



**NORDIC ICT FORESIGHT**  
**Current state and future prospects in 2006**

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**Technology Foresight and Technology Assessment**

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## Project idea and objectives I

- **To identify, select and present scenarios illustrating the prospects for possible future applications for IC technologies with respect to technology, application and market issues**
- **To explore the roads to commercialisation**
  - provide solutions where ICT can provide the biggest competitive advantages and positive contributions to societal wellbeing
  - identification of unique market opportunities with longer-term growth potential
- **To maintain and develop the scientific and industrial networks within IC technologies**
- **To explore appropriate ways of implementing the innovative ICT applications and systems**
  - prioritise research, development and commercialisation of ICT
  - consider the required infrastructure technologies
- **To estimate and compare the implications of the ICT applications in Nordic countries (Denmark, Finland, Norway, Sweden)**
  - assist in developing appropriate framework policies that facilitate the developments in desired directions
  - build roadmaps up to 2015 of the developments in ICT's



## Project idea and objectives II

- The project focus areas were defined by the project partners in the beginning of the project (planning of the proposal, first core group meeting). These are:
  - **Experience economy** (media and communication)
  - **Health care**
  - **Production economy** (industrial automation, production systems)
  - **Security** (emphasis on information security)

## Nordic ICT Foresight project coalition



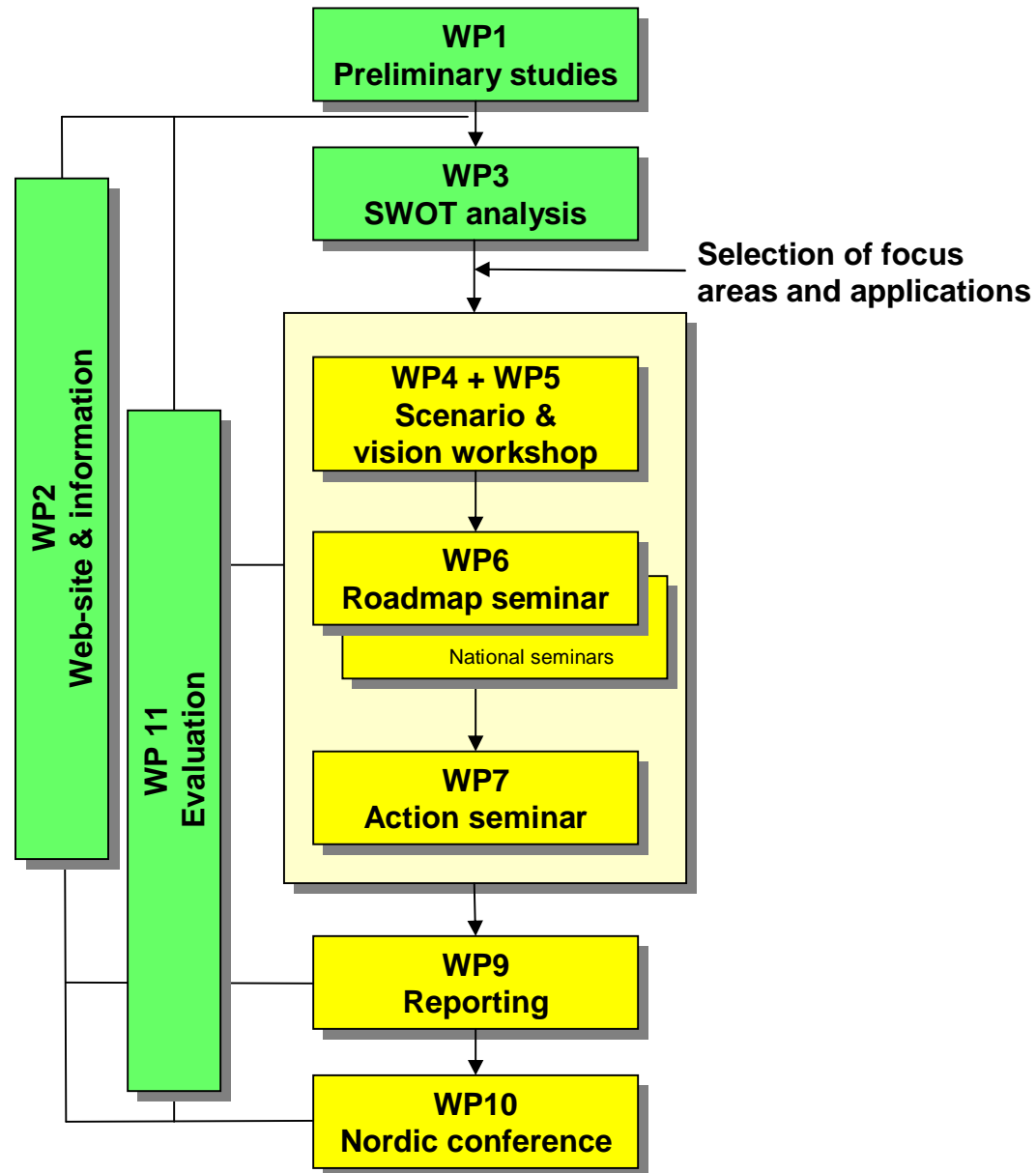
### ***Research / core partners***

1. DTI, Danish Technological Institute (Denmark)
2. FOI, Swedish Defence Research Agency (Sweden)
3. SINTEF, Foundation for Scientific and Industrial Research at the Norwegian Institute of Technology (Norway)
4. VTT Technical Research Centre of Finland (Finland)

### ***Cooperation partners***

5. Confederation of Danish Industries (Denmark)
6. The Danish Society of Engineers (IDA) (Denmark)
7. Ericsson Microwave Systems (Sweden)
8. Vinnova (Swedish Innovation System Agency) (Sweden)
9. Göteborg Pediatric Growth Research Center at Göteborg University (Sweden)
10. Abelia (Norway)
11. LO (Landsorganisasjonen) (Norway)
12. The Research Council of Norway (Norway)
13. SIVA - The Industrial Development Corporation of Norway (Norway)
14. Oslo Innovation Center (Norway)
15. Nokia Corporation (Finland)
16. Sitra (Finland)
17. Stakes (Finland)
18. Technology Industries of Finland (Finland)
19. TEK, Finnish Association of Graduate Engineers (Finland)





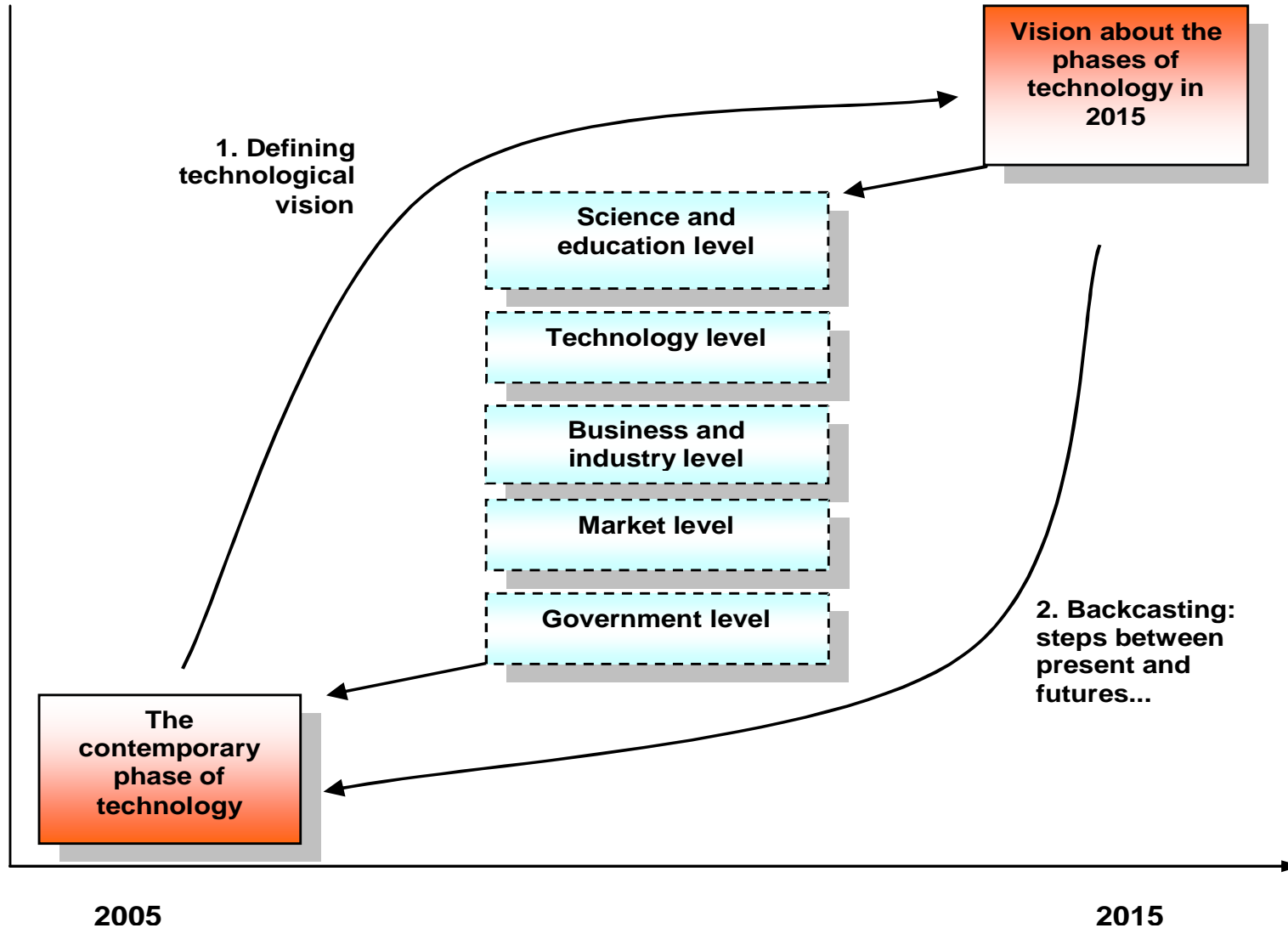
## Main events and activities in the project in 2005 and 2006



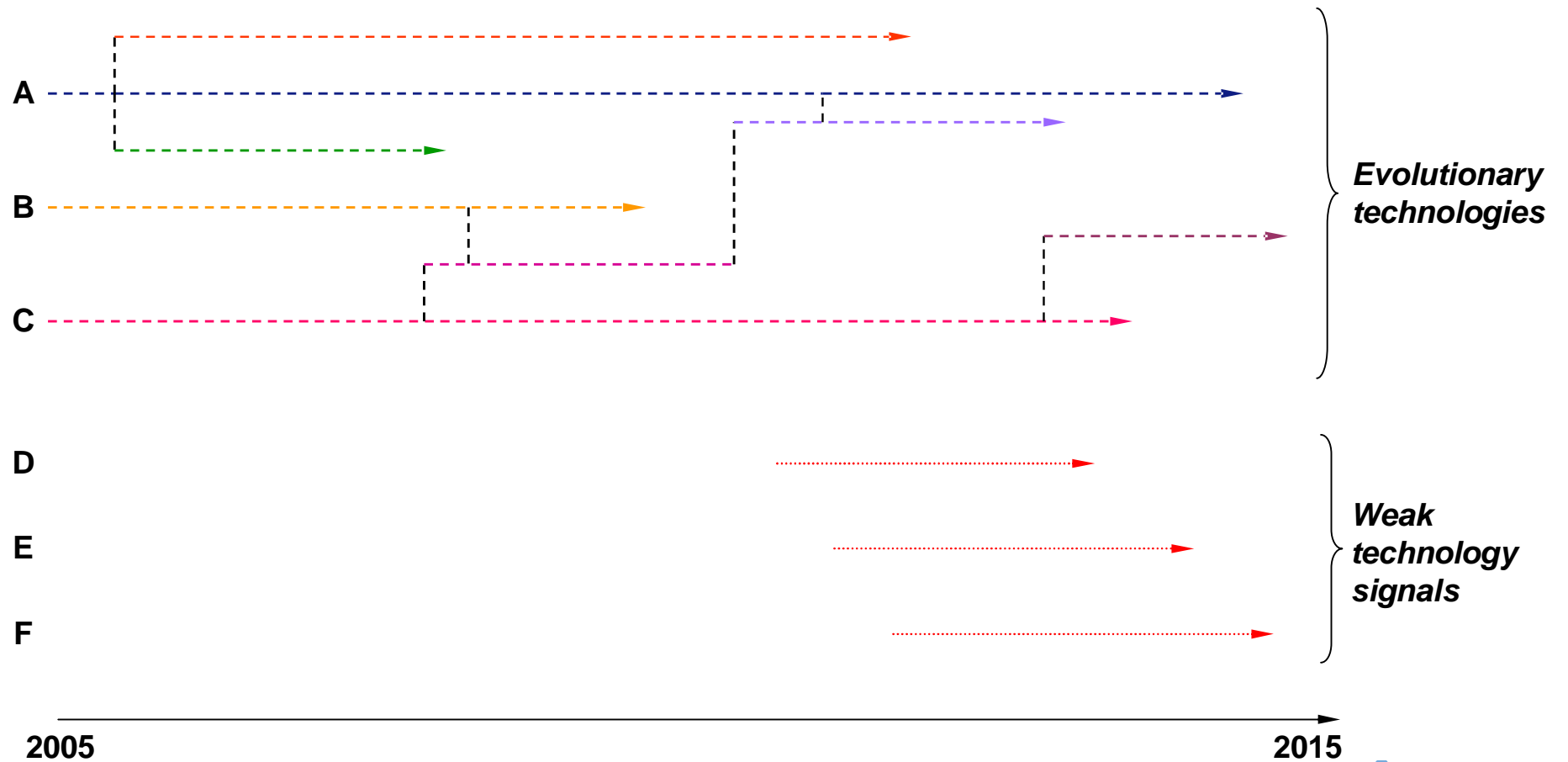
- **ICT Foresight project had following activities in 2005:**

- 1) **Kick off meeting and core group meeting I**, Oslo June 22, 2005, Nordic Innovation Centre, Oslo
- 2) **Core group meeting II**, 26–27 October 2005, Risø National Laboratory, Roskilde, Denmark
- 3) **Draft of the report with categories of international ICT visions and roadmaps**, lists of references and internet-links to most relevant Nordic and international ICT activities (WP 1: DTI)
- 4) **Planning and designing of the project website** (WP 2: VTT)
- 5) **National SWOT analyses** and comparison of Nordic countries' ICT research and technological development results, priorities and structures against main competitors (WP 3: VTT)
- 6) **Scenario and vision workshop** in Bålsta, Sweden. Formulation of ICT applications, drafting and elaborating a scenario set. Evaluation of the visions against the scenario set (WP 4+5: FOI)
- 7) **Roadmapping workshop** in Helsinki, Finland. Formulation of the roadmaps of the ICT developments in Nordic countries. (WP 6: VTT)

# Example from the Finnish SWOT workshop: general framework



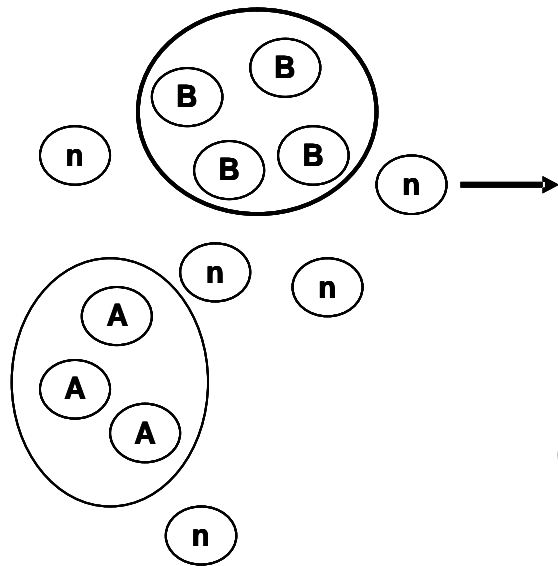
# Evolutionary technologies and weak technology signals



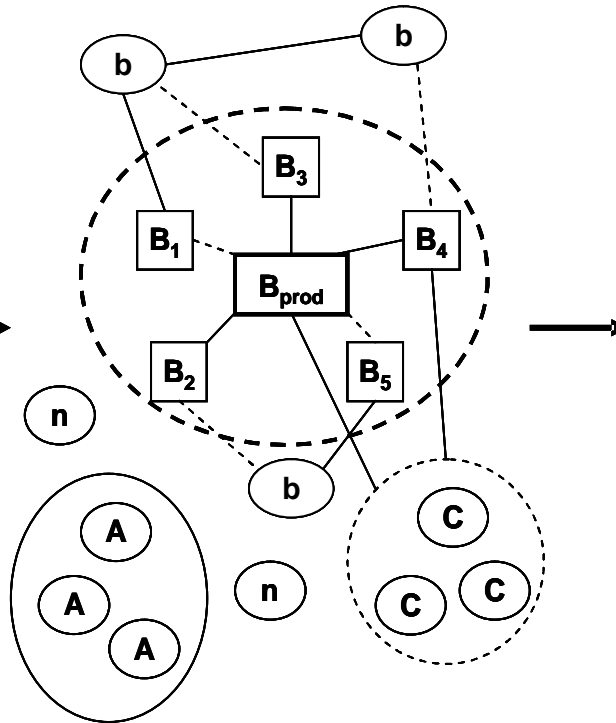


# Convergence of IC technologies

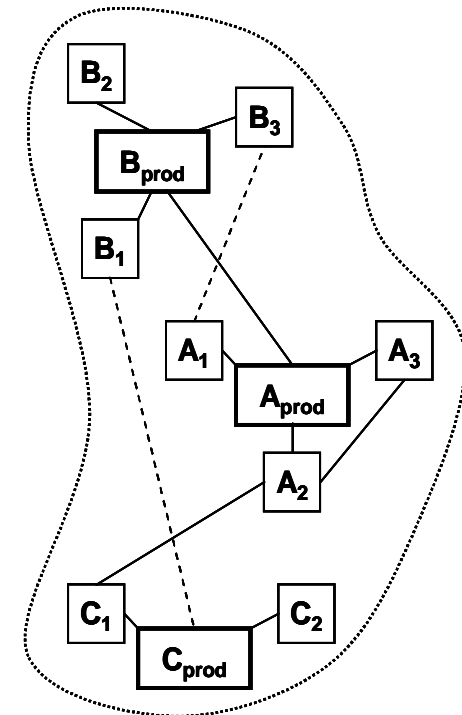
Separate technologies and product groups



Modularization of technologies and increase of relationships



Convergence and compatibility of modular product groups – heterogeneous networks



2000

2015

## National SWOT analyses (Norway, Sweden, Finland, Denmark)



- The aim of the SWOT analyses was to identify and characterise the main differences in the ICT developments
  - In Norway, SWOT was carried out as a workshop (1 session)
  - In Sweden, it was completed as a small scale questionnaire
  - In Finland, SWOT was carried out as a workshop (1 session)
  - In Denmark, SWOT was completed as a four workshops concentrating on the project emphases
- The main results of the SWOT analyses on the website(<http://nordic-ictfore.vtt.fi>)
- Metareport in the spring 2006 > formulation of the main conclusions and comparison of the national results

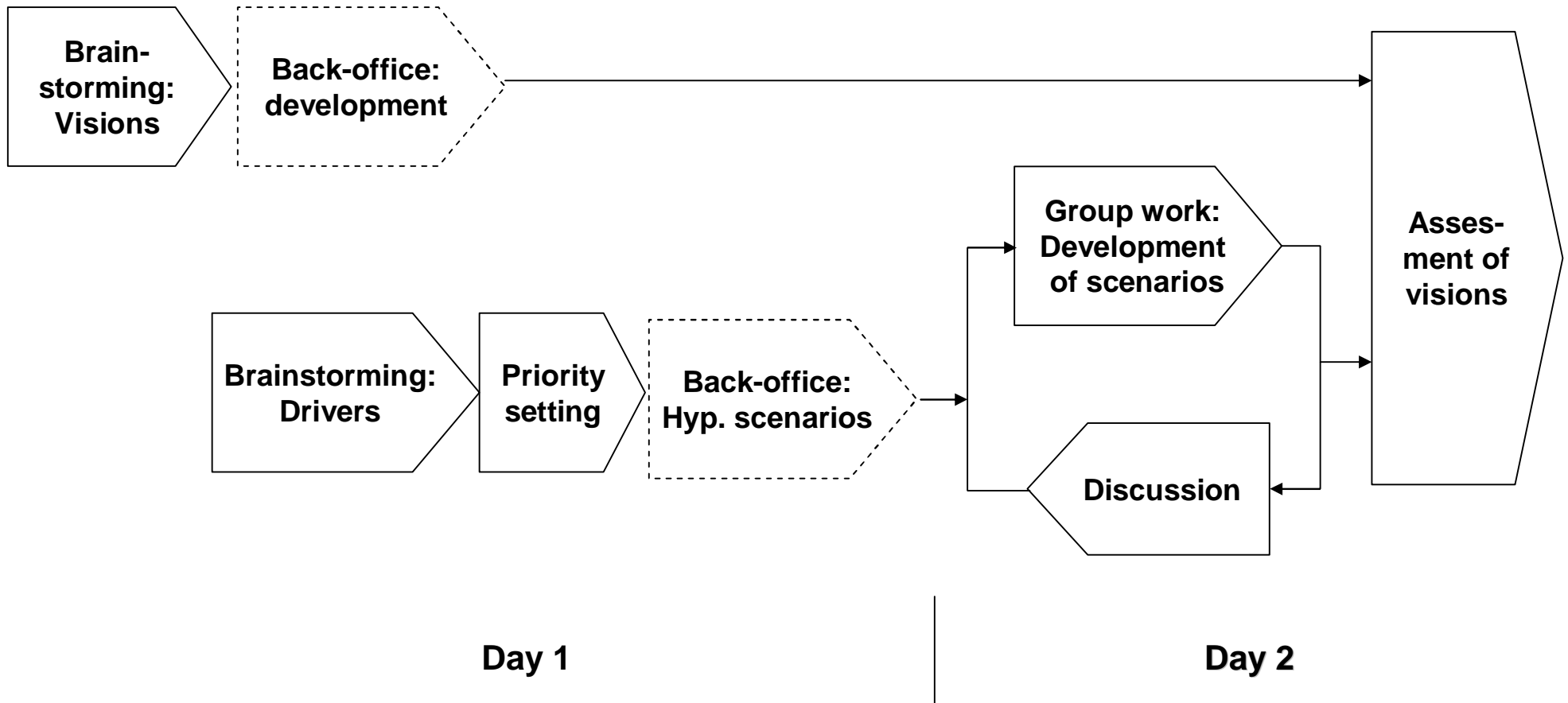


## Scenario and vision workshop in Bålsta, Sweden 9.–10.2.2006

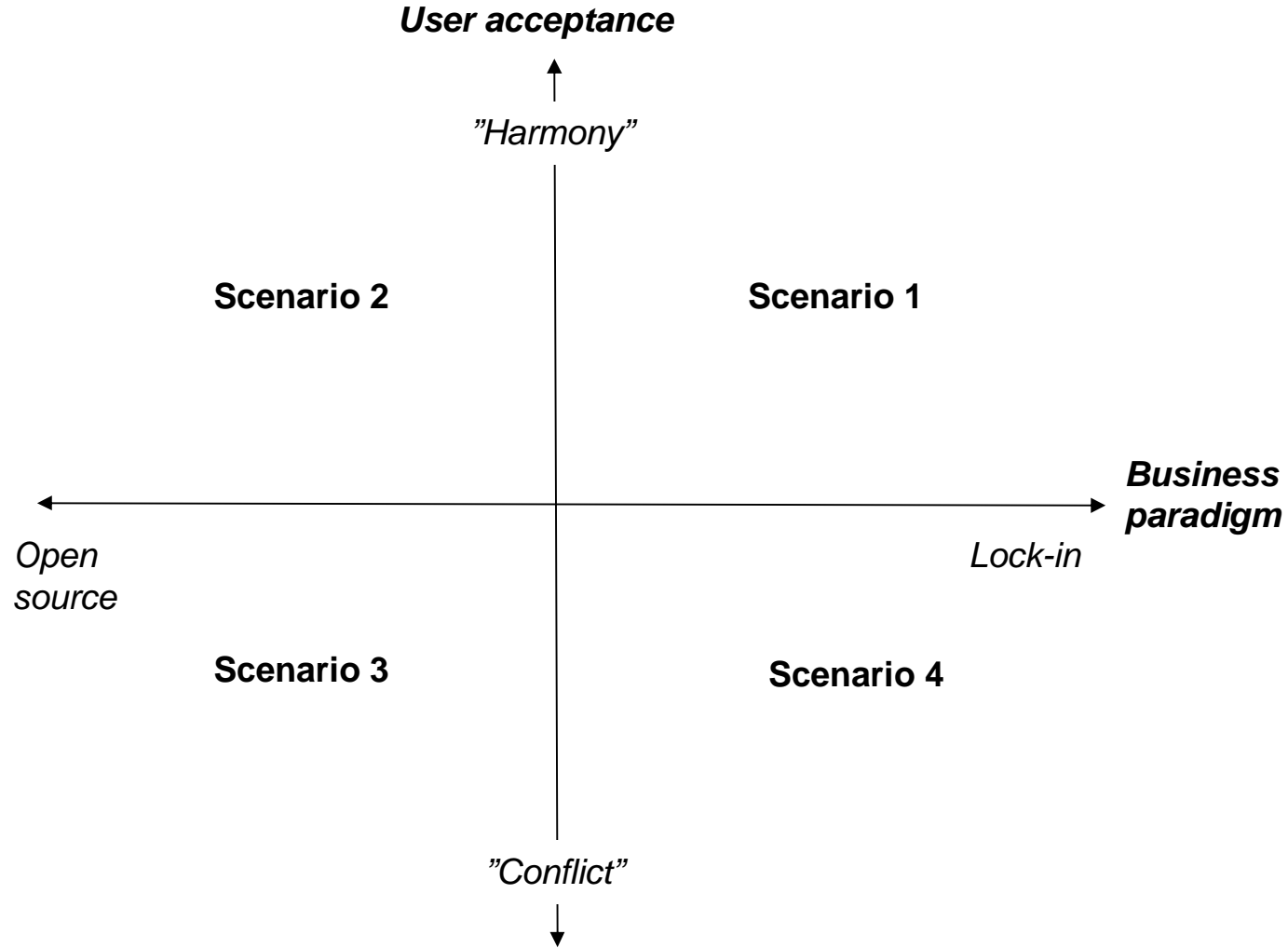


- Organized by FOI
- Two themes
  - visions of the ICT applications
  - outline a draft set of external scenarios for the socio-technical environment of ICT's in the Nordic region (time horizon 10 years)
- Workshop was built on the application of Shell scenario method
  - Gathering of visions
  - Drafting and elaboration of scenario set
  - Evaluation of the vision according to the scenario set

# The structure of the scenario and vision workshop



# Scenario axes



## Three examples of the evaluated visions



- 1. *Smart training*
  - Home exercise equipment
  - Virtual interface gives motivation via games
  - Virtual runner, run in the landscape
- 4. *All-sensors sports events*
  - A lot sensors are places at various strategic places in a sports event, e.g. football (the ball, the shoes, around arena), Formula 1, hockey (camera in the walls, the helmets, the goal),..
  - Create innovative online games based on sensor information; betting markets
  - Create new visual services
- 9. *Control system for efficient energy use*
  - A control system for e.g. efficient heating of buildings
  - Combination of sensors and optimisation algorithms decreases the energy need radically



## Roadmapping workshop in the spring 2006

- Roadmapping workshop in Finland (May–June).
  - Planning workshop with core partners in 23.3.2006
  - 30–50 participants
  - Maybe 2 days session (seminar day and group work day)
- The key questions concerning the workshop:
  - How extensive should it be?
  - What are the technological foci?
  - Structure? Process? Methods?
  - How to ensure as wide a participation as possible?
  - How to market the workshop efficiently?



## Future prospects in 2006



- Year 2006 is the most active year in the project.
- Activities include:
  - **Constructing a metareport of the national SWOT exercises**
  - **Building a detailed report of the scenario and vision workshop**
  - **Planning a roadmapping workshop in Helsinki (May–June 2006)**
  - **Roadmap workshop (+ evaluation)**
  - **Preparing the action seminar**
  - **Preparing of the Nordic seminar**
- The active research phase of the project will end in 2006. In the spring of 2007 reports are finalized and results are gathered to one report (about 50 pages). All the details are presented in deliverables in project website.

Project website: <http://nordic-ictfore.vtt.fi>



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# ICT FORESIGHT

Home

## ICT Features

ICT Foresight

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## Scenario workshop

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## Feature Story

## Archive List



## THANK YOU!

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