

## **Swedish innovation strategies at national and regional level**

KTH, 2017-06-01



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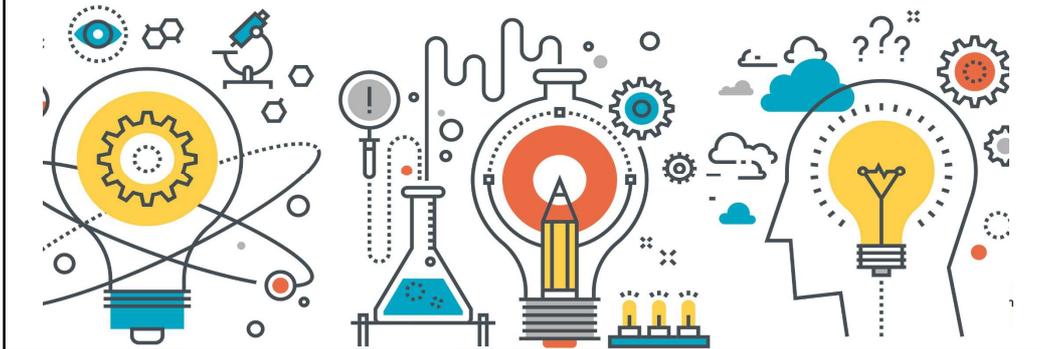


## **The governmental investigation on innovation and entrepreneurship**



# Entreprenörskap i det tjugoförsta århundradet

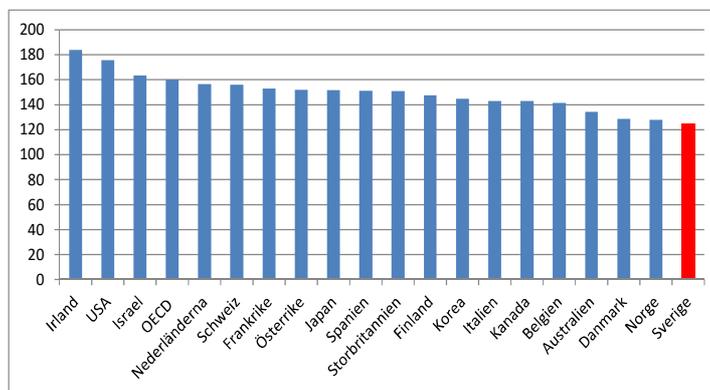
(SOU 2016:72)



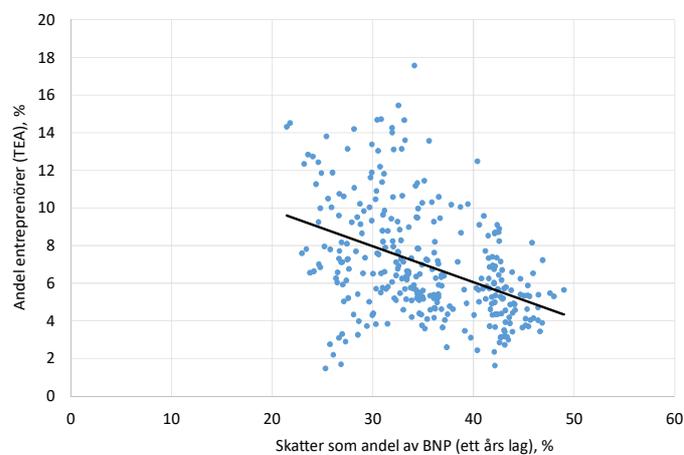
## Framework conditions

- Labor market
- Social insurance
- Access to competence
- Competition and productivity
- Legal frameworks
- Housing and infrastructure
- Taxes

### High education income in comparison to average income level



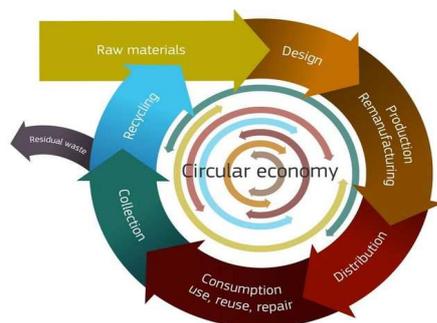
### Taxes as a share of GDP and entrepreneurship, 2001-2015 in innovation driven countries



## Meeting social challenges

- Focus on areas where Sweden has a global competitiveness
- Aging population, increased privatisation, need for research innovation and digitalisation in health and hospital care
- Global migration, flows of refugees and urbanisation
- Increasing ecological footprints, global pollution, sharing economy and circularity

## A circular economy from a broad perspective



**Vs**

Linear economy



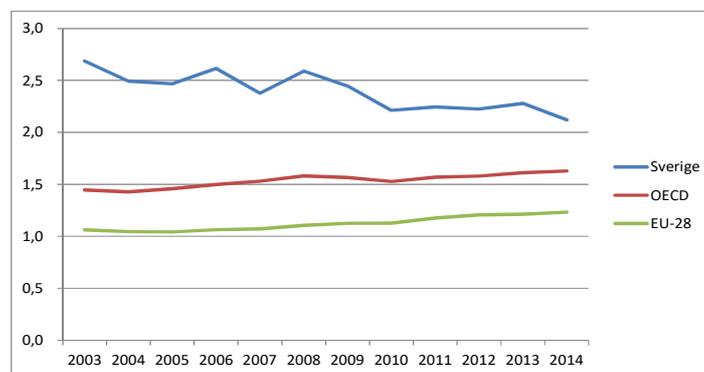
## Need for initiatives

- Incentives for innovation in health and hospital care,
  - E.g. result based funding, evaluations and access to open data
- New ways into Swedish society
  - E.g.. fast track at universities and HEI, exchange of experience (e.g. Germany), innovation competitions, entrepreneur brokers, access to second hand rental apartments
- More climate friendly and resource efficient production
  - Harmonised frameworks, evaluation and monitoring, producer responsibility regulations, stimulate climate friendly support
  - Incentives for a more circular economy, e.g. taxes, research, testbeds, industrial symbiosis, sharing of knowledge
  - More transparent national priorities
- Public procurement, innovation competitions and crowd-sourcing

## Threats to research and innovation in Sweden

- Top-level ranking in innovation index – but more input than output (economic effects)!
- Low ranking in the PISA-study
- Lack of competence in the business sector
- Ambitious investments in the last research bills (innovation offices, strategic research programs, strategic innovation programs, development of Swedish research institutes, etc) but uncertain effects on research quality and cooperation according to OECD
- Private investments in R&D are going down

## Private research as a share of GDP



## Need to focus quality in research and education

- Develop research and education in higher education (competition, leadership, research funding, international experts)
- Develop access to competence (fair judgement of national exams, more digital competence development, life-long-learning, facilitate the potential to attract global talents)
- Increased collaboration between academia, business and public sector (national programs, mobility, campus based meeting places, access to innovation advisory services, support to use testbeds, etc)
- Other suggestions (R&D-deduction for private firms, support in patent processes)

## Public support to entrepreneurship and innovation

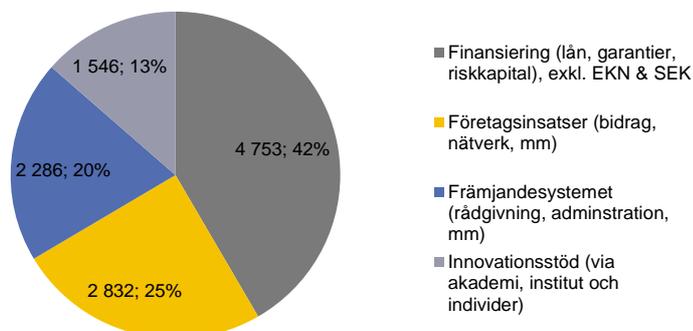
- Fragmented with many actors and overlapping initiatives
- Limited coordination – pipelines in agencies and ministries, unclear division of responsibility between national and regional level
- Weaknesses in monitoring and evaluation – measuring societal effects, weak goal formulations
- Unclear volumes - depending on definitions!

## Business support to various policy areas (about SEK 38,2 billions)

Policy area	MSEK	Share
Labor market policy	13 790	36 %
EU funding	10 463	27 %
Business development	5 222	4 %
Research and innovation policy	3 293	9 %
Farming etc	2 287	6 %
Regional business support	1 624	4 %
International policy	770	2 %
Environment and climate policy	397	1 %
Cultural policy	316	1 %
<b>Total</b>	<b>38 161</b>	

Source: Data 2014-2015

## Different types of growth support initiatives (total about SEK 11,3 billions)



## More efficient public support systems

- Better national co-ordination
- More transparent regional responsibilities and access to resources
- Develop the prerequisites for better evaluations (goal setting, measuring societal effects, stronger evaluation capacity, consolidate funding)
- Develop access to digital information (verksamt.se)
- Support m innovative public procurement
- Focus early stage funding for innovation

## The County of Stockholm

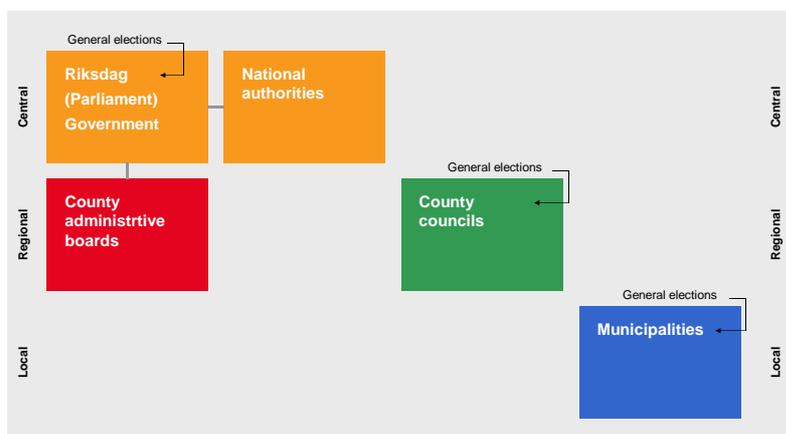


### Facts about Stockholm County

- 2 percent of Sweden's area
- Most densely populated county in Sweden with over 2,1 million inhabitants
- 20 percent of Sweden's population, growing with 30,000–40,000 new inhabitants per year
- 30 percent of Sweden's gross domestic product
- 30 percent of new businesses
- Half of the county consists of forest
- Archipelago with 30,000 islands



## The County Administrative Board's position in the Swedish public authority system

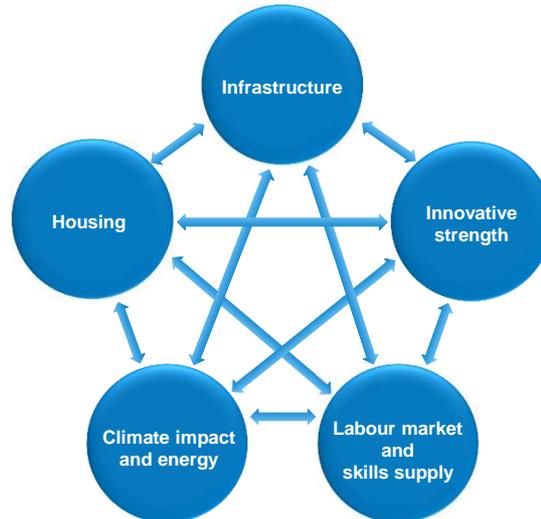


### Government representatives in Stockholm County

The County Administrative Board's charge:

- ensure that national policies and national goals have a regional impact
- coordinate state activities
- follow and promote the county's development ("growth responsibility")

## Five crucial development areas for the Stockholm region



### Functional housing market

- A rapid increase in the population and insufficient construction of homes have led to a housing shortage.
- Up to 20,000 new homes need to be built each year. Flexible solutions for a wider range of student accommodation are urgently required.
- This also necessitates considerable expansion and improvement of the infrastructure.



## Functional infrastructure

- The traffic and transport system has reached its maximum capacity.
- Major investments must be made in water supply, sewage systems and waste management.
- The expansion of broadband – particularly in rural areas – is important.
- Expansion must occur in parallel with the planning of new housing and workplaces, and it must take place in an eco-friendly way.



## Sustainable environmental & energy development

- Key areas comprise reduced climate impact, secured supply of drinking water and stimulated development of environmental technology.
- Using the innovative ability of the region we can both develop the business sector and lead the environmental field.



## Functional labour market & skills supply

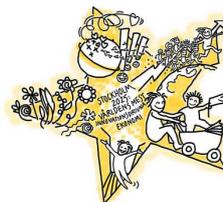
- The need for a highly qualified workforce is rising rapidly.
- A secured skills supply, better matching and faster establishment in the labour market are prioritised measures.



## Greater innovative strength

- Stockholm County is described as the most knowledge-intensive region outside the USA.
- But international competition is intense and measures to promote innovation are required – especially to secure cutting-edge expertise.

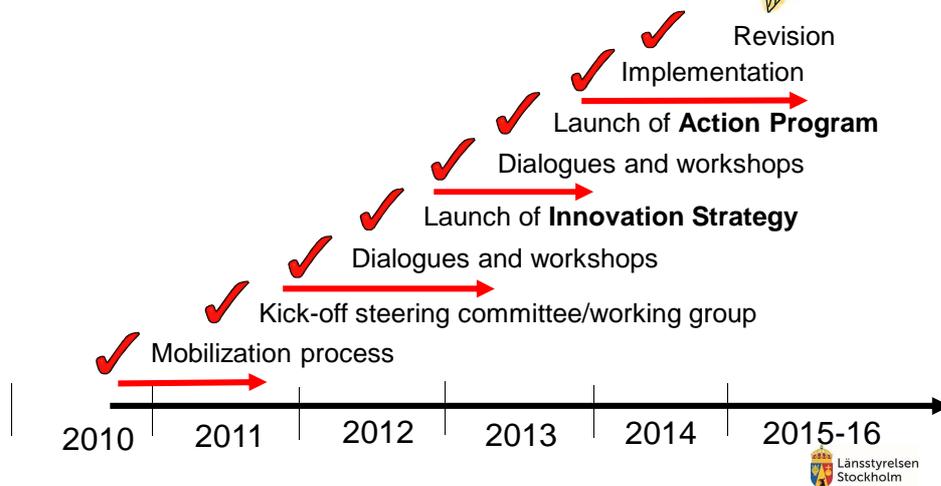
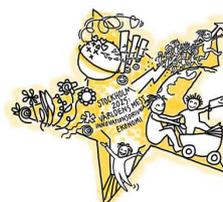




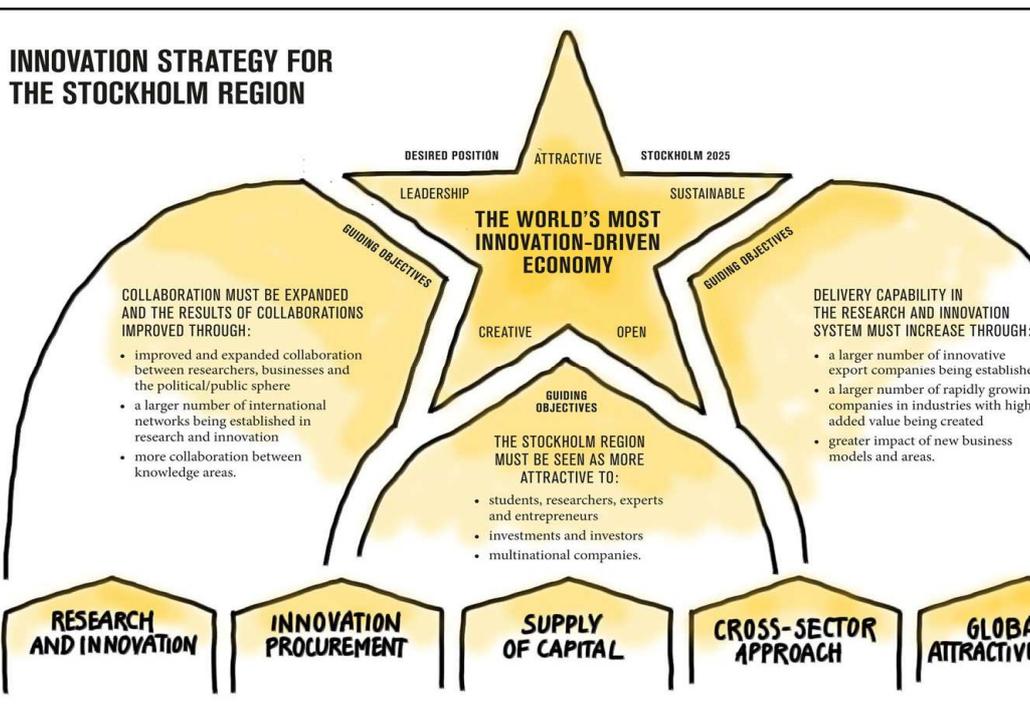
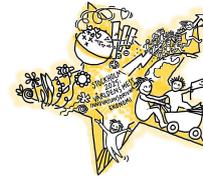
## Innovation Stockholm Regional Innovation Strategy



### A Regional Mobilisation Process

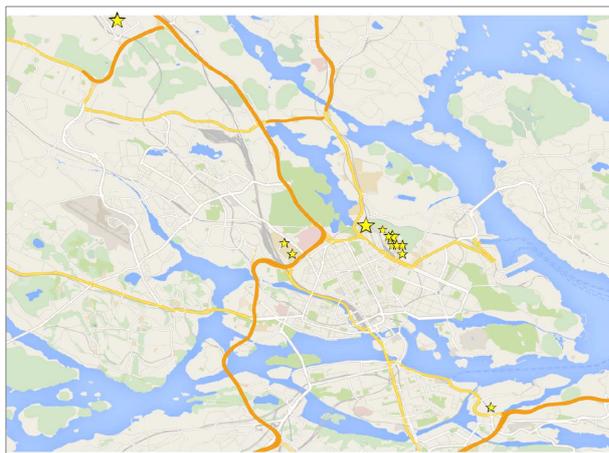


# Strategic Triple Helix Partnership



## Mapping of research and innovation infrastructure in Stockholm

90 laboratories, test & demo sites in SU, KI, KTH och RISE

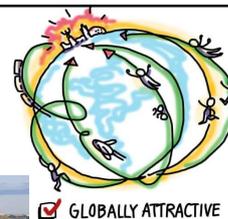


### Example - KTH

- 1 Electrum Lab
- 2 SciLifeLab
- 3 PDC Center for
- 4 Odqvistlaboratoriet
- 5 Sjöstadsverket  
Nano Lab, AlbaNova Nanofabrication facility / Myfab
- 6 AlbaNova Laser Laboratory
- 7 AlbaNova Mesoscopic Measurements Lab
- 8 Lab
- 9 VIC Visualization Studio
- SAPC - Centrum för flyg och rymdfysiologi / Swedish Aerospace
- 10 Physiology Center
- 11 XPRES Lab
- 12 KTH Transport Labs
- 13 Bygghälsa Mätlaboratoriet ABE  
Highway and Railway Engineering Laboratory (Väg- och bantekniklaboratoriet)
- 14 bantekniklaboratoriet
- 15 Greenhous Labs



## Home page for talent attraction

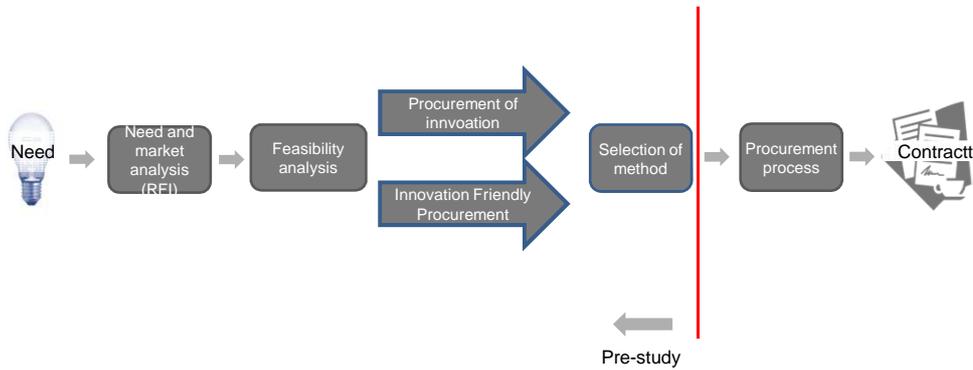
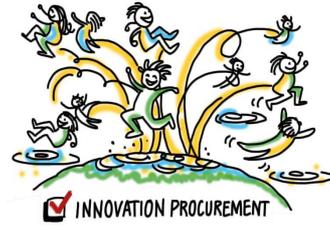


Are you thinking about moving to Stockholm? Wonderful, we'd love to have you here! And to make your relocation easier, we've gathered most of the information you need to consider before you pack your bags.

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## Handbook for innovation procurement



## OpenLab



- Center for students, teachers and researchers from KI, KTH, SU och SH working with challenges provided by Stockholm city, the County Council or the County Administrative Board ✓ CROSS-SECTOR APPROACH
- Develop concepts of solutions to complex societal challenges for a growing region by inter-disciplinary collaboration

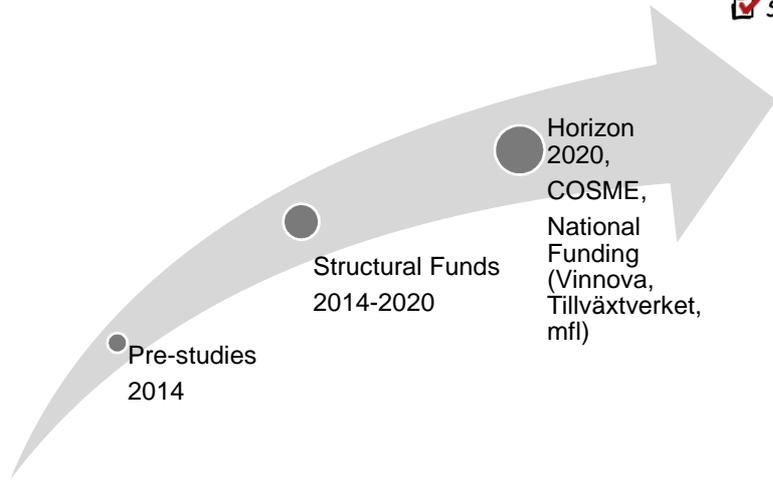


### New creative locations in January 2015

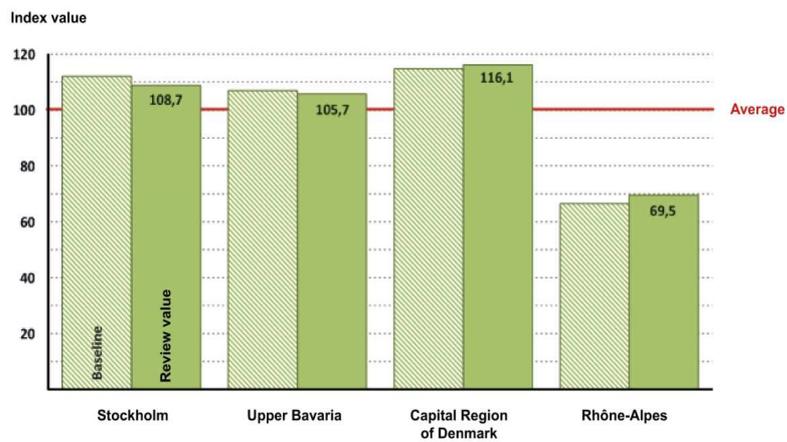
- 1300 kvm creative, learning environment and meeting place, supporting innovative solutions for regional challenges
- Unique café concept
- Creative environment for students, researchers and business
- Ateljéer/studios for prototyping
- Conference area
- Exhibitions



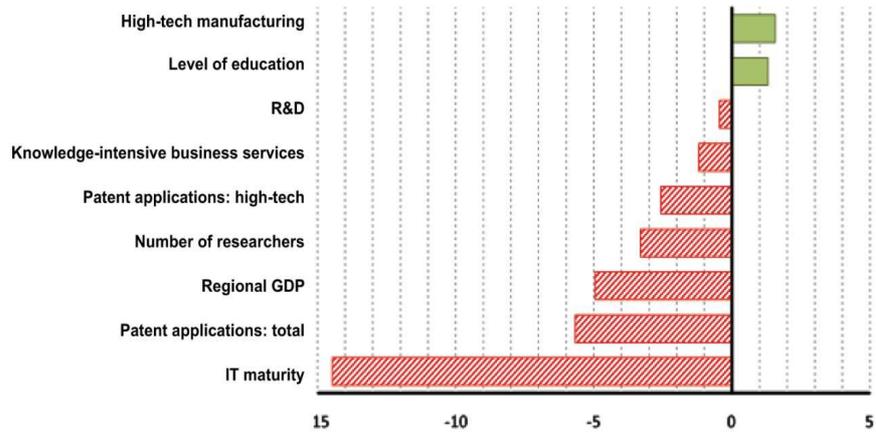
## EU-funding



## Innovation index values of the four regions: baseline and review



## Changes in Stockholm compared to baseline



## Process for smart specialisation

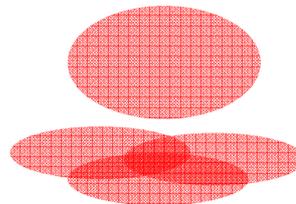
## EU Structural Funds in Stockholm

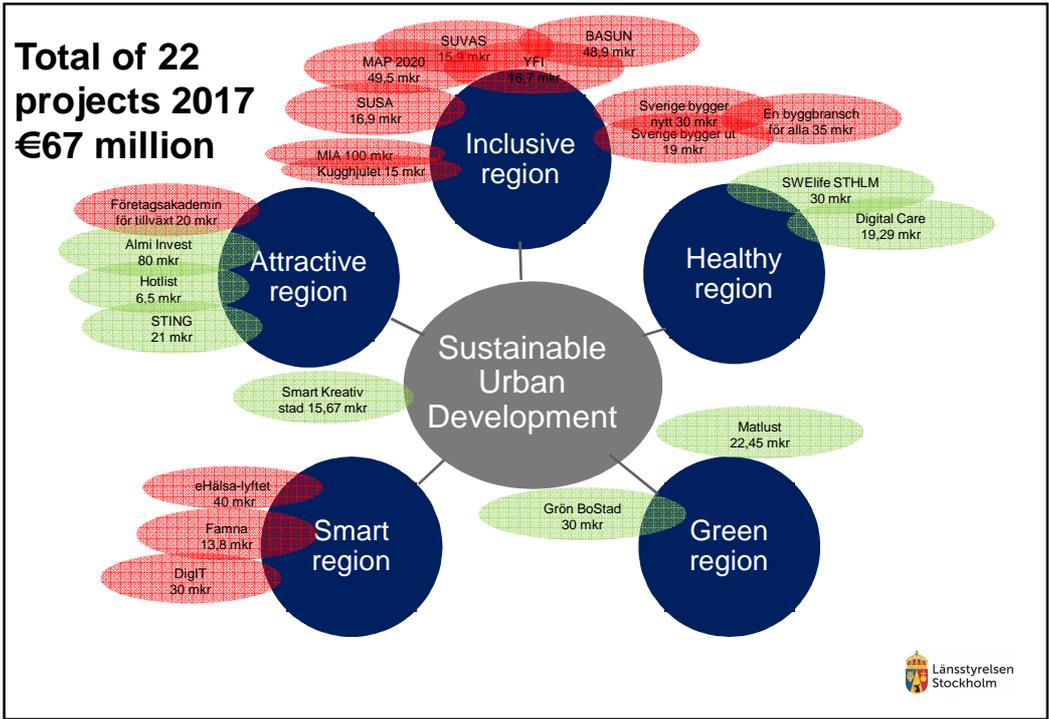
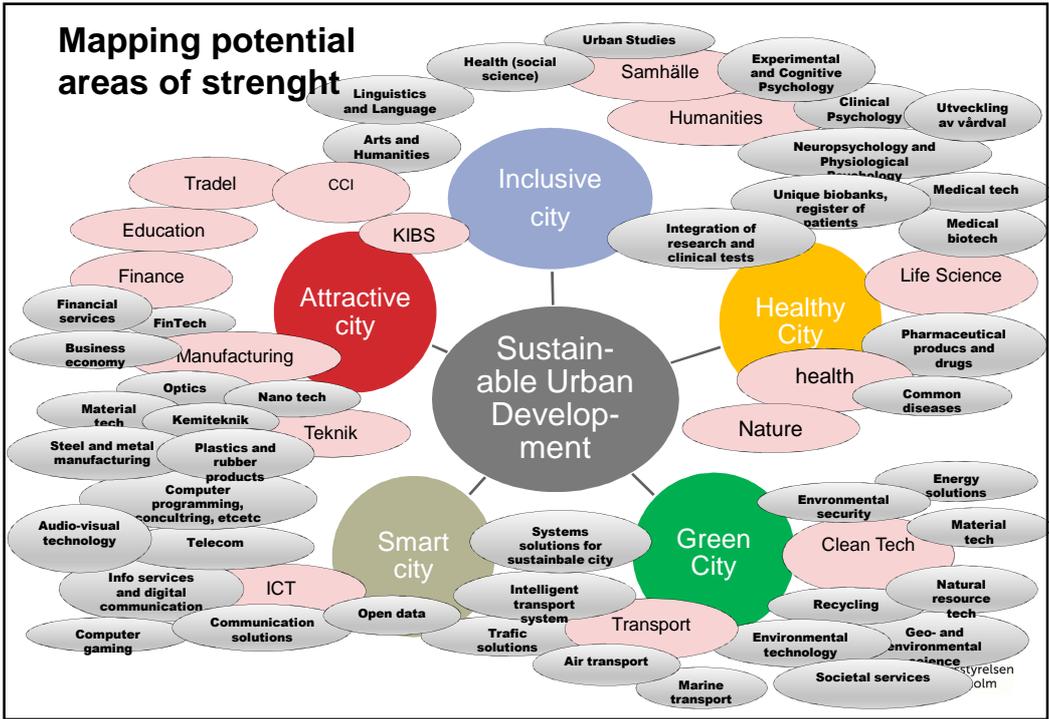
- Budget European Regional Funds (ERDF)
  - About 300 miljoner SEK (€30 million) 2014-2020
  - One priority area: Sustainable Urban development
    - TG 1 Research, technology and innovation (45%)
    - TG 3 Competitive SME (40%)
    - TG 4 Low carbon economy (15%)
- Budget European Social Funds (ESF)
  - PA 1 (Competence) 463 miljoner SEK (about €46 millions)
  - PA 2 (Increase transfer to work) 622 miljoner SEK (about €62 millions)



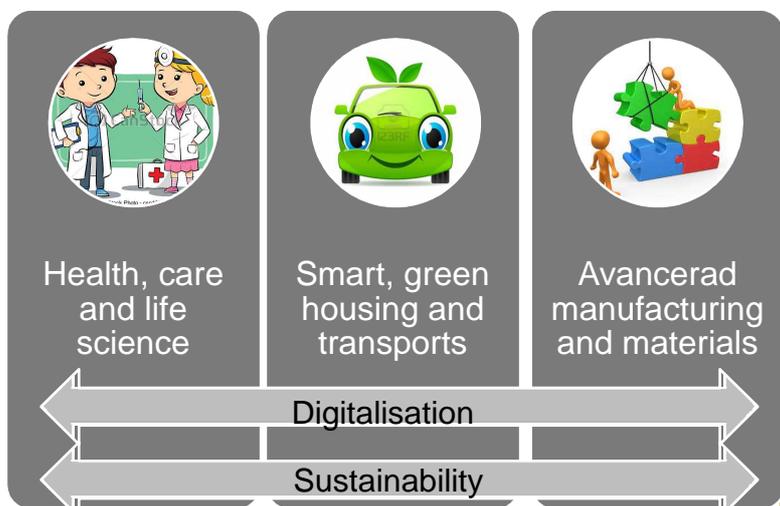
## Main principles for implementation

- Concentration of resources
- Existing companies and employees in focus
- Collaboration between funds
- "Stockholm Model"
  - Large collaborative projects between strategic partners (preferably interdisciplinary initiatives)
  - A strategic effort with several participating projects, contributing to regional learning





## On-going discussion on smart specialisation



## Meeting several national collaboration programs

- Next generation travel and transport
- Smart cities
- Life Science
- Connected industry and new materials
- Circular and bio-based economy

For more information contact:  
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**Thank you for your attention!**

