

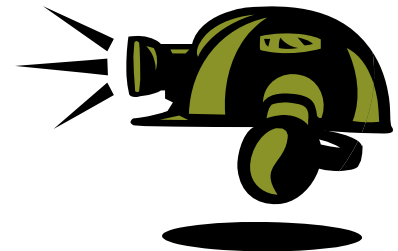


The Mining Research Programme

Prof. Per Eriksson

Director General

VINNOVA



Knowledge Based Economy and Global Competitiveness

- **The economy is becoming more and more knowledge based and global**
- **The European Union has set the goal to become the world's most dynamic knowledge based economy**
- **This makes R&D very important, but R&D has to be strongly linked to business needs, needs-driven R&D**
- **International cooperation in R&D more important**
- **1 % of GDP to civil R&D from Government needed, today 0.8 %**



Swedish National Innovation System Characteristics:

- The economy strongly internationally linked
- The big international companies dominates the R&D-system
- SME invest very little in R&D
- Universities dominates the public R&D-system and they have a third task, to cooperate with companies and society
- Small sector of Research-institutes
- Government invests very little R&D-money in companies outside the military sector



Governmental Funding Agencies

Research Council

Science driven research

VINNOVA Governmental Agency for Innovation Systems

Needs-driven research and development

Nutek

Regional development

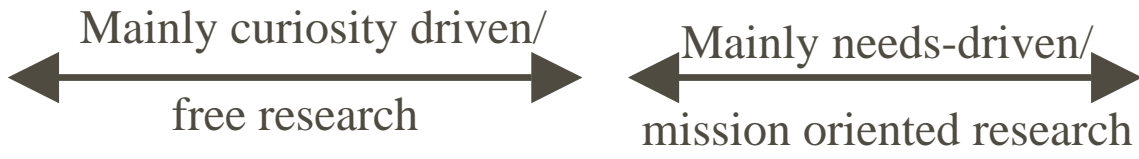


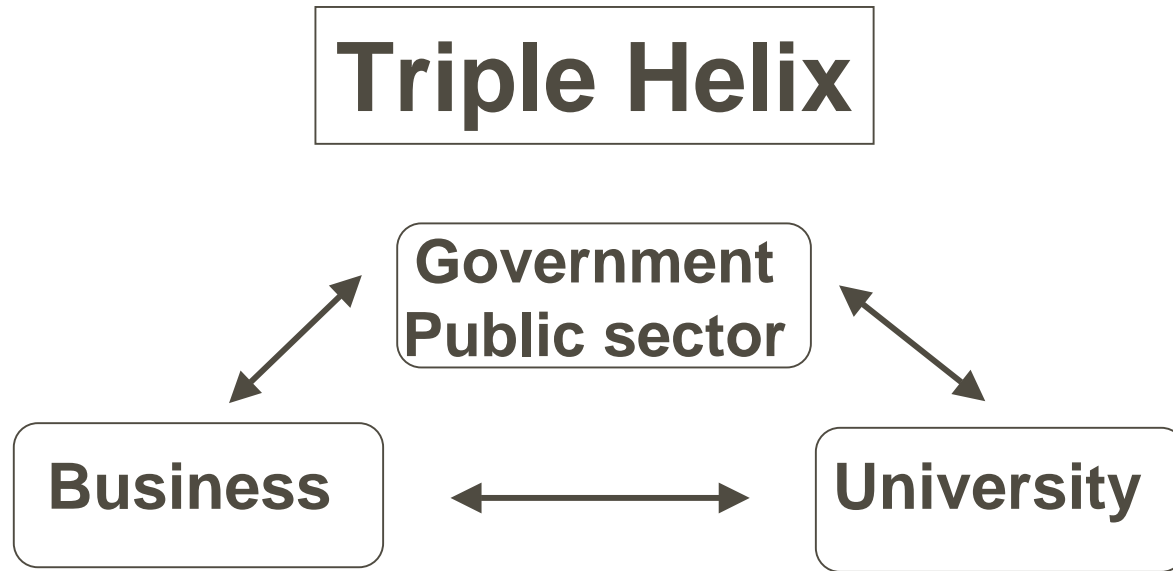
Major public R&D-funding organizations in Sweden and their budgets 2007

Gross Domestic Product: 3011 GSEK (324 G€) Government R&D-funding: 0.88% of GDP = 26,4 GSEK (2,8 G€)



Universities 10920 MSEK 1175 M€ <u>41,4 % of Gov.</u>	Swedish Research Council <i>(Vetenskapsrådet)</i> 3027 MSEK 325 M€ <u>11,5 % of Gov.</u>	Research Council for Environment Spatial Planning and Agricultural Sciences <i>(FORMAS)</i> 633 MSEK 68 M€ <u>2,4 % of Gov.</u>	Research Council for Working Life and Social Sciences <i>(FAS)</i> 319 MSEK 34 M€ <u>1,2 % of Gov.</u>	Swedish Agency for Innovation Systems VINNOVA 1700 MSEK 183 M€ <u>6,4 % of Gov.</u>	Swedish Energy Agency (STEM) 816 MSEK 88 M€ <u>3,3 % of Gov.</u>	Swedish National Space Board 480 MSEK 52 M€ <u>1,8 % of Gov.</u>	Other civilian agencies 3112 MSEK 335 M€ <u>11,8 % of Gov.</u>	Public research found. 1700 MSEK 183 M€ <u>6,4 % of Gov.</u>	Defence agencies 4056 MSEK 436 M€ <u>15,3 % of Gov.</u>
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Depending Actor Groups

Knowledge based economy

**From PPP, Public Private Partnership,
To Public Private Univ. Partnership,
i.e. Triple Helix**



Research and Innovation

Research: Money transformation to
Knowledge & Competence

Innovation: Knowledge & Competence
transformation to Money

Developing innovation system is to make above efficient, i.e. to make investment in R&D profitable. Identify bottlenecks and possibilities.

Goals for the Mining Research Programme

- Strengthen the Swedish Mining Industry in Technology and Competitiveness
- Create strong research and innovation milieus
- Support Swedish partnership in international R&D programmes



Photo: Atlas Copco

Focus areas

- Prospecting for raw materials
- Manufacturing Technology

- Lean and more sustainable processing
- Innovative projects, radical innovations



Photo: Atlas Copco

Budget

- 50 MSEK VINNOVA + 50 MSEK Industry
- Period 2007 – 2010

- First Call closed May 3.
- Next Call will be closed Oct 3



Impact Goals

- Industry relevant R&D
- International cooperation
- Competitiveness in focus areas
- “Critical Mass”
- Good Cooperation between Industry and Academia
- World Class R&D
- Growth and New Jobs



Decision Board

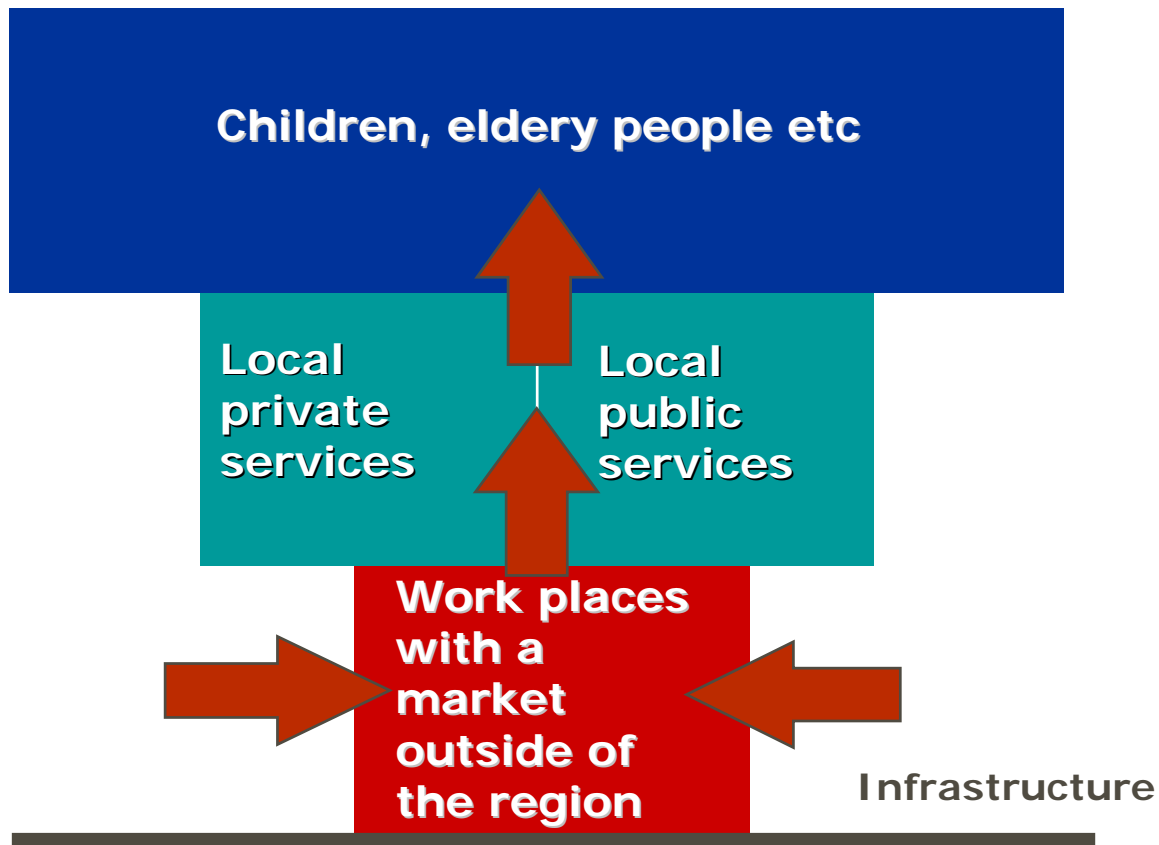
- **Ulf Marklund** Boliden Mineral AB
- **Göran Bäckblom** Stiftelsen MITU
- **Seija Forsmo** LKAB
- **Ulla Grönlund** Länsstyrelsen Västerbotten
- **Monica Hammarström** Svensk Kärnbränslehantering AB
- **Sunniva Haugen** Boliden Mineral AB
- **Ulf Holmgren** VINNOVA
- **Manfred Lindvall** Lundin Mining AB
- **Per-Olof Samskog** LKAB
- **Lars Persson** SGU



Some other VINNOVA-projects

- Process IT Innovations (VINNVÄXT)
- Strategy for EU financing of R&D
- Measuring Systems based on 3D models
- Design and prototyping of mobile IT systems for highly automatic industry
- MIMER

The Fundament of Growth



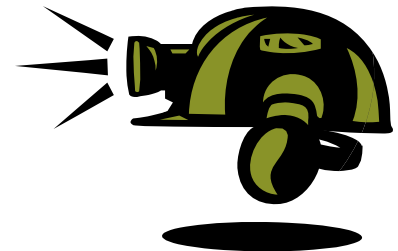


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Branschsamtal Metallurgi resulterade i två FoU-program:

- Stålforskningsprogrammet
- Gruvforskningsprogrammet



Strategiskt stålforskningsprogram för Sverige 2006-2012

- **Utveckling för hållbar tillväxt**
 - från minskade utsläpp till högpresterande stål med minskad materialåtgång
- **Morgondagens material och tillverkningsmetoder**
 - från utveckling av lättare och starkare stål till hur materialet formas och sammansätts
- **Avancerad modellering**
 - från studier av atomstrukturernas egenskaper till hur stålet beter sig i olika applikationer
- **Förbättrad processteknik**
 - från förbättrade egenskaper till renare, effektivare och smartare bearbetning
- **"Innovativa Projekt"**



Stålforskningsprogrammet kommer att omfatta totalt 240 Mkr under sex år. (Offentlig del 120 MKr) Programmet administreras av Jernkontoret.