

High-level Seminar on Public-Private Partnership in Innovation Activities

**Minsk
December 4, 2014**

Lars-Gunnar Larsson

Swedish Innovation Policy



The analysis



The strategy



The decision
(The Swedish
Government Research
and Innovation Bill 2012)

Important developments during 2012-2013

National Innovation strategy

- 2020 time horizon
- Broad definition of innovation
- Focus on societal challenges
- Holistic approach to innovation and innovation support
- Innovation as a driver of national attractiveness and competitiveness

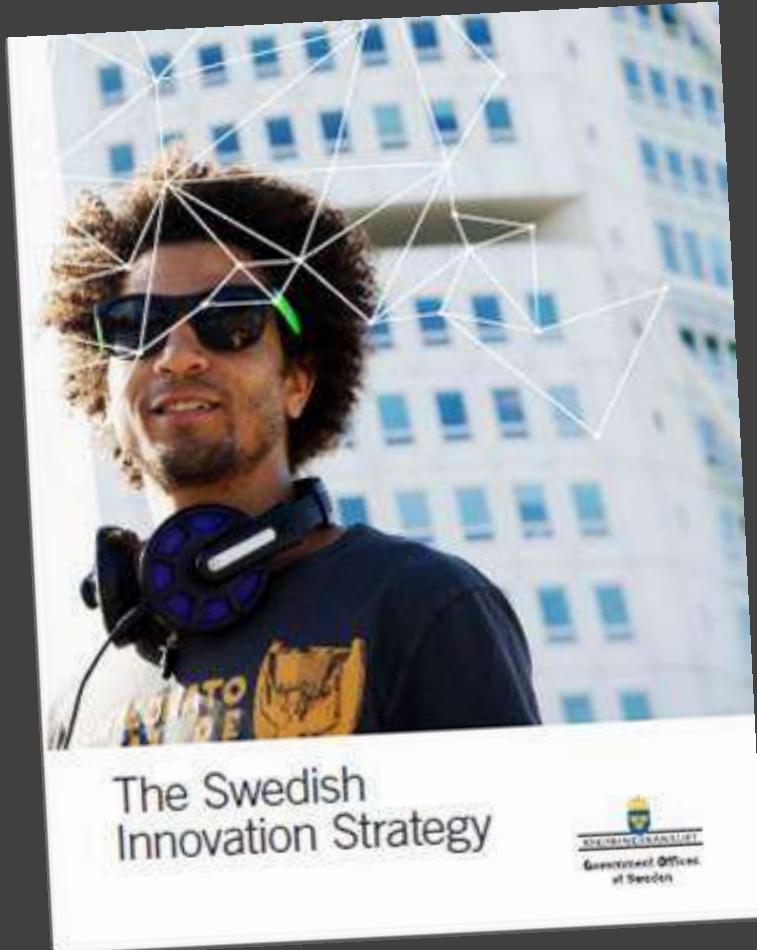




Photo: Chuck Coker (www.flickr.com/photos/caveman_92223/)

No innovation,
no long-term competitiveness

VINNOVA – Sweden´s Innovation Agency

VINNOVA in brief

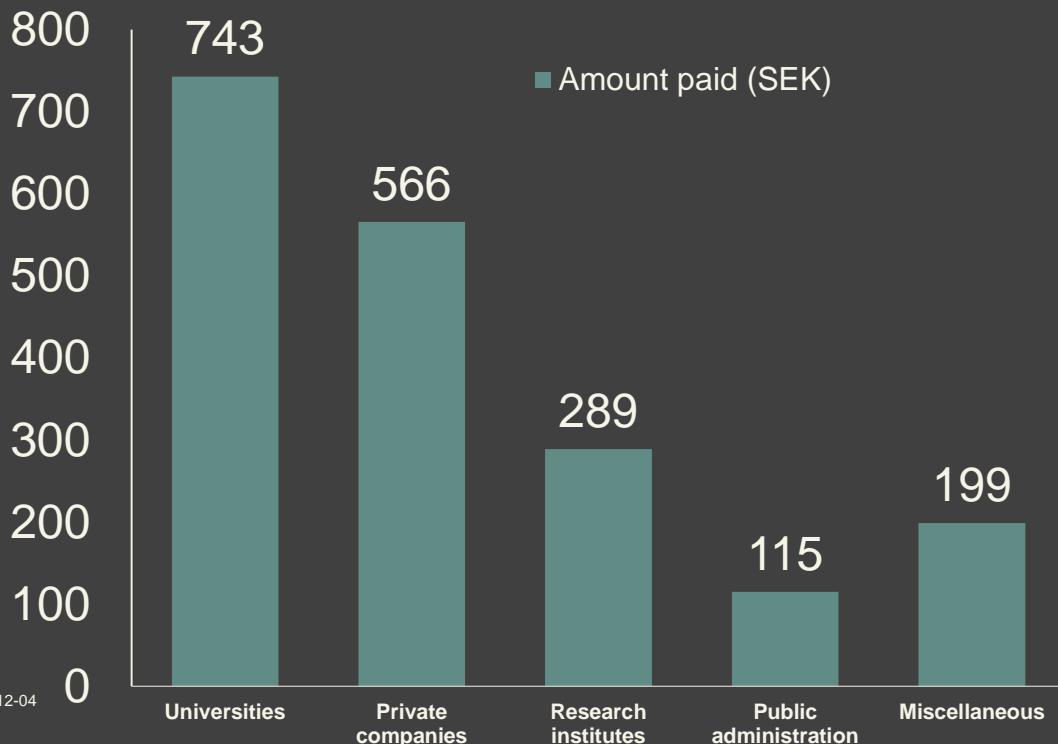
- A Swedish Governmental Agency working under the Ministry of Enterprise
- During 2014 the funds for Research and Development are SEK 2,8 bn (Euro 300 m)
- National responsibility for providing information and advice regarding the EU Horizon 2020
- About 200 people work at VINNOVA's offices in Stockholm and Brussels
- Our Director General is Charlotte Brogren



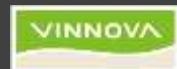
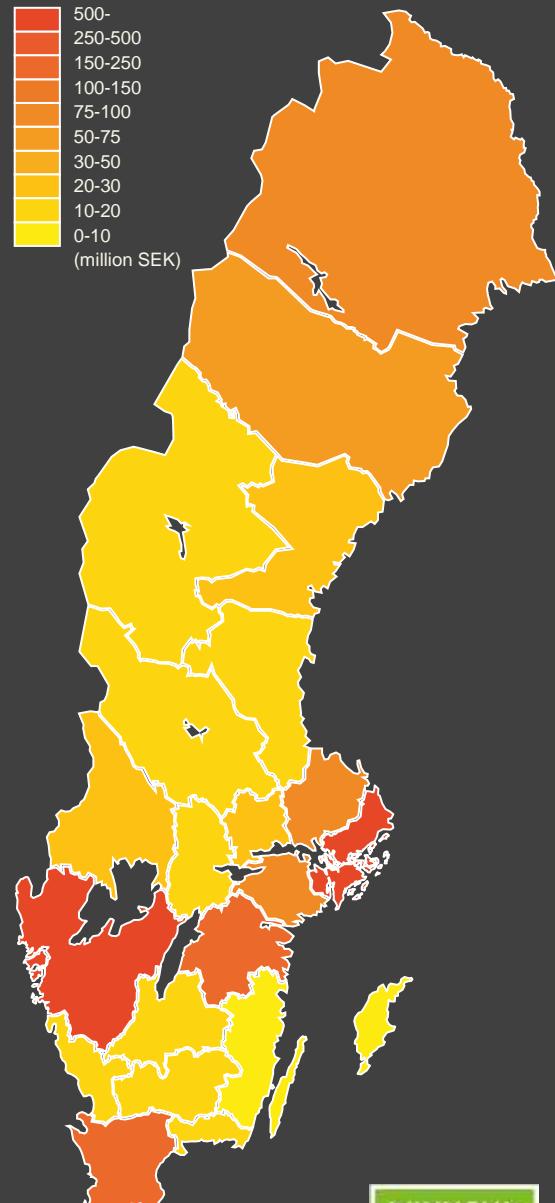
2204

million kronor invested by VINNOVA
in Swedish R&I in 2012

DISTRIBUTION BY SECTOR



2014-12-04



Swedish research and innovation in figures

118



Total
Swedish
R&D¹

(billion SEK)

32,9

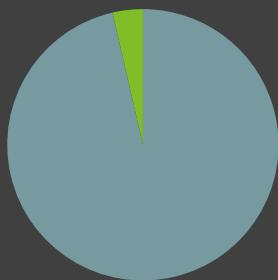


Total
government
R&D²

2,4

VINNOVA's
grants to
R&I³

Equivalent to 3.4% of
Sweden's GDP for 2011
invested in R&D.⁴



Innovation Union Scoreboard 2012

1. Sweden
2. Denmark
3. Germany
4. Finland
5. Luxemburg
6. Netherlands
7. Belgium
8. Great Britain
9. Ireland
10. Austria

World Bank Economy Index 2012

1. Sweden
2. Finland
3. Denmark
4. Netherlands
5. Norway
6. New Zealand
7. Canada
8. Germany
9. Australia
10. Switzerland

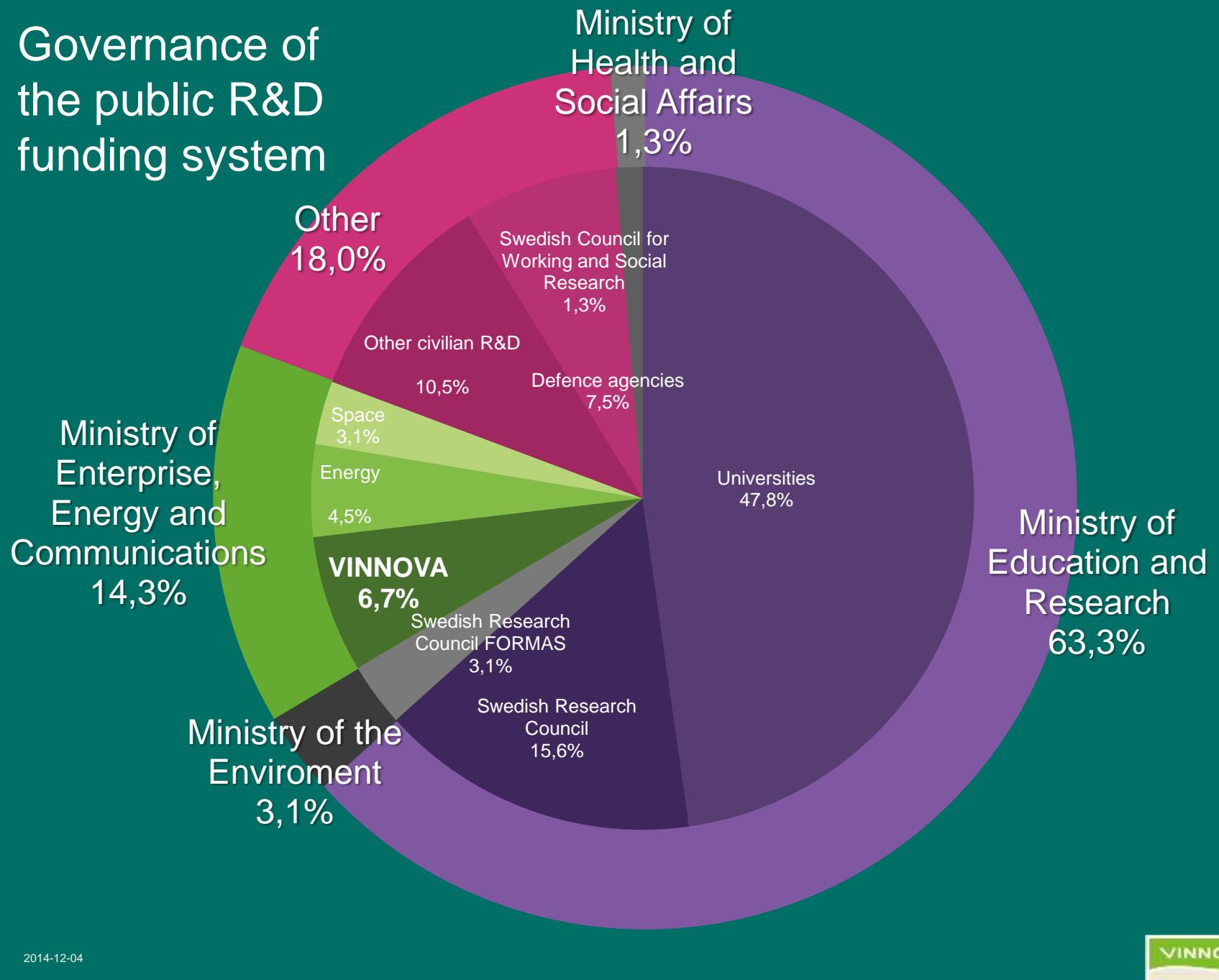
3,4%

of GDP equivalent to annual R&D
investment in Sweden

Sources: ¹SCB (forecast for 2011) ²SCB (forecast for 2014)

³VINNOVA (2013) ⁴SCB (forecast for 2011)

Governance of the public R&D funding system



Key principles of operation

- for increased impacts of research
- broad innovation perspective; goods, services, processes, etc.
- confidence in the actors to define their own development strategies
- we develop and test new forms for investments
- we develop and strengthen beneficial international cooperation



Connect, Catalyze and Stimulate

Three roles

Funding Research &
Innovation

National EU
Contact
Agency

Expert
Agency



Key Strategic Changes

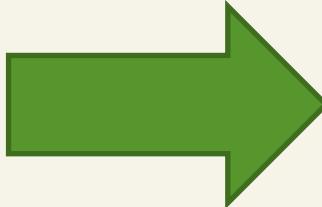
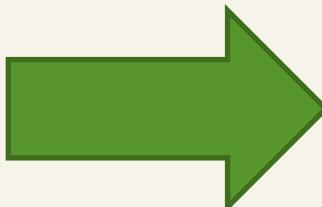
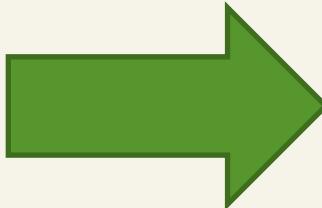
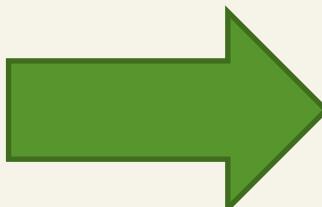
From...

Thematic
approaches

Prescriptive project
design

Large, up front
funding

VINNOVA focus



...to more

"Bottom up" – Actors
required to prioritize

Output focus – Less
restrictions on project
implementations

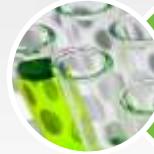
Competitive stage gate
approach

Increased systems
focus – Team Sweden

X



Sectors



Research fields



Technologies



Types of Actors



Nations

Collaboration is the basis for all
VINNOVA funding



Key features of VINNOVA programs

- Funding through grants
- Main funding mechanism at VINNOVA
- Program period of 3-10 years
- One or several open "call-for-proposals"
- Project requirements:
 - Industry-relevant
 - Industry-academy-research institute-public sector partners
 - Co-funding, VINNOVA max. 50%
 - 1-10 years projects
 - Level of funding appr. € 0.3 to 10 M per project

System innovation

Collaboration
programs

International
collaborations

Challenge driven
innovation

Capacity building

Innovative SME

Knowledge triangle

Individuals and
environments

Innovative public
sector

Know how building

Health

Services and ICT

Transport and
Sustainability

Production and
working life

System innovation

Collaboration
programs

International
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Challenge driven
innovation

Strategic Innovation Areas

Capacity building

Innovative SME

Knowledge transfer

Individuals and
environments

Innovative public
sector

Know how building

Health

and ICT

Transport and
Sustainability

Production and
working life

VINNVÄXT

Strategic innovation areas

*- a framework for strong
Partnership Programs*

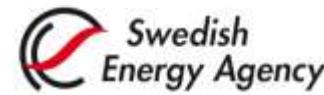


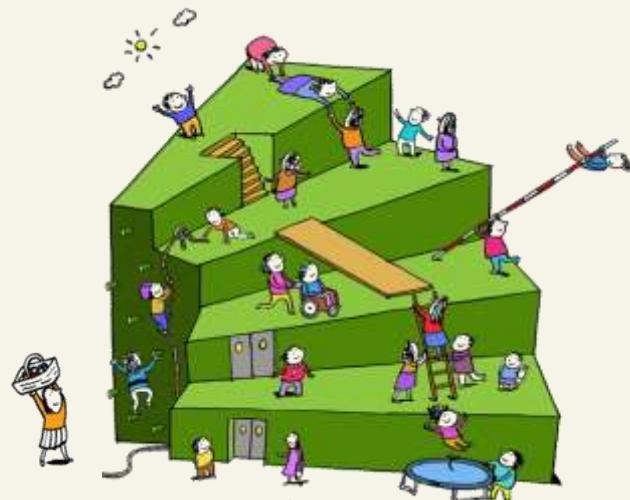
A national effort in two parts

- **Strategic innovation agendas** where actors within an area form a vision, goals and strategies in collaboration.
- **Strategic innovation programmes** to realize the visions and goals of the strategic innovation agendas.

Strategic Innovation Programmes

With support from:





- **Renewal** of Swedish areas of strength.
- Stimulate new value chains and renewal of existing **value chains**.
- Strengthen collaboration for competence, knowledge and technology **between business areas**.

Program Principles Strategic Innovation Programs

Business, the public sector and academia are joining forces for investments in research, development and innovation.



Better co-ordination and co-operation between:

- Government agencies' efforts within research and innovation
- Corporate research and innovation
- Research and innovation milieus
- Public funding
- EU funding

Long-term investment

Ambition at
least 10 years

15-20 strategic
innovation programs

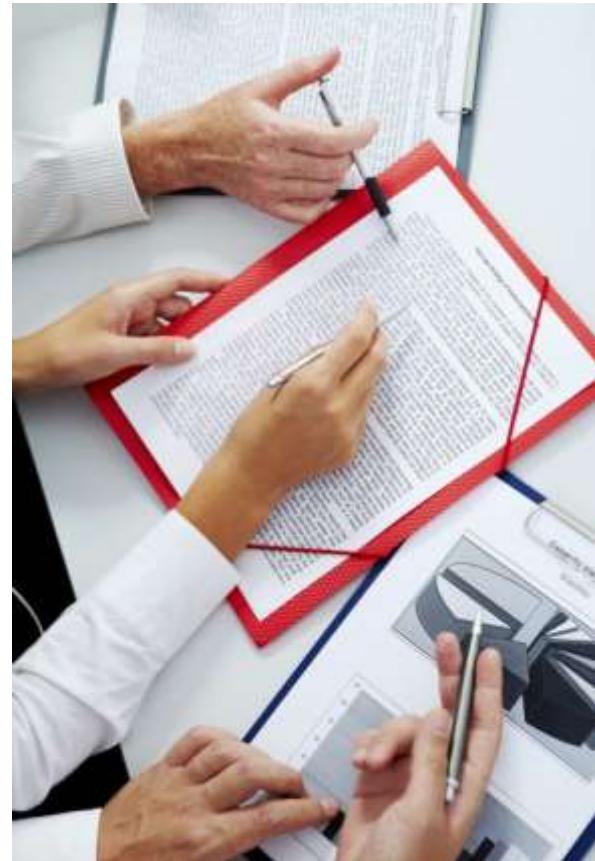
500 million
SEK/year in
co-financing

Call for proposals for establishing a Strategic Innovation Programme

- To be based on an innovation agenda that has the support of actors within the area
- EURO 2-6 million per year and programme
- Partner contribution of the same size minimum
- Initial funding until 2016, with the intent to extend
- Next call for proposals closes September 2014

Criteria for assessment

- **Potential** – to implement the strategy for an innovation area
- **Feasibility** – management's qualifications and plan for undertaking effective programme work
- **Actor consortia** – collaborative effort and interdisciplinary co-operation



11 Strategic Innovation Programmes

- ✓ **LIGHTer (lightweight)**
- ✓ **Metallic materials**
- ✓ **Mining and metal extraction**
- ✓ **Produktion2030**
- ✓ **PiiA (Process Industrial IT and Automation)**
- ✓ **Innovair (aeronautics)**
- ✓ **GRAPHENE**
- ✓ **ICT Electronic Components and Systems (ICT ECS)**
- ✓ **Internet of Things**
- ✓ **New bio-based materials, products and services**
- ✓ **Endemic diseases**



VINNOVÄXT

*A programme renewing and
moving Sweden ahead*

Regional growth through dynamic innovation systems

Lars-Gunnar Larsson



VINNVÄXT's mission

VINNVÄXT's mission is to promote sustainable regional growth by developing internationally competitive research and innovation milieus in specific growth fields.

VINNVÄXT also wants to catalyze a broader transformational change in society, towards innovation-driven sustainable growth in the Swedish regions.

This will be achieved by funding institutional development and needs-driven R&D to strengthen the cutting-edge competence of the various milieus. There will also be strategic efforts aimed at developing innovation systems.

VINNVÄXT IN BRIEF

- A competition which rewards the best submissions
- Initiatives receive up to EUR 1 million per year
- Focus is on a region's particular areas of strength
- Companies, researchers and political/public
- Open innovation
- Funding provided for 10 years, up to 16 years
- Seminars, coaching, networking, experience-sharing
- Long-term results in regions
- Infrastructure for innovation and sustainable growth
- Flexible financing over time initiatives
- Green growth and societal benefits

Innovation, renewal, sustainable growth – “earn money rather than save money”



Three concepts:

Sustainable growth:

Long-term economic growth which is also socially and ecologically sustainable

Innovation systems:

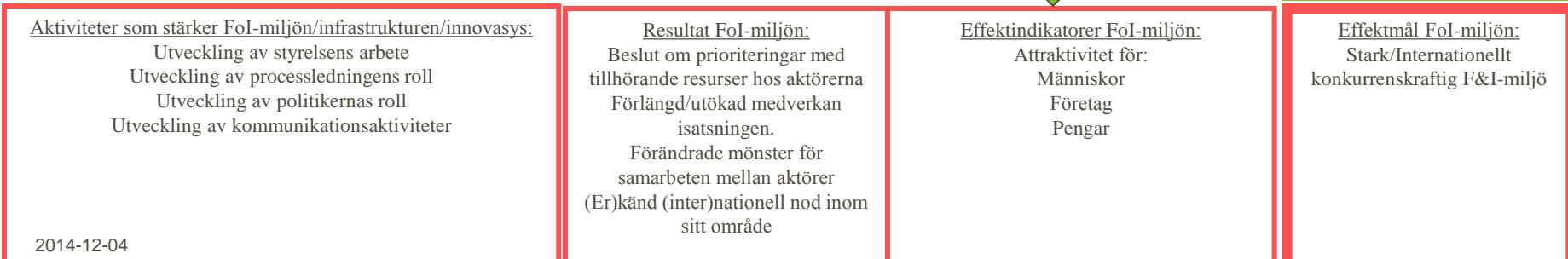
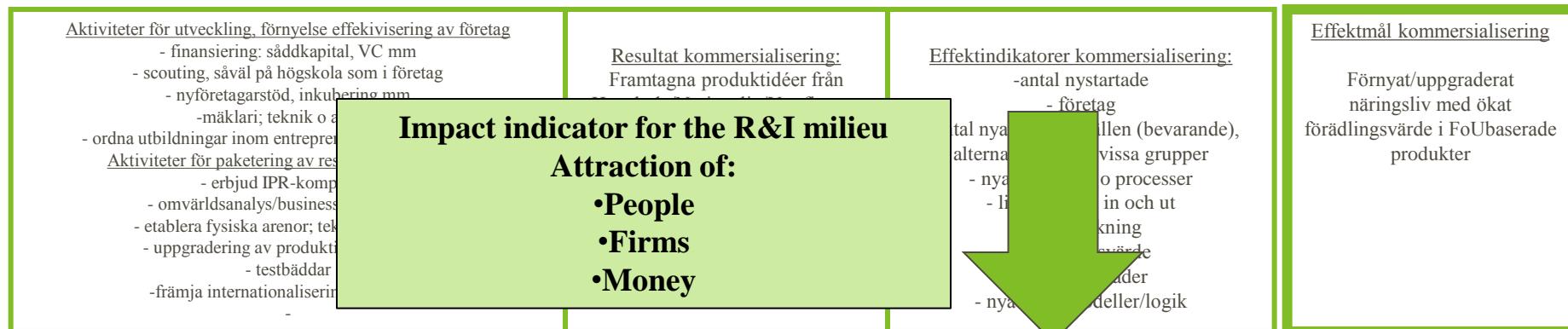
Actors in business, research and politics who generate and use new technology and new knowledge in collaboration, for sustainable growth

Triple Helix:

Collaboration and coordination between business, research and politicians/society

Impact analysis

VINNVÄXT's mission is to promote sustainable regional growth by developing internationally competitive research and innovation milieus in specific growth fields. .



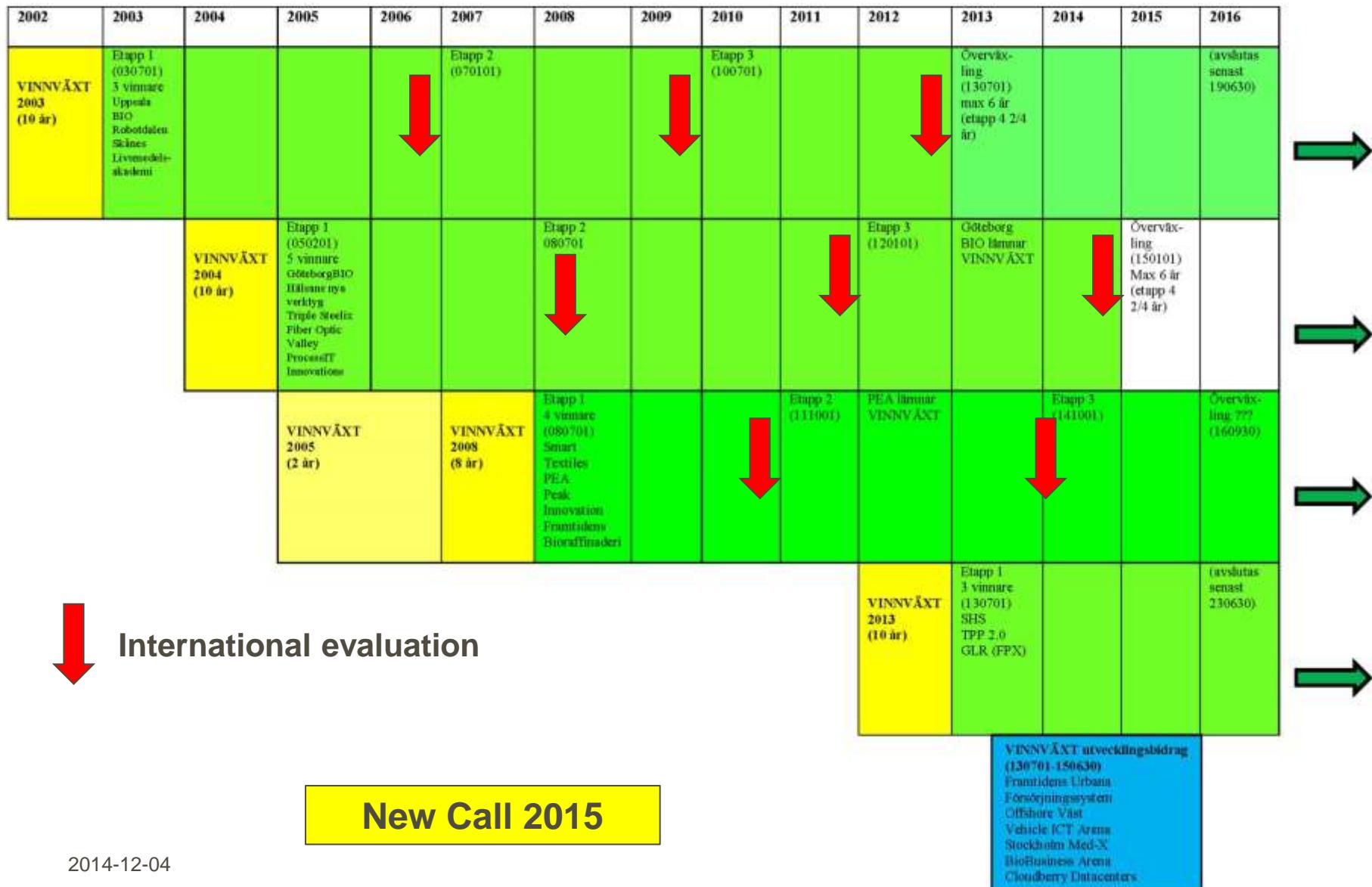
National initiative levering regional innovation processes



Strategy

- Support the development of strong research and innovation environments
- Stimulate Triple Helix based regional partnerships to enhance the innovation system in Swedish functional regions to an international level within specific areas of strength
- Be a catalyst for coordination of resources

VINNVÄXT 2001 – 2023 - tillväxt i regioner genom dynamiska innovationssystem



Results

Qualitative results and effects

- ✓ Innovation engine
- ✓ Speed up the innovation process
- ✓ Build trustful relations and networks (innovation landscape)
- ✓ Regional self-confidence
- ✓ Syndicating resources for strategic challenges

Quantitative results (11 cluster initiatives)

	2011	2012	2013	2003-2013
✓ # new products	44	72	71	501
✓ # new services	38	53	25	264
✓ # new prototypes	74	122	153	669
✓ # new processes	35	25	29	222
✓ # scientific publications	135	121	247	1025
✓ # start up firms	63	51	28	317
✓ # patent applications (from 2012)		15	58	
✓ # new patents	20	7	4	142
✓ # new establishments/expansion investments	36	24	15	157
✓ # companies in projects	828	1026	924	
✓ # participating researchers	527	384	429	



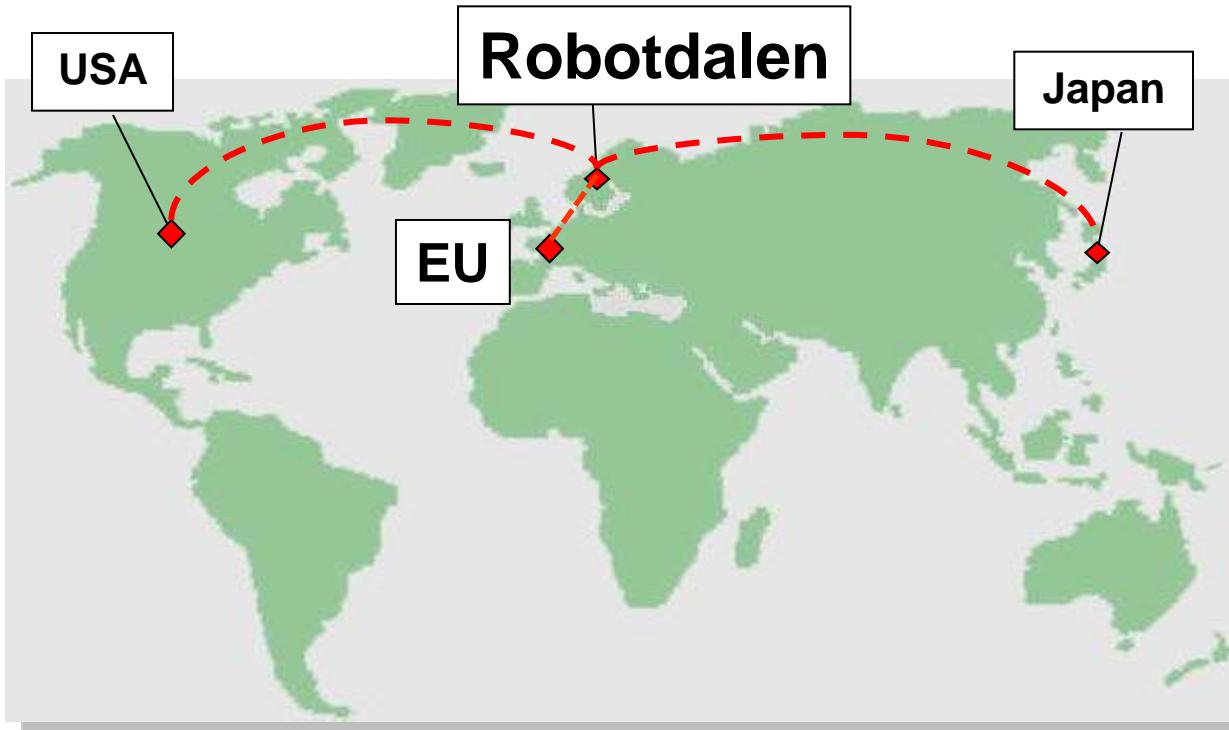
Smart Textiles

The textile industry is about to take a giant step from being a supplier of fabrics to become a positive force in the development of society. Textile innovations improve people's everyday lives and benefit the industry, the health care sector and the environment.

With over 350 research and company driven projects since the foundation of the Initiative in 2006, Smart Textiles has not only become a motor for the textile industry in Sweden but an important player on the international arena.



Fotograf: Anna Sigge



+



Growth:

New products, New companies, Investments, Productivity ...

OECD Territorial Review Sweden 2010

...the VINNOVÄXT programme stands out as a particular sharply targeted initiative...

Compared with cluster programmes in other OECD countries,
the VINNOVÄXT programme has successfully combined the following
modalities:

Preliminary version

Horizon and thus neighbouring Nordic countries developed a common vision to enhance cross-border regional innovation capacity.

A few regional innovation systems in Sweden are currently the source of some of the best practices in OECD countries. Västra Götaland is particularly noteworthy. The second largest region in Sweden after Stockholm, and one of two pilot regions with a directly elected regional government since 1999, Västra Götaland has become a closely integrated functional region based on a tightly knit social fabric which has facilitated the development of knowledge networks and platforms (see Chapter 3). The Vinnova programme in Västra Götaland is a good example of this (see Chapter 4, Part 2). Some other regions, such as Västlandet, have also achieved significant results in terms of innovation capacity and developed dynamic regional clusters based on regional partnerships. While the model of the pilot regions is not necessarily replicable as such in all Swedish regions, it has underlined the significant positive outcome to be obtained from the combination of knowledge networks and regional improvement to build strong regional innovation systems (see Chapter 3 for detailed analysis).

Among OECD countries, Sweden has been a leader in implementing national programmes to promote regional innovation. In line with the Vienna programme (2002/2004) and NUTEK's (1998/1999 from 2009) Regional Cluster Programme (Götsköt, Table 2.1), the VINNOVÄXT programme stands out as a particularly sharply targeted initiative (Table 2.6). Its aim is to develop international competitiveness and innovation environments based on specific regional strengths by funding regional R&D and innovation clusters and strategic companies (Götsköt). In a number of regions, the VINNOVÄXT programme contributed to further developing the regions' own work on cluster and innovation cluster development. Compared with cluster programmes in other OECD countries, the VINNOVÄXT programme has successfully combined the following modalities:

+ An explicit focus on exploiting recent regional comparative advantages by taking

An explicit focus on exploiting **specific comparative regional advantages**.

previous experience in science, technology, innovation, and the contribution of key factors for regional growth, based on experience in Sweden and abroad.

+ A cross-sectoral perspective, which encourages cross-fertilization among activities. First, the support addresses the development of the selected innovation system. This includes the funding of process management development support, firm-oriented processes (looking forward 30-30 years) and technological scenarios (10-10 years); analysis and the

A cross-sectoral perspective

initiated) and companies. Once the system has been developed and the funding needs established, it is expected that the region will assume responsibility for most funding of the development of the system, so that the major part of VINNOVÄXT's funds can be directed to multi-sectoral R&D.

OECD TERRITORIAL REVIEWS: SWEDEN 2010

588 – VINNOVÄXT: INNOVATION POLICY FOR REGIONAL INNOVATION SYSTEMS

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A triple helix collaboration model

- + A long-term horizon, which is conducive to a more stable and progressive vision, and a three-year period for a period of at least 30% regional funding. The funding is allocated for years. Money must be brought over for the intended purpose and that the work is progressing.
- + A focus on process support rather than single task injections. Since the autumn of 2009, VINNOVÄXT funding cannot help to develop cross-sectoral, interdisciplinary learning of regional development processes, innovation systems in regions and knowledge-based clusters. A process manager network also offers a forum for knowledge development and the dissemination of information and research. The members of the network are precast

A long-term horizon....

A focus on process support

management offers those who intend to submit applications the opportunity to discuss their proposals separately, and the possibility to take part in common workshops that relate directly to the drawing up of an application. On behalf of VINNOVÄXT, the Deltoria Institute has also produced a process management handbook that provides support for the development of regional innovation systems.

Table 2.6. National programmes to promote regional innovation in Sweden

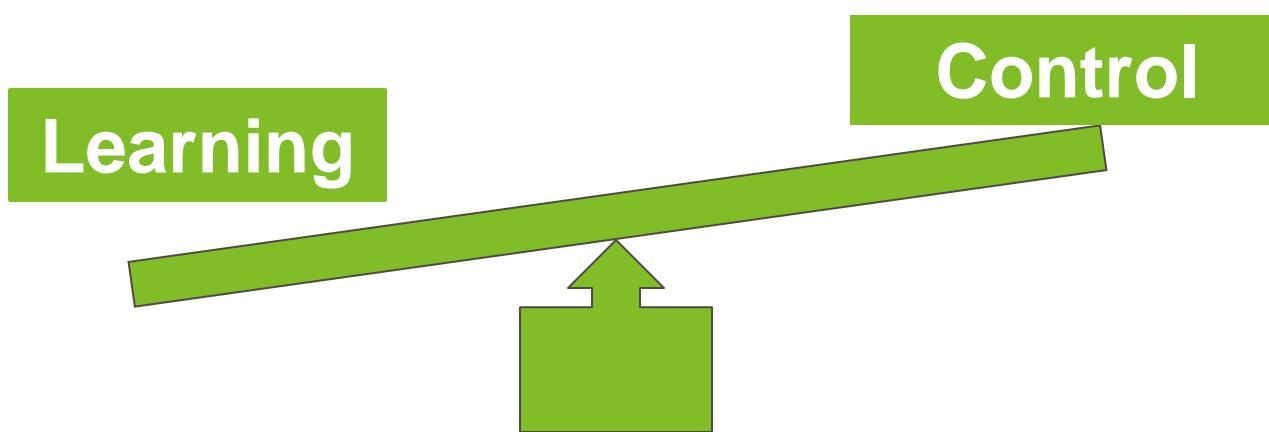
	Vienna	Regional Cluster programme	VINNOVÄXT
Time frame	2002-04	2009-11	Since 2007 (three calls under grant 2008, 2009 and 2010)
Administrator	Jointly managed by NUTEK, VINNOVÄXT, and based on Swedish Agency for Research (Swerea)	Swedinnov	VINNOVÄXT
Programme	Part of a wider R&D policy	0.8-1.7 billion SEK (ca 100 m euros)	Part of Q projects (selected 10 clusters for May 2009, 4 selected in 2010)
Projects selected	35 clusters	12 clusters (in May 2009)	12 clusters (in May 2009, 4 selected in 2010)
Focus	To enhance regional innovation systems and clusters	To enhance international competitiveness of clusters	To promote already established or emerging regional clusters
Deliverables	Unknown	Unknown	Cross-sectoral process
Policy instruments	Process management, joint business development activities (commercialisation, cooperation, education and communication)	Process management, joint business development, education, research and lobbying	Process management, joint business development, education, research and lobbying

Source: Adapted from OECD (2007), OECD Review of Regional Innovation: Competitive Regional Growth, Chapter 4, OECD, Paris, 20-211.

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Strategy for learning – Trying to add value to the VINNVÄXT programme



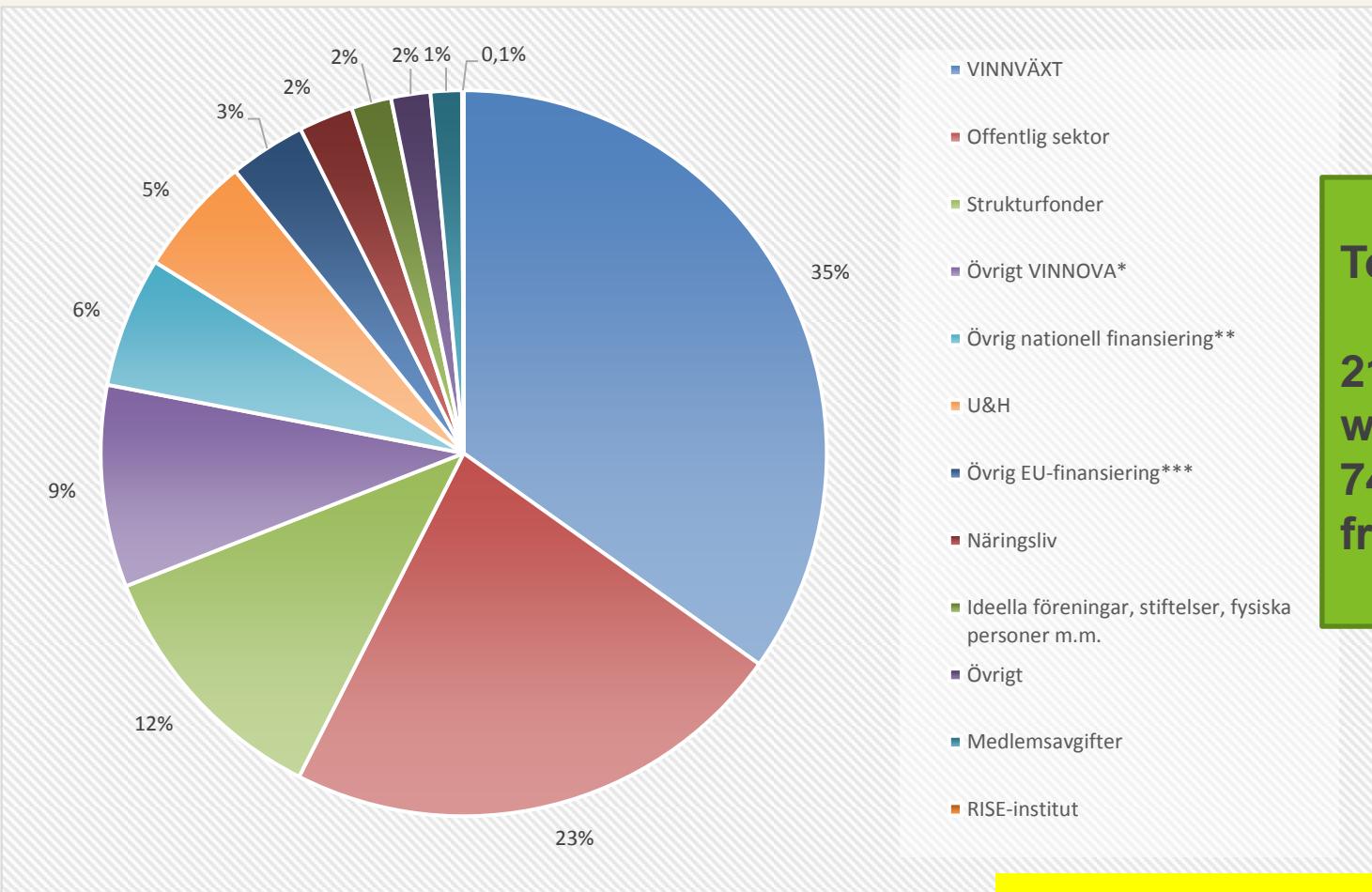
Activities in the learning strategy

- Triple helix management course
- 2 meetings/year with process managers -thematic focus
- Yearly assessments
 - Annual reports with interviews and dialogue
 - Result & effect indicators
- Evaluation every third year
 - by International teams
 - Looking at “the system” AND “the content”
- Communication programme
- Learning projects in all initiatives & national level
- Initiating studies of common interest
- Gender issues
- Stimulation of internationalisation
- Connecting to other VINNOVA programmes

VINNVÄXT to VINNVÄXT

Approximately 10% of programme budget used for process support

Cash funding 2013 total VINNVÄXT skikt 1-2



Total investment:
214 MSEK
whereof
74 MSEK
from VINNVÄXT

*UDI, Hållbarhetspiloter, BIO-X m.m.

**Tillväxtverket, Energimyndigheten och Jordbruksverket

***Främst Sjunde ramprogrammet och Interreg

**In kind industry contribution
is not included**

The Future

***If we think as we've always thought,
then we'll say the same things we've always said,
and do as we always have done,
and then everything will be as it always has been...***

Thank you !



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www.VINNOVA.se/vinnvaxt

Sweden's innovation agency



**We strengthen Sweden's innovativeness, aiding
sustainable growth and benefiting society**

www.VINNOVA.se