

# Swedish Technology Foresight - a successful project, with many lessons learned

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Teknisk Framsyn

# Swedish Technology Foresight - a project conducted jointly by

- The Royal Swedish Academy of Engineering Sciences (IVA)
- The Swedish National Board for Industrial and Technical Development (NUTEK)
- The Federation of Swedish Industries
- The Swedish Foundation for Strategic Research  
... in collaboration with
- The Swedish government, companies, public agencies and other interested parties

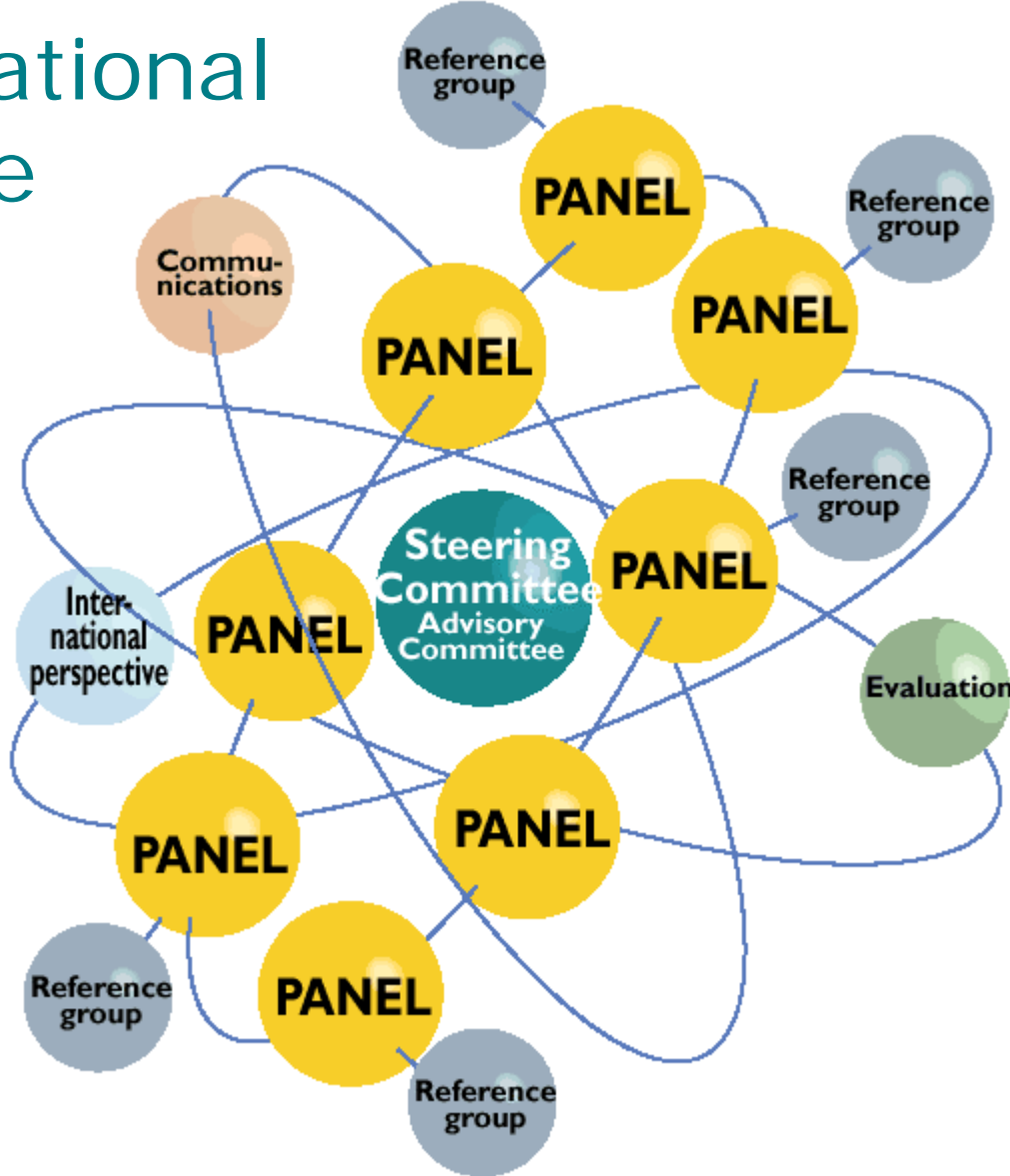


# Objectives

- To strengthen a futures-oriented approach in companies and organizations
- To identify areas of expertise with potential for growth and renewal in Sweden
- To compile information and design processes for identifying high-priority areas in which Sweden should build expertise



# Organizational structure



# Panels

- Health, medicine and care
- Biological natural resources
- Society's infrastructure
- Production systems
- Information and communications
- Materials and material flows
- Service industries
- Education and learning



# Aspects to be factored in

- Ecology and environmental aspects
- Economy and the market
- Values and attitudes
- The man – system – management interplay
- Information systems, computer systems and mathematical-statistical methods
- Energy
- Boundary-breaching scientific and technological developments
- Long-term basic research
- Regional development



# Time schedule

1996-1998 Feasibility studies

1998-2000 Foresight Project

1999 Panel work

2000-2001 Implementation

2003 Next Teknisk Framsyn



# Funding

Overall budget 4.0 MEUR

## Spending

- Panel work incl reports 3.2 MEUR
- Implementation 0.8 MEUR





## Some features

- Not initiated by government (but supported)
- Generous public and private sponsorship
- Classical panel approach
- No Delphi, some scenario use
- “Technology Hindsight” analysis
- On-line evaluation
- No detailed plan for implementation at outset, only dissemination



# Panel reports



You can order the individual panel reports (in Swedish only) from IVA tel +46 8 791 29 00, Nutek tel +46 8 681 92 98, The Swedish Foundation for Strategic, Research tel +46 8 791 10 10, The Federation of Swedish Industries, tel +46 8 783 80 92. They cost SEK 100:- per copy, including VAT and postage. They are also available as pdf files on the project's web site, [www.tekniskframsyn.nu](http://www.tekniskframsyn.nu)



# The panels look at the future (1)

- Inventory of possible technology developments (most panels)
- Scenario outlines (some panels)
- Conclusions and recommendations in a societal context



## The panels look at the future (2)

- Technology in the service of man
- A richer and freer life
- A healthier life for everyone
- Successful regions and cities
- New business concepts and services



# The Foresighted Society



## Driving forces.....

- Individualization
- Borderlessness

## and future trends

- Outside pressures
- Environmental issues
- Knowledge capital
- New working methods and living patterns
- More and more older people
- The move into cities
- Ethics and privacy



# Pioneering technology...yes

- IT
- The new biology
- Materials technology

but the major challenges for  
the future

- Attitudes
- Knowledge
- Infrastructures



# Dissemination

- Web site ([www.tekniskframsyn.nu](http://www.tekniskframsyn.nu))
- 61 000 reports printed, 100 000 folders
- Media coverage
- 20 regional TF-conferences
- Conferences organised by others
- Swedish presentations
- International presentations
- Presentations to government





## Lessons learned

- Achievement of objectives
- Failures
- Successes
- Pitfalls
- The next Technology Foresight



# To strengthen a futures-oriented approach in companies and organizations

- The West Sweden Foresight, sponsored by 18 companies and organisations
- “Ericsson Foresight” started September 2000
- “Wireless Foresight” started September 2001
- Panel report on Production Technology followed up by in-depth study by IVA
- VINNOVA to integrate Foresight into its strategic development process



# To identify areas of expertise with potential for growth and renewal in Sweden

- R&D policy and funding for next four years adopted by Parliament in December 2000
- Numerous references to TF in the bill to Parliament
- Priority given to IT, biotechnology and materials technology



To compile information and design processes for identifying high-priority areas in which Sweden should build expertise

- Energy Foresight carried out in 2002
- “Young People Speculate” in progress
- Legal Foresight being discussed
- Next Technology Foresight started December 2002



## Some critical views from the outside

- Time given to panels too short
- No “scientific guidance” of process
- Societal problems defined under way and not professionally treated
- No mechanism to prevent dominance by eloquent participants
- No risk analysis



## Some critical views from the inside (process analysis)

- Mission definition too vague
- “Aspects” did not work
- Limited interchange between panels
- Time schedule (no time for analysis)
- Production of reports (guidance, logistics)
- Panel recruitment
- Management structure



# Successes

- Wide acceptance of Foresight as a powerful process
- “Mindsetting” and networking among participants highly appreciated
- Industrial participation very satisfactory
- The reaction was good, the action better than expected - and many lessons were learned



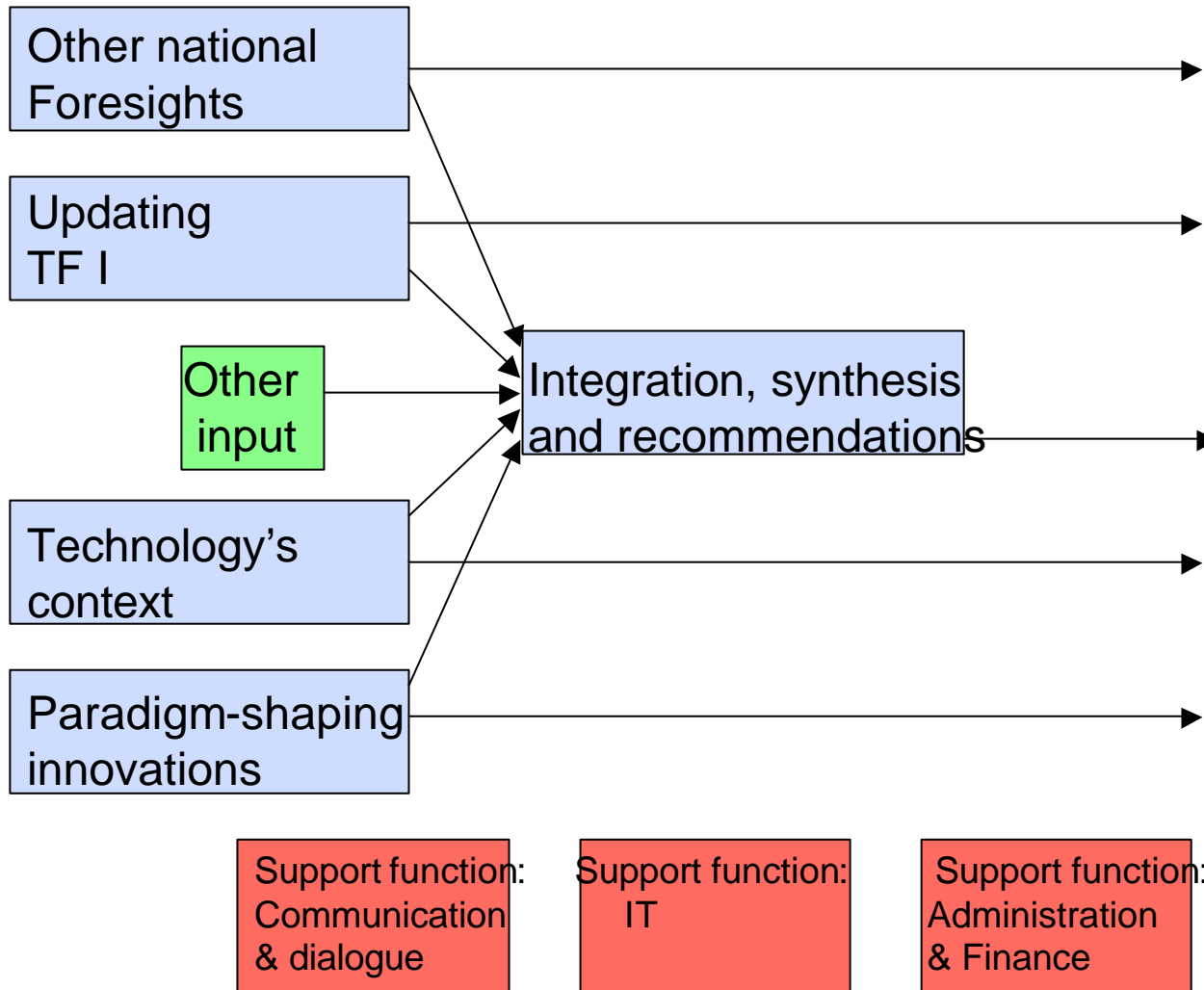
## Eight pitfalls (from “Technology Hindsight”)

- New technology will replace existing
- New technology will only solve old problems
- Technology is the solution to social problems
- Missing the synergies
- Neglect of the economic aspects
- Prisoners of the “Zeitgeist”
- Market behaviour is “irrational”
- Some new technology is secret





# Technology Foresight II



## Sponsors of TF II

- IVA – The Royal Swedish Academy of Engineering Sciences
- KK-Stiftelsen - The Knowledge Foundation
- LO – The Swedish Trade Union Confederation
- Svenskt Näringsliv - The Confederation of Swedish Enterprise
- Vetenskapsrådet – the Swedish Research Council
- VINNOVA – Swedish Agency for Innovation Systems.

