 of Helsinki-Uusimaa is a solitary strategy which was developed as based on the Helsinki-Uusimaa Regional programme.</p> <p>The region has mainly used the ERDF and its own regional development funding for the implementation of Smart specialisation</p>
Stockholm County	<p>In the Stockholm region, the implementation of the RIS3 is made via an existing regional innovation strategy.</p> <p>This “Stockholm model” combines the European Regional Development Fund (ERDF) Operational Programme for Stockholm, the Regional Innovation Strategy and the collaborative platform Innovation Stockholm.</p>
Capital Region of Denmark	<p>In the current programme period 2014-2020, the RIS3 policy of the Capital Region of Denmark is the region’s growth and development strategy, officially labelled “Copenhagen – all of Denmark’s capital”.</p> <p>The use of the regional development funds (given through a national block grant) is linked to the strategy, as is the use of the EU regional funds. Due to new legislation 2018, in 2019 Danish regions implements Regional Development Strategies excluding business-development but still emphasising innovation.</p>
Amsterdam Metropolitan Area (Noord-Holland)	<p>The RIS3 strategy covering the area of the Amsterdam area is the RIS3 strategy for West-Netherlands.</p> <p>The RIS3 could be seen as a solitary strategy that indicates cross-over topics of all existing strategies and existing programme.</p> <p>In North-Holland, innovation policy and regional clusters are stimulated through the Amsterdam Economic Board (AEB) in the south of the province.</p>
Free and Hanseatic City of Hamburg	<p>In Hamburg, the RIS3 has been implemented as a solitary strategy to complement strategies and existing programmes. Eight clusters form the framework of the RIS3, and supportive initiatives are in place at a horizontal level. “Cluster bridges” are being developed in order to foster some cooperation across disciplines.</p>



ONE CAN STATE, WITHOUT
EXAGGERATION, THAT
THE OBSERVATION OF
AND THE SEARCH FOR
SIMILARITIES AND
DIFFERENCES ARE THE
BASIS OF ALL HUMAN
KNOWLEDGE.”

- Alfred Nobel



4. BENCHMARKING PEER REGIONS IN RIS3 AREAS OF HELSINKI-UUSIMAA RIS3

The operational model of the RIS3 of the Helsinki-Uusimaa is based on a broad view of innovation. It aims to steer innovation processes in Uusimaa to focus on supporting the interactions of actors in the context of social, organisational, service and market innovation thus boosting growth and business.

The results of the self-assessment of the RIS3 strategy suggested that Helsinki-Uusimaa to explore the outward dimension of the regional position. In this chapter, a set of indicators which best describe the broad view of innovation are used to benchmark the performance of peer regions in the RIS3 areas of the Helsinki-Uusimaa. The goal is to find evidence and new ideas for the future cooperation of the peer regions. Questions to be answered in this chapter include: how peer regions perform in the sectors where Helsinki-Uusimaa focus its RIS3 strategy? In which areas do we find complementary advantages to cooperate

and form partnerships in the future? The indicators selected for each RIS3 areas are:

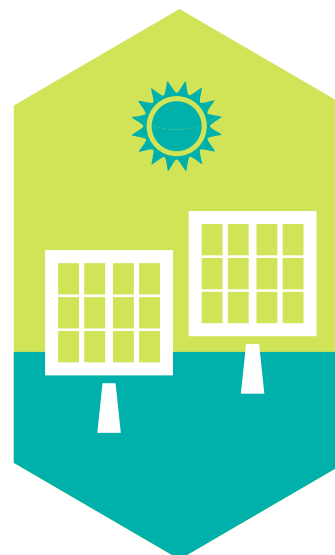
- Global Cleantech Innovation Index for Urban Cleantech
- Global Health Systems Transparency Index for Health & Wellness
- Digital Economy and Social Index for Digitalising Industry
- European Union Regional Social Progress Index for Citizen City

Due to statistical availability, the regions are benchmarked against a national performance in the first three indicators: Global Cleantech Innovation Index, Global Health System Transparency Index and Digital Economy and Social Index for Digitalising Industry. Benchmarking at the regional level (NUTS2) is only available for the European Union Regional Social Progress Index.

4.1. Urban cleantech

The Urban cleantech spearhead supports projects creating business opportunities based on clean and intelligent solutions. It covers the areas of energy and resource efficiency, circular economy, bio economy and consumer cleantech.

The Global Cleantech Innovation Index measures innovation in the field of cleantech. It is based on the average between inputs and outputs of innovation. By definition, inputs correspond to the creation of innovation (the development of technology supply) and outputs relate to the country's ability to commercialise innovation.¹⁶

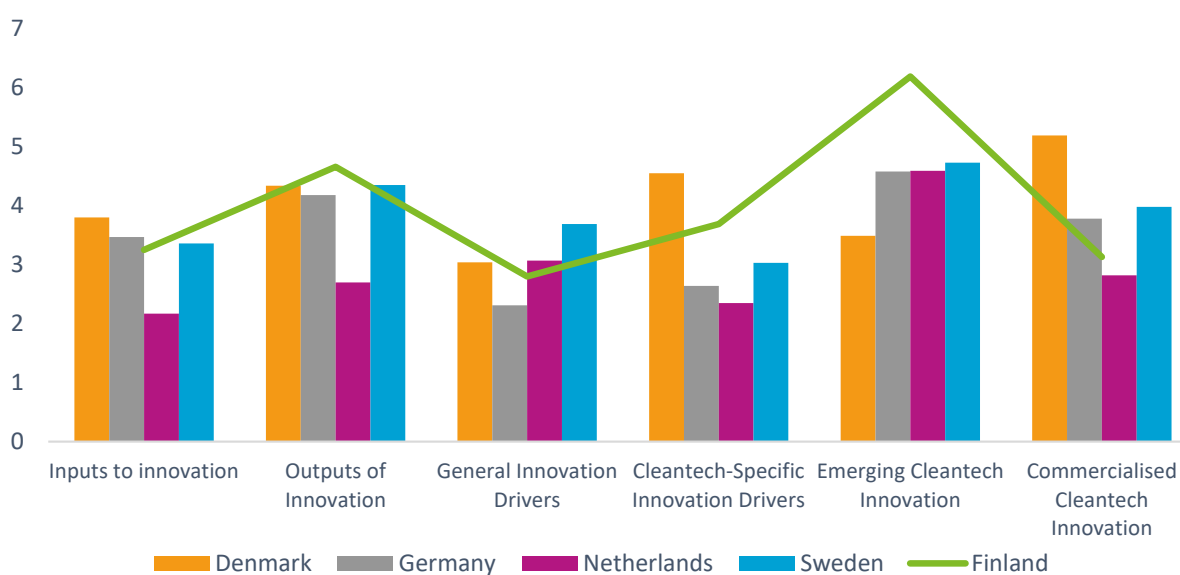


Global Cleantech Innovation Index 2017

County	Rank	Score	Inputs to innovation	Outputs of Innovation	General Innovation Drivers	Cleantech-Specific Innovation Drivers	Emerging Cleantech Innovation	Commercialised Cleantech Innovation
Denmark	1	4,07	3,80	4,34	3,04	4,55	3,49	5,19
Finland	2	3,96	3,25	4,66	2,80	3,69	6,19	3,13
Sweden	3	3,86	3,36	4,35	3,69	3,03	4,73	3,98
Germany	8	3,33	3,47	4,18	2,31	2,64	4,58	3,78
Netherlands	15	2,17	2,17	2,7	3,07	2,35	2,58	2,82

For comparison, the Index and Indicators have a mean score of 2.12.

Source: The Global Cleantech Innovation Index 2017. (WWF and Cleantech Group)



¹⁶ <https://wwf.fi/mediabank/9906.pdf>

According to the result of the 2017 Index, the performance of the peer regions and their countries are led by Denmark. **Denmark** stands out with its scores for the **cleantech specific innovation drivers** which measures how government policies are cleantech friendly, government R&D expenditure in cleantech sector, access to private finance for cleantech startups, country-attractiveness of renewable energy infrastructure and cleantech cluster programs & initiatives. It also tops the score for the **evidence of commercialised cleantech** measuring trade of cleantech commodities, renewable energy consumption, late-stage private investment and exits, successful public cleantech companies and renewable energy jobs.

Finland holds the top place in the score for the **emerging cleantech innovation** measuring registered patents in cleantech sectors, early-stage private investment and high impact cleantech tech startups. **Sweden** is strong in the **general innovation drivers** measuring general inputs to innovation such as institutions, human capital, infrastructure, market sophistication and business sophistication innovation, as well as entrepreneurial culture and early-stage venture capital investment. **Germany** registers as an efficient innovation environment. Despite of its smaller early-stage entrepreneurial activity and low evidence of cleantech investment community, it is still able to achieve high level of innovation outputs. **Netherlands** scores high in general innovation drives and promotes a strong entrepreneurship culture.



What can Finland and Helsinki-Uusimaa learn from the Peer regions:

Good practices from Denmark in providing easy access to private finance, cleantech cluster programs & initiatives and commercialisation of cleantech innovation



What Can Finland and Helsinki-Uusimaa offer to the peer regions:

Good practices and policy in providing early private investment for cleantech, generation of high impact startups and commercialisation of cleantech.

4.2. Health & Wellness

The implementation of Health & Wellness supports projects in preventive healthcare and solutions in digital health. It covers areas of healthcare solutions, processes, technologies, services and taking care of yourself. Easy-to-use solutions are linked to customer-oriented health care and wellbeing.

The application of digital solutions helps patients and people to meet and master their daily lives is a growing trend in public health policy, while innovation and technology solutions present economic possibilities. Transparency in health care, e.g. providing accessible, reliable and up-to-date information to the users and all people in the service chain are to ensure patients to get best care and service. The Global Health Systems Transparency Index¹⁷ is used to benchmark the peer regions and their countries in the priority areas of Helsinki-Uusimaa in the Health & Wellness.

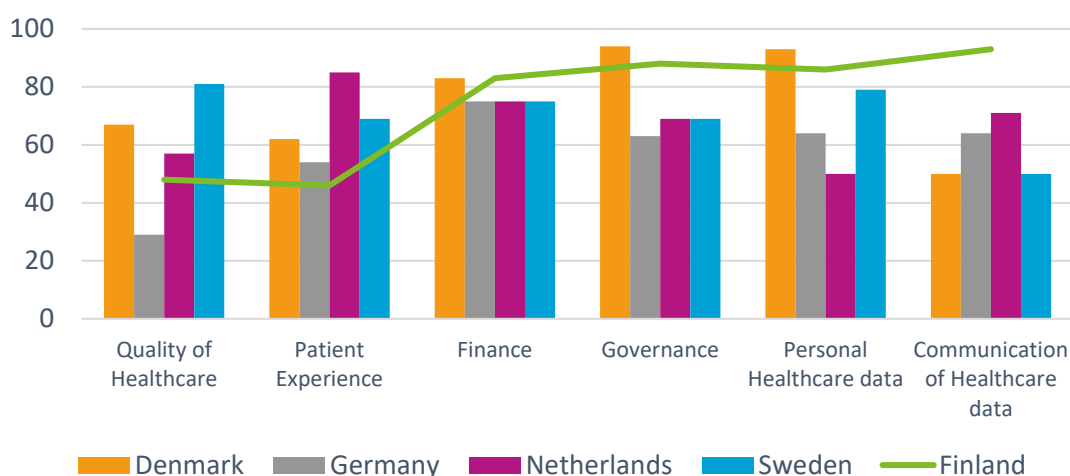


The Global Health Systems Transparency Index measures six components in national wide health systems; quality of healthcare, patient experience, finance, governance, personal healthcare data and communication of health data.

Global Health Systems Transparency Index 2017 – composite results (%)

County	Rank	Overall score	Quality of Healthcare	Patient Experience	Finance	Governance	Personal Healthcare data	Communication of Healthcare data
Denmark	1	74	67	62	83	94	93	50
Finland	2	72	48	46	83	88	86	93
Sweden	3	71	81	69	75	69	79	50
Netherlands	8	67	57	85	75	69	50	71
Germany	16	56	29	54	75	63	64	64

Source: Through the looking glass report, KPMG International, 2017



¹⁷ <https://home.kpmg.com/xx/en/home/campaigns/2017/04/health-transparency-map.html>

According to the result of the 2017 Index, the performance of the peer regions and their countries are led by **Denmark** with an overall score of 74. It triumphs in the sub indicators of **Governance** calculating the freedom of information legislation, the patient rights, the procurement process and the decision making, the public decision-making and the involvement of patient and public in strategic decision making as well as the indicator of **Personal healthcare data** calculating indicators of electronic patient records system, shared clinical documentation, patient data privacy and safeguarding policy and information on use of patient data. **Denmark** and **Finland** both ranked highly in the sub indicator of **Finance** calculating the financial performance, transparency of the costs patients are being

charged, prices that health insurers/payers are charged and disclosure of payments, gifts and hospitality to healthcare staff. **Finland** tops the category in the Communication of Healthcare data. It calculates the data accessibility, update-to-date data, direct comparison of providers and services and open data formats. **Sweden** tops the sub indicator of **Quality of healthcare** calculating mortality and survival rates for individual medical conditions and treatments, all-cause mortality/survival rates, hospital re-admission dates, waiting time for emergency care, adverse event's reporting and hospital-acquired infections. Last but not least, **Netherlands** tops the sub-indicator of **Patient experience** calculating patient reported outcome measures, patient satisfaction, patient approval and patient complaints



What can Finland and Helsinki-Uusimaa learn from the Peer regions:

Good practices in providing good quality of health care from Sweden and patient experience from Netherland.



What Can Finland and Helsinki-Uusimaa offer to the peer regions:

Good practices in the transparency of public health finance, personal health data and communication of health data.

4.3. Digitalising Industry

Digitalising the enterprise and industry is the goal of the spearhead Digitalising Industry. It focuses on the areas of logistics, robotics, the Internet of things and the utilisation of new technologies in value chains, material streams and internal logistics.

To understand the performance of the similar topic in different regions, the Digital Economy and Society Index (DESI) has been applied for benchmarking.

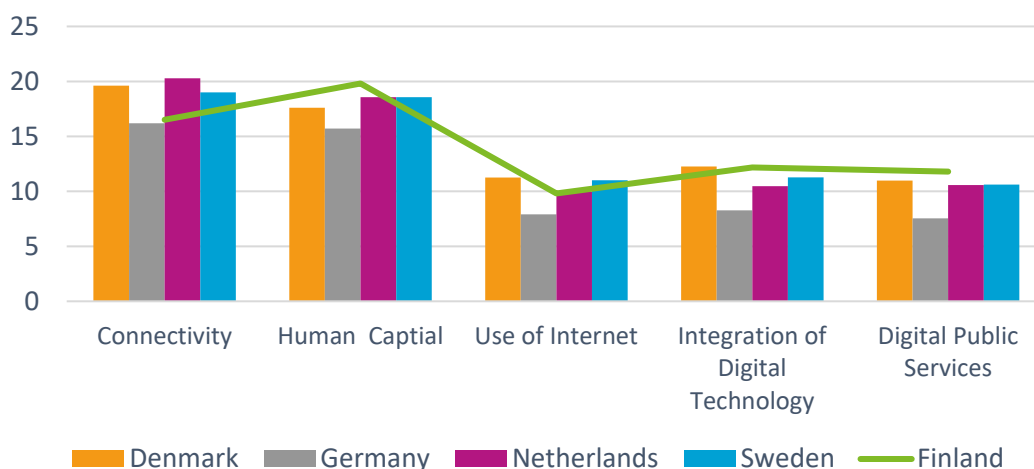
The Digital Economy and Society Index is a composite index that summarises some 30 relevant indicators on Europe's digital performance and tracks the evolution of EU Member States, across five main dimensions: Connectivity, Human Capital, Use of Internet, Integration of Digital Technology, and Digital Public Services.¹⁸



Digital Economy and Social Index 2018

County	Rank	Total	Connectivity	Human Capital	Use of Internet	Integration of Digital Technology	Digital Public Services
Denmark	1	71.73	19.62	17.60	11.26	12.26	10.98
Sweden	2	70.45	19.00	18.56	11.01	11.27	10.61
Finland	3	70.11	16.51	19.81	9.81	12.18	11.80
Netherlands	4	69.87	20.28	18.56	9.97	10.47	10.58
Germany	14	55.61	16.19	15.71	7.91	8.27	7.54

Source: Digital Economy and Social Index 2018, European Commission



¹⁸ <https://digital-agenda-data.eu/datasets/desi/indicators#desi-dimensions>

Based on the result, Denmark, Sweden, Finland, and the Netherlands have the most advanced digital economies in the EU. Among the peer regions and their countries, **Denmark** ranks first with the total score. Interestingly, the **Netherlands**' performance is the best in the **dimension of connectivity** when it comes to the terms of physical infrastructures and broadband layout. **Finland** ranks top in the **dimension of human capital** in view of basic digital skills such as the number of Internet users and advanced skills, the numbers of ICT specialists and STEM graduates. In

the **use of Internet dimension**, **Denmark** received the top in the availability of digital content: news, music, video, games and communication channels such as video calls and social networks and digital transactions in banking and shopping. **Denmark** also tops in the dimension of **integration of digital technology** calculating digitalisation in business and eCommerce. **Finland** tops in the dimension of **digital public service** calculating the deployment of eGovernance in online services for business and open data and respectively eHealth services.



What can Finland and Helsinki-Uusimaa learn from the Peer regions:

Connectivity from Netherlands in terms of physical infrastructures and broadband layout.



What Can Finland and Helsinki-Uusimaa offer to the peer regions:

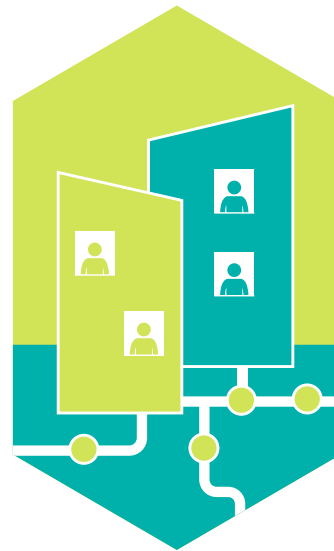
Good practices and policy in the integration of digital technology in business and digital public services on eGovernance, Open data and eHealth Service.

4.4. Citizen City

The Citizen City combines urban development and the service solutions enabled by new technologies according to people's needs. It considers the wellbeing of all citizens, the open urban development, the citizen participation, the usability of services, and the co-creation. The strength of this implementation is user-oriented and the open approaches are based on the development environment of everyday life. Along with the developing methods of data acquisition and analysis methods, the operations and decision making will change and utilize data will grow as an important competitiveness factor.

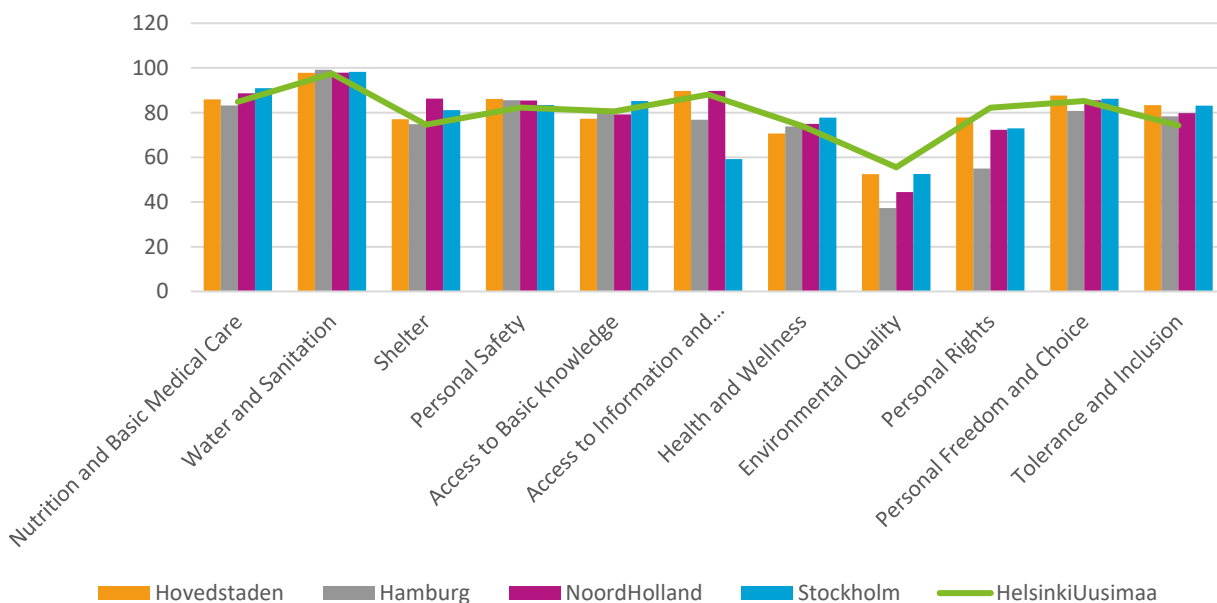
To understand the performance of the similar topic in the peer region, the **European Union Regional Social Progress Index** has been applied for benchmarking as to how well each peer region has made its region socially inclusive and liveable for its citizen.

The European Union Regional Social Progress Index is an aggregate index of 50 social and environmental indicators that capture three



dimensions of social progress and their underlying twelve components. The unit of analysis are the 272 NUTS2 Regions of the European Union. The definition alludes to three broad elements of social progress, referred to as dimensions: Basic Human Needs, Foundations of Wellbeing, and Opportunity. In this comparison, only sub indicators relevant to the topic of citizen city are listed as following:

European Union Regional Social Progress Index 2017



Based on the results, peer regions have all been ranked highly in the RSP index. **Amsterdam (Noord-Holland)** tops the comparison with a score of 80.95. It trumps in the subcategory of shelter which calculates burdensome cost of housing, satisfaction with housing, housing quality and so on. The **Capital Region of Denmark** (Hovedstaden) tops in the sub indicators of **personal safety** measuring crime, safety at night and so on. In addition, it tops the sub-indicators of **access to information and communication** measuring access to ICT services and infrastructure; **personal freedom & choices** and **tolerance & inclusion**.

The **Stockholm county** tops the sub-indicators of **Nutrition & Basic Medical Care, Water & Sanitation, access to basic knowledge and health & wellness**. **Helsinki-Uusimaa** tops the sub-indicator of **environment quality** measuring the CO₂ consumption, the air quality, noise and the land use efficiency and **personal rights** measuring trust in the political system, the legal system and police, the citizen engagement, the quality and accountability of governmental services.

Region	Nutrition & Basic Medical Care	Water & Sanitation	Shelter	Personal Safety	Access to Basic Knowledge	Access to Information & Communications	Health & Wellness	Environmental Quality	Personal Rights	Personal Freedom & Choice	Tolerance & Inclusion	RSI total
Hamburg	83.23	99.18	74.86	85.54	80.95	76.84	73.86	37.33	55.03	80.74	78.37	74.21
Hovedstaden	85.94	97.81	77.04	86.14	77.29	89.72	70.65	52.52	77.84	87.62	83.36	81.67
Helsinki-Uusimaa	84.89	97.48	74.60	82.30	80.54	88.07	74.04	55.56	82.21	85.23	74.26	81.19
Noord-Holland	88.66	97.92	86.29	85.41	79.17	59.71	74.94	44.44	72.29	85.49	79.76	80.95
Stockholm	90.93	98.26	81.12	83.42	85.24	59.19	77.73	52.58	72.94	86.22	83.11	79.9



What can Finland and Helsinki-Uusimaa learn from the Peer regions:

Good practice in water and sanitation from Hamburg, Health and wellness from Stockholm and Tolerance and inclusion from Stockholm



What Can Finland and Helsinki-Uusimaa offer to the peer regions:

Good practices in citizen's access to ICT services, environment quality as to land use efficiency and personal rights as to the trusts in public authorities and citizen engagement.



HOW DO WE REACH THE
NEXT LEVEL? WHAT ARE THE
COMPETITIVE ADVANTAGES
THE PEER REGIONS CAN USE
FOR COOPERATION?

5. CONCLUDING DISCUSSION

How do we reach the next level? What are the competitive advantages the peer regions can benefit from cooperation?

According to the European Commission's post-2020 proposals, smart specialisation is set to continue and will be one of the essential elements of the cohesion policy in driving smart growth and creating regional and local innovation-driven ecosystems in the EU's next political cycle. This includes a proposal that the ERDF may be used to support interregional innovation investments, as set out in the point 5 of the article 3 (so called component 5). It will enable more interregional innovation investments in Europe through the commercialisation and scaling up of interregional innovation projects to encourage the development of European value chain. The support may bring together researchers, business, civil society and public administrations involved in smart specialisation strategies established at national and regional levels. (ETC Art 61)

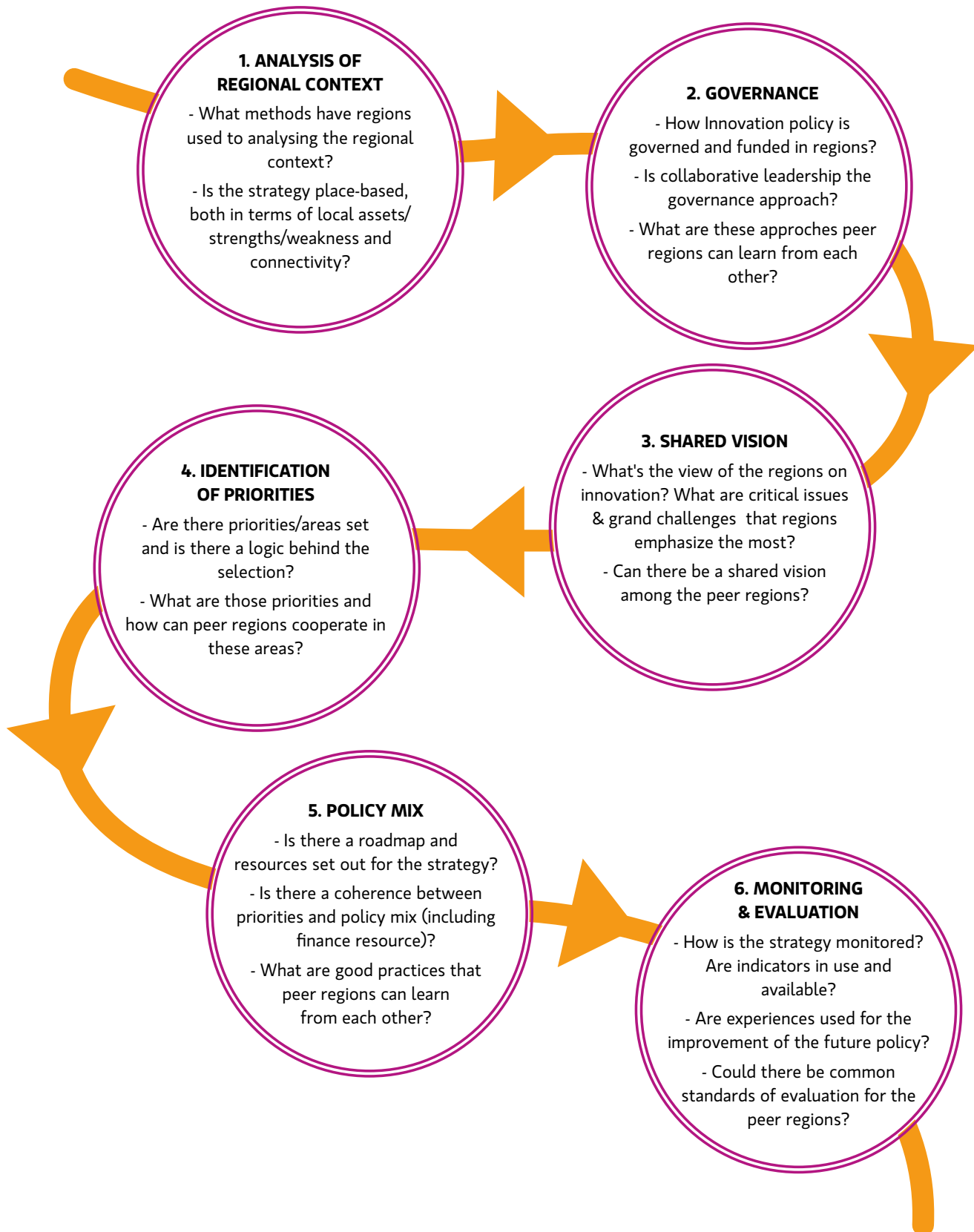
In response to this, many regions will need to update their strategies and further elaborate on

the international and outward dimension of their strategies in order to solve global challenges. The preliminary findings of this report identified a few key areas for the Helsinki-Uusimaa and its peer regions for forming partnerships and actions.

5.1. Cooperation at strategic level – Learning and using RIS3 method for a common vision

In the current programme period, the S3 platform has provided methodological support to European regions in workshops and helped them in assessing quality of RIS3 strategies and identifying complementary areas for cooperation. To intensify the cooperation and define a common vision among the peer regions, such a logic can be applied for them to learn from each other on how a RIS3 and innovation strategy can be carried out and how strategies can be better developed, implemented and monitored.

RIS3 six steps forming peer region cooperation



1. ANALYSIS OF REGIONAL CONTEXT

The first step is to bring together peer regions to share the methods used for reviewing and analysing the regional dynamics and resource. It helps gain an acumen outlook of industries of the regions and their position in the global supply chain.

It is evident that the analysis has been developed locally and in isolation. To cooperate among the peer regions, one could start by sharing the methods of how they have conducted the regional context analysis. Together they can consider how these regional analyses can be developed and provide better opportunities for cross-regional benchmarking and cooperation.

2. SETTING OUT THE RIS3 PROCESS AND GOVERNANCE

The second step in the process of developing a RIS3 strategy is to ensure broad stakeholder involvement and ownership of the strategy. One of the common challenges and priorities for most of the peer regions is to involve the end users including the citizens and SMEs in the regional development process. Peer regions can learn from successful practices that other regions and their actors have undertaken to secure a broad stakeholder involvement.

3. DEVELOPING A SHARED VISION

A clear vision shared by all stakeholders and by different level of authorities is important in guiding a coherent regional priority and thus resulting in an effective investment. To motivate regions to work together, a joint vision and identification among the peer regions need to be defined. The regions can be brought together to review and share the method they have used to develop the regional vision – what grand challenges are regions concerned about? How does the vision come about to tackle these challenges? By creating mutual understanding on different visions in regions, it sets a common ground for a shared goal in the areas that concerns all regions, such as smart & green and attractive Baltic Sea of Northern Europe.

4. IDENTIFYING THE PRIORITIES

An important aspect of the RIS3 prioritisation is to define niches for investment by effectively matching the top-down process of regional programming and a bottom-up process of broad participation. To foster the cooperation among the peer regions, a RIS3 method can be used by the regions to learn about how the priorities are selected, what indicators are used and thus define common areas they could work together.

5. DEFINING AN ACTION PLAN WITH A COHERENT POLICY MIX

According to the RIS3 model, the strategy should be implemented via the roadmap and an indication of the policy delivering instrument. Thus, it will be useful for the peer regions to dive into the question of what action they have to take in implementing the strategy? And what funding can be used to support the cooperation among the regional priority areas to get regions more connected with global value chain, such as European funding or other instrument.

6. MONITORING AND EVALUATING

Monitoring and evaluation is an important part of the programming management and the most difficult one. To improve peer regions' support for innovation, it will be essential for the regions to learn about how they monitor and evaluate the impacts of the strategy. Could there be common standards of evaluation by introducing more relevant indicators and more cost-efficient qualitative evaluation?

If regions commonly follow the steps listed above, they will be able to gain in-depth understanding and trust with each other at the strategical and operational levels. This will result in a roadmap for Big five cooperation that will be prioritized in the future strategies. The partnership will create a greater macro-regional power in tackling globalisation trends and challenges by more targeted investments at regional level, favouring innovation and moving up value chains to stimulate private investments.



5.2. Cooperation at operational level

On the 28th of November 2018 in Helsinki, the peer regions met at the Big Five workshop organised by the Helsinki-Uusimaa Region. At the event, the regions shared their RIS3 achievements and brought forward the areas they would like to cooperate with other regions including:

Urban Cleantech

The action towards the circular economy and closing raw material loops was highlighted by the peer regions as important and urgent topics for future cooperation.

Regions are keen on upscaling of technologies & innovations and concrete actions in:

- Circular building and building sites
- Low carbon solutions for services and everyday life
- Big data to use for smart solutions regarding regional mobility
- Circular procurement

Digitalising Industry

In the Digitalising Industry theme the peer regions emphasized on green mobility and the IoT as main topics for future cooperation. It entails:

- Mobility as a Service (MaaS) and green mobility
- Responsible data cities

Health & Wellness

In the topic of Health and Wellness, the peer regions agreed that to digitalise their healthcare and welfare systems is a common challenge for all. In particular, regions would like to learn about the solutions in:

- Deploying big data and AI in the personalized and tele-medicine.

Citizen City

In the topic of Citizen City, the peer regions emphasised the relevance of involving the citizens to co-create and define the future. Regions are particularly interested in:

- Existing smart city projects and exchanging practices that work
- Responsible data cities

Example Smart City projects in Peer regions



Smart Kalasatama in Helsinki-Uusimaa

Smart Kalasatama is an Urban Living Lab for speeding up smart city development in Helsinki. Smart Kalasatama grows through co-creation and experimentation in close co-operation with stakeholders including residents, companies, city officials and academia.

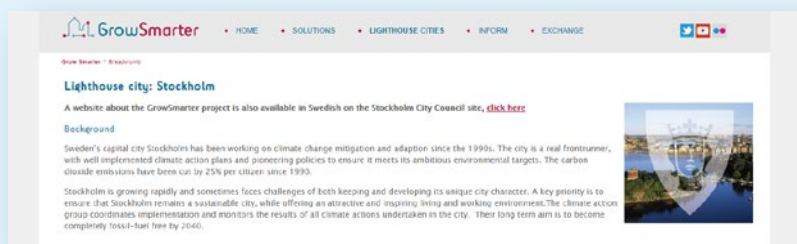
fiksukalasatama.fi



Hamburg smartPORT

As part of Hamburg's Smart City development, Hamburg's smartPORT aims to optimize infrastructure and traffic management systems, improving safety and environment conditions with the help of hardware megacorp Cisco. Sensors and cameras make up the IoT nodes of the network.

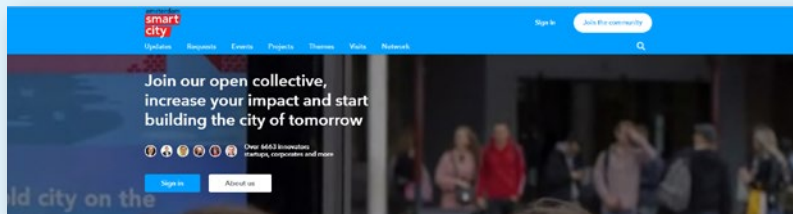
www.hamburg-port-authority.de/en/hpa-360/smartport



Stockholm Smart City

Stockholm Smart City project aims to achieve the City's environmental goals with an efficient cooperation between inhabitants, the private industry, the public sector and many other players. Environmental and information technology are both key priorities in developing a sustainable society. The project includes Green IT, e-services, Fiber network Kista Science City and GrowSmarter project. The GrowSmarter project was one of three projects funded by the European Commission's in the first call for 'Smart cities and communities' under the Horizon 2020 research and innovation programme. GrowSmarter brings together cities and industry to integrate and demonstrate '12 smart city solutions' in energy, infrastructure and transport, to provide other cities with valuable insights on how they work in practice and opportunities for replication.

www.grow-smarter.eu/lighthouse-cities/stockholm



Amsterdam Smart City

Amsterdam Smart City is an innovation platform that brings together proactive citizens, innovative companies, knowledge institutions and public authorities to shape the city of the future. It consists of a public private partnership and an international community. By sharing knowledge and by collaborating, it comes up with innovative solutions for metropolitan issues of a social, economic and ecological nature. The platform sorts issues in the following themes: digital city, energy, mobility, circular city, governance & education, citizens & living and smart city Academy. Concrete projects open for international cooperation includes: circular procurement, Tade Manifesto – clear about data, City-zen - charging stations provide Amsterdam Neuw-West with green electricity and AMdEX – Amsterdam Data Exchange Responsible data sharing.

amsterdamsmartcity.com



FUTURE in Greater Copenhagen

FUTURE project consists of seven visionary case collaborations across the three regions of Greater Copenhagen for the development of the intelligent energy and resource system of the future based on renewable energy sources and recycled materials. The seven cases test and demonstrate different technologies, tools or business models within renewable energy or utilization of resources.

The project starts on February 1 2018 to January 31 2021. It has a total budget of € 6.78 million co-funded by the EU Interreg Regional Border Regional Program. The coordinator of the project is gate 21.

www.gate21.dk/project/future

5.3. Conclusion and next steps

Global challenges – such as climate change, preservation of the Baltic sea, energy and resource, digitalisation and human capital – can only be solved by joint forces and partnerships. The self-assessment of the RIS3 strategy for the Helsinki-Uusimaa Region in this report suggests that the Helsinki-Uusimaa should consider strengthening its outward dimension and international cooperation in its future Smart specialisation strategies.

The neighbouring Nordic and Northern European regions share the same values, have a common border to the Baltic Sea with the Helsinki-Uusimaa Region. They are the natural candidates for long-term partnership and alliance for a sustainable future.

With the findings of this report and the consultation session with the peer regions at the Big Five workshop with the peer regions on 28th November 2018 in Helsinki, the regions have identified their priorities and interests for the future cooperation.

The interests of the Helsinki-Uusimaa falls in the area of urban cleantech, digitalising industry, health and wellness and citizen city; the Stockholm County in the fields of advanced production & materials, green transport and housing and health care and life sciences; the Capital Region of Denmark in the fields of green growth, creative growth, health and welfare technology growth and smart growth; Amsterdam Metropolitan Area in the field of jobs of the future, health, mobility, digital connectivity and circular economy; and the City of Hamburg in the fields of aviation, life sciences, healthcare, logistics, maritime industry, media & IT, creative sector and renewable energies.

By placing the regions and their priorities in a matrix, four common topics of interests emerged:



Green industry & circular economy

- Circular building and building sites
 - Low carbon solutions for services and everyday life
 - Circular procurement
- Activities for UN Sustainable Development Goals



Logistics & urban transport

- Mobility as a Service (MaaS) and green mobility
- Responsible data cities
- Big data to use for smart solutions regarding regional mobility



Health & Wellness

- Deploying big data and AI in the personalised and tele-medicine



Smart City

- Existing smart city projects and exchanging practices that work

Joint interests for future cooperation

	Helsinki-Uusimaa	Stockholm County	Capital Region of Denmark	Amsterdam Metropolitan Area (Noord-Holland)	Free and Hanseatic City of Hamburg
Areas	Urban Cleantech Digitalising Industry Health and Wellness Citizen City	Advanced production and materials Green transport and housing Health, care and life sciences	Green growth Creative growth Health and welfare technology growth Smart growth	Jobs of the future Health Mobility Digital connectivity Circular economy	Aviation Life Science Healthcare Logistics Maritime Industry Media & IT Creative Sector Renewable energies
Construction					
Digital economy	X		X		X
Agri-food				X	
Health	X	X	X	X	X
Creative industries					X
Logistics & transport	X	X	X	X	X
Green industries & circular economy	X	X	X	X	X

To move forward in the formation of a strategic cooperation for the implementation of the RIS3 and innovation strategies, the Helsinki-Uusimaa region and its peer regions are suggested to consider the following steps:

- **To learn and share the experience in implementing the RIS3 and innovation strategy among the peer regions.** How other regions have governed, implemented and monitored their RIS3 strategies? This cooperation can also be utilized to improve their smart specialisation strategies and thus fulfil the criteria and be eligible for interregional innovation investment.

For inspiration, it is worth noting that European Commission has proposed that smart specialisation should be updated and supported by

- up-to-date analysis of bottlenecks for innovation diffusion, including digitalisation
- existence of competent region/national institution or body, responsible for the management of smart specialisation strategy
- monitoring and evaluation tools to measure performance towards the objectives of the strategy
- effective functioning of entrepreneurial discovery process
- actions necessary to improve national or regional research and innovation systems
- actions to manage industrial transition

- measures for international collaboration

- **To seek and define a common vision among the peer regions to tackle future trends and global challenges.** When there is a genuine vision (as opposite to a mission statement), peer regions excel and learn, not because of the top-down political vision, but because the actors and the regions want to. The establishment of a Big Five Partnership aids the peer regions in gaining mutual understanding with each other. The RIS3 self-assessment method can be used for the peer regions to further develop and build capacity of the regional authorities and actors by exchanging best practices in developing, implementing and monitoring the relevant innovations or regional development strategies.
- **To create conditions for implementation of the vision.** Based on a shared picture of the future, peer regions seek to create and contribute to the realisation of that vision. It entails the possibility for a shared political position influencing future EU policy. Furthermore, a common communication channels, such as social media or webpage where materials from the regions will be made available in English.
- **To experiment by taking operational actions.** To move from strategy to implementation, peer regions could use the key areas identified in this report to further define concrete topics for future cooperation. In doing so, regions can form joint teams to prepare common projects and funding (EU funding and programmes or own funding), for implementation in the areas of health and wellness, logistics and urban transport, green industries and circular economy and smart city.

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EVERY GREAT AND
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THINKING IN ORDER TO
FIND IT.”

- Niels Bohr

GLOSSARY

AEB	Amsterdam Economic Board
AI	Artificial Intelligence
AIKO	Alueelliset innovaatiot ja kokeilut (AIKO) -rahoitus Regional innovation and experimental fund
AMdEX	Amsterdam Data Exchange Responsible data sharing
EC	European Commission
EDP	Entrepreneurial Discovery Process
EIP AHA	European Innovation Partnership on Active and Healthy Age-ing
ERDF	European Regional Development Fund
ESF	European Social Fund
ESIF	European Structural and Investment Fund
GDP	Gross domestic product
ICT	Information Communication Technology
SME	Small and Medium Enterprise
JRC	Joint Research Centre
KPIs	Key Performance Indicators
MaaS	Mobility as a Service
MRA	Metropolitan Region of Amsterdam
NHN	Development Company Noord-Holland North
NUTS	Nomenclature of Territorial Units for Statistics
OECD	Organisation for Economic Co-operation and Development
RIS3	Regional Innovation Scoreboard
RIS3	Research and Innovation Strategies for Smart Specialisation
R&I	Research and Innovation
RUFS	Regional Development Plan of Stockholm
6Aika Six City Strategy	Aviomet ja älykkäät palvelut kuutoskaupunkien yhteistyöstrategia Six City Strategy

REFERENCES

European Commission (2012), Guide to Research and Innovation strategies for Smart Specialisations (RIS3), https://ec.europa.eu/regional_policy/sources/docgener/presenta/smart_specialisation/smart_ris3_2012.pdf

Helsinki-Uusimaa Regional Council (2015), Smart Specialisation in the Helsinki-Uusimaa Region, https://www.uudenmaanliitto.fi/files/16166/Smart_Specialisation_in_Helsinki-Uusimaa_Region_-_Research_and_Innovation_Strategy_for_Regional_Development_2014-2020_B_51_-_2015.pdf

Helsinki-Uusimaa Regional Council (2018), The Helsinki-Uusimaa Regional Programme 2.0, [https://www.uudenmaanliitto.fi/files/21428/Helsinki-Uusimaa_regional_programme_2.0_\(A40-2018\).pdf](https://www.uudenmaanliitto.fi/files/21428/Helsinki-Uusimaa_regional_programme_2.0_(A40-2018).pdf)

KPMG (2017), Through the looking glass: A practical path to improving healthcare through transparency, <https://home.kpmg/content/dam/kpmg/nz/pdf/April/through-the-looking-glass-healthcare-transparency-kpmg-nz.pdf>

BEFORE (2008), Establishing a set of indicators for measuring the impact of R&D policies, <http://www.before-project.org>

Financial Times (2018), fDi European Cities and Regions of the Future 2018/19, https://www.wallonie.be/sites/wallonie/files/actualites/fichiers/fdi-european-cities-and-regions-of-the-future-2018_19.pdf

OECD (2017), OECD Science, Technology and Industry Scoreboard 2017- the digital transformation, http://observatori.iec.cat/wp-content/uploads/2018/01/OECD_STI_Scoreboard2017.pdf

WWF (2017), The Global Cleantech Innovation Index 2017, <https://wwf.fi/mediabank/9906.pdf>

Polverari L and Dozhdeva V (2018), From Smart Growth to Smart Europe: Learning from Smart Specialisation Delivery, IQ-Net Thematic Paper 43(2), European Policies Research Centre Delft

Tobias Gössling & Roel Rutten (2007), Innovation in Regions, Pages 253-270, Published online: 02 Feb 2007

VTT ja Technopolis (2016), Osaamispääoman hyödyntäminen ja vaikuttavampi julkisten T&K-toimivarojen kohdentaminen, Janne Lehenkari, Antti Pelkonen, Mika Nieminen, Torsti Loikkanen (VTT), Erik Arnold (Technopolis Group) ja Terttu Luukkonen

NORDREGIO (2013), Implementing the Concept of the Smart Specialisation in the Nordic Countries, Maria Lindqvist, Lise Smed Olsen, Liisa Perjo och Haukur Claessen

Global Innovation Index 2018, 11th edition, edited by Soumitra Dutta, Bruno Lanvin and Sacha Wunsch-Vicent, Cornell University, INSEAD and the World Intellectual Property Organisation, 2018.

European Commission (2018), Regional Innovation Scoreboard 2018, <https://ec.europa.eu/docsroom/documents/33147>

European Commission (2016), The EU Regional Competitiveness Index 2016, Paola Annoni, Lewis Dijkstra and Nadia Gargano, https://ec.europa.eu/regional_policy/en/information/publications/working-papers/2017/the-eu-regional-competitiveness-index-2016

Free and Hanseatic City of Hamburg, Ministry of Economics, Transport and Innovation (2016), Hamburg's Cluster Policy, Hamburg.

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