”FOBIS”
Foresight Biomedical Sensors

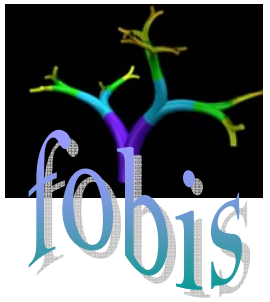
WORKSHOP 1
Park Inn Copenhagen Airport

Ingrid Storruste Svagård, SINTEF ICT

6th October 2005

www.nordic-fobis.net

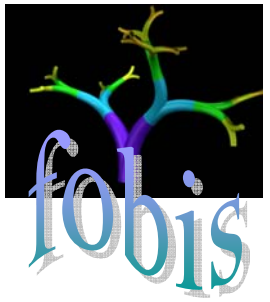
Project objectives 1(2)



The objectives are

- 1. To **enable a strategic understanding** of the possibilities and implications of the use of biomedical sensors for healthcare purposes **by establishing *likely* scenarios** for technology, applications and markets.
  This includes:
  - Clarify the current state-of-the-art
  - Estimate likely technological developments within a time-span of 15 years
  - Identify the most likely areas of applications in the health-care sector
  - Identify most severe barriers for use and commercial exploitation
  - Provide recommendations for future initiatives

Project objectives 2(2)



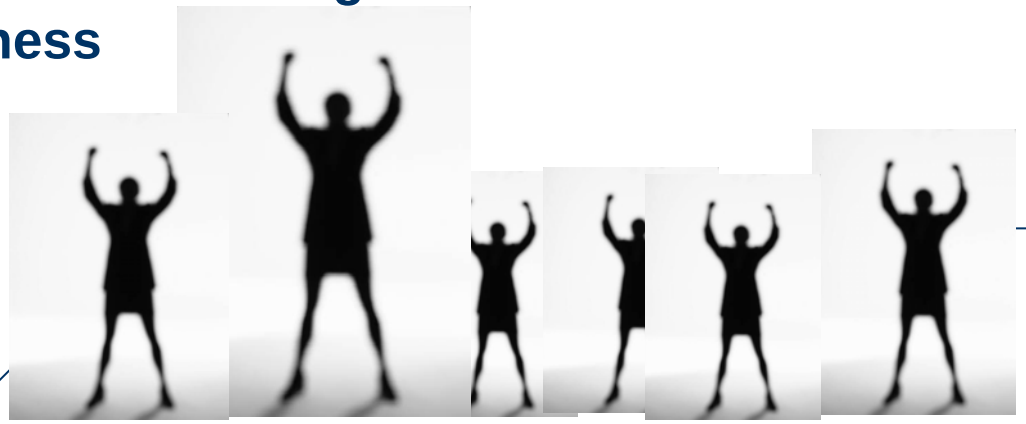
The objectives are

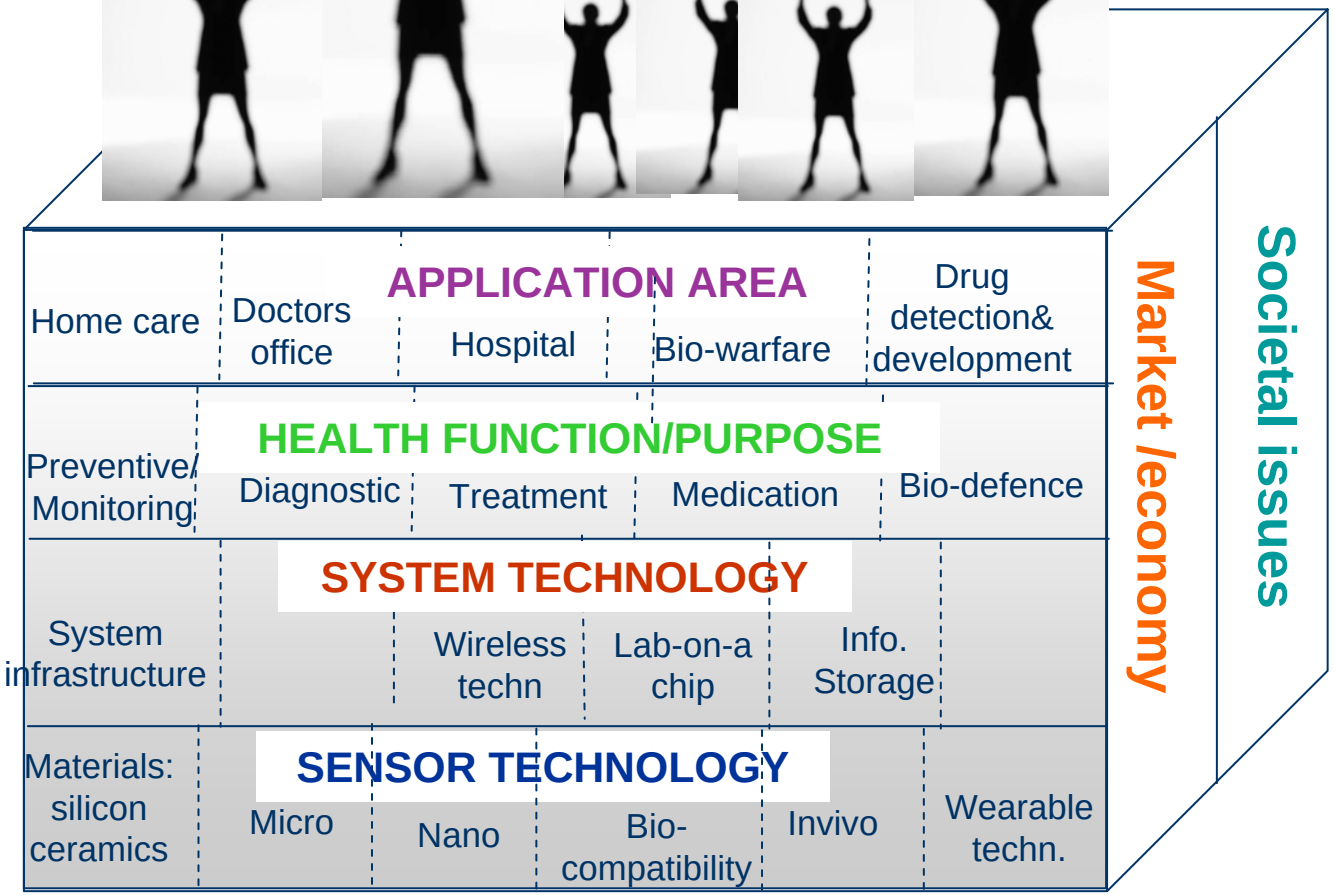
- 2. To provide a **framework** for commercially viable exploitation of biomedical sensor penetration in the Nordic region by enhancing a network of competencies relevant to technology and applications.

  This includes:
  - Identify specific areas of current and potential importance to the Nordic countries
  - Identify specific areas where the Nordic countries have natural, existing or potential advantages
  - Define the criteria for successful collaboration between the Nordic actors
  - Create an environment where users and developers both benefit.

FOBIS objectives

building a platform for strategic decisions for nordic business





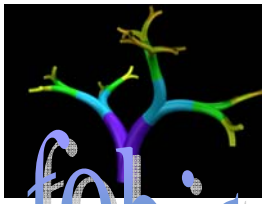
Project numbers

- Total budget MNOK 4,73
  - 2005: MNOK 2,4
  - 2006:MNOK 2,28

- 50% financial suppport from Nordic Innovation Center

www.**nordic**innovation.net

Project partners FINLAND



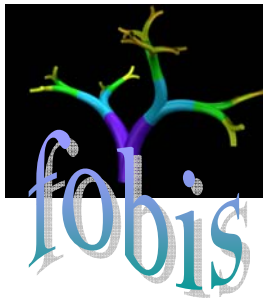
VTT Technical Research Centre of Finland

- Contract research organization involved in many international assignments. 2800 employees

- The Biosensors Group is developing biosensors and measurement systems for applications in biomedical engineering, clinical diagnostics, environmental and process monitoring

- Project participants are
  Dr Janusz Sadowski, janusz.sadowski@vtt.fi
  Inger Vikholm, Inger.Vikholm@vtt.fi

Project partners SWEDEN



FOI NBC Defence :

The Swedish Research Defence Agency (FOI)

- Conducts research in areas concerning security and protection of the society from environmental CBRN (chemical, biological, radiological, and nuclear) threats; and the human response using bioemedical sensors.
- Project paticipants are
  Lars Østerlund, lars.osterlund@foi.se
  Inga Gustafson, inga.gustafson@foi.se

Linköpings universitet , S-SENCE:

- The research of S-SENCE falls within the area of biosensors and chemical sensors and sensor systems.
- Project participants
  Fredrik Winquist, frw@ifm.liu.se
  Tina Krantz-Rulcker tinkr@ifm.liu.se

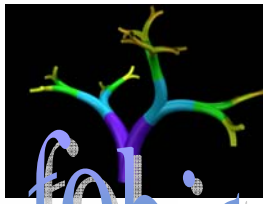
Project partners DENMARK

Sensor technology Center, STC:

- Sensor Technology Center A/S is a network organisation offering knowledge and competencies necessary to develop, produce, and bring to market sensors. STC has strong competences on biosensors as well as research on technology and markets.

- Project paticipants are:
  Lars Lading, ll@sensortec.dk

Project partners NORWAY

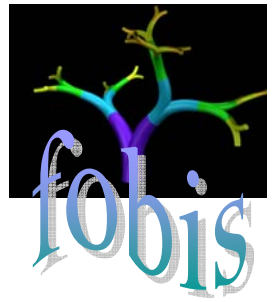


- **Medcoast Scandinavia**:
  - Medcoast is a Swedish Norwegian networking membership organisation founded this year to strengthen and develop the biomedical sector in the Gothenborg- Oslo region. Medcoast offers research group collaborations, workshop, information and support to start new initiatives within the sector.
  - Project paticipants are:
    Jens Gran, ll@sensortec.dk

SINTEF

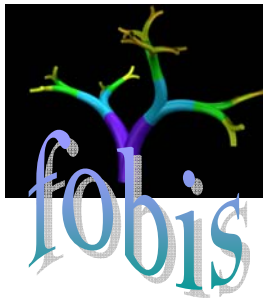
- The SINTEF Group is Scandinavia's largest independent research organisation and is structured into six strategic areas. Project contributions come: SINTEF ICT (Micro and nanotechnology and System development), SINTEF Health and SINTEF Technology and Society.
- Project participants present are:
  Ingrid S. Svagård, Project manager, ingrid.svagard@sintef.no
  Kari Schjølberg-Henriksen

Workshops – the project's main vehicle



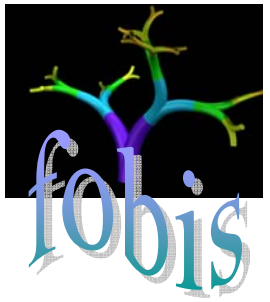
- Workshop 1: 6-7th October in Copenhagen, Denmark
- Workshop 2: Nov , Oslo, Norway, in conjunction with the Scanbalt conference, www.scanbalt.org/forum2005
- Workshop 3: Feb 2006, Sweden
- Workshop 4: April 2006
- June 2006: Dissemination workshops in each country
  The project results are presented to a wider audience and discussed.

Workshops – the project's main vehicle 2(2)
Workshop content



- Establish state of the art
- Discuss and establish technology premises and boundaries.
- Discuss and establish market enablers and restrictions.
- Discuss the role of health care authorities and other public organs.
- Discuss ethical "shopstoppers" and importance
- Develop mini-scenarios – 15 years from now
- Develop a few typical and representative scenarios with the most potential for further analysis.

Key success criteria



- To **mobilize key players** throughout the value chain within the Nordic biomedical sensor arena
- To connect the project work to similar ongoing European and international activity
- To facilitate a series of **first-class workshops** and intermediate work processes
- To **disseminate the project results to decision makers** within all important sectors; i.e. the government, health care, research and business sectors

Dissemination – idea!

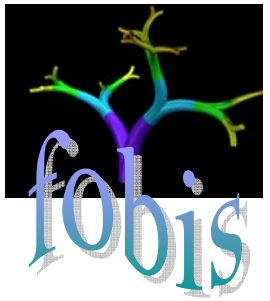
- Describe future scenarios in the format of an Award for outstanding achievement.
- Create some plausible categories:
  - Sensor and system technology
  - Applications
  - Societal issues
  - Business aspects

THE FOBIS AWARD

2008…2012…2015…2020

- Underlying material can be technological descriptions, market analyses, academic articles etc. – our choice

Generic workshop framework

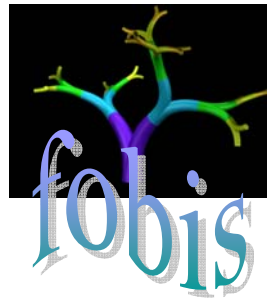


Suggested workshop agenda:
Fullday workshops from 9.00-16.00.

- Before lunch: presentations from **chosen experts** on chosen **focus areas** or topics.
- After lunch: assign each participants to a ***work group***, to work woth a specific queations concerning a specific focus area and produce a written summary of the work grioup results.

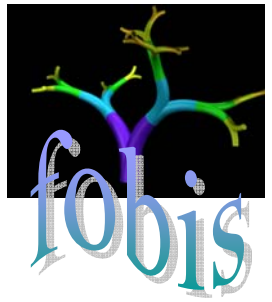
- **Sucess criteria:**
  -focus areas and questions must be clearly defined..
  -Our invited experts take part in as many of the workshops as possible
  -The group manages to structure the results in written format (in format of FOBIS award where appropriate)
- -A ***workshop task force*** must be assigned to assemble the work, identify gaps and fill the gaps!.

Workshop content
-questions we need to answer



- For the project as a whole:
  What building blocks do we pick out as focus areas?
- For each workshop:
  - What are the workshop objectives and deliverables?
  - Who are the experts to be invited?
  - Written result from work groups in what format?
  - What input is needed for each workshop?

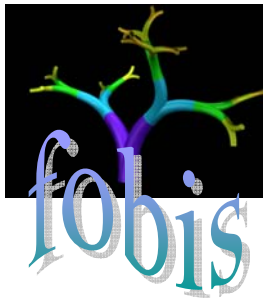
Project focus



The biomedical sensors foresight project will focus on these important aspects of health care:

- Home care
- Doctors office
- Hospital
- Drug discovery and development
- Biodefence

Biomedical sensors- challenges



- Usability; biomedical sensors must be easy to wear, easy to use
- Implants; chips implanted in the body meet a number of challenges, both technical and ethical
- Wireless technology; user friendly biomedical sensors require wireless communication solutions
- Reliability; the solutions must operate at all time under all conditions specified
- Security; sensordata may be sensitive personal information and the solutions must provide personal integrity
- Scalability and flexibility; the system must accommodate different users, environments and usage
- Communication infrastructure; monitoring applications require an established communication infrastructure between patient/biosensor host and healthcare personnel in charge