Communication Networks & Services
-- The Spine of the Modern Society --
global, open, robust, diverse, secure

Department of Telematics
Strategy plan 2012 - 2018

NTNU – Trondheim
Norwegian University of Science and Technology
**Telematics** is the area of communication networks and networked services, encompassing technology, society, and economics.

**Vision**

- Secure, smart and robust communication networks & services

**Values**

- Creative, open, respectful, critical, collaborative

**Mission**

- ITEM will through research, innovation, communication and teaching contribute to that the societal needs for secure, smart and robust communication networks & services are recognized and met.
Department of Telematics (ITEM) have 16 tenured faculty, 8 adjunct faculty, 4 technical and admin staff, 8 PostDocs, and approximately 40 PhD students [2012].
Study programs

The education is organized in three study programs:

- Communication Technology, 5-year master’s program,
- Telematics - Communication Networks and Networked Services, a 2-year international master’s program,
- Security and Mobile Computing (NordSecMob), an Erasmus Mundus 2-year master’s program in cooperation with Aalto University School of Science and Technology (formerly Helsinki University of Technology, TKK) in Finland, The Royal Institute of Technology (KTH) in Sweden, The Technical University of Denmark (DTU) and the University of Tartu (UT) in Estonia.)
The research is organized in three research areas:

- **Networks** (Coordinator: Professor Yuming Jiang) has focus on dependability and performance of access and core networks.

- **Networked Systems** (Coordinator: Professor Peter Herrmann) has focus on architecture and engineering of services and applications.

- **Information Security** (Coordinator: Professor Stig F. Mjølnes) has focus on information security in services and applications.

ITEM is part of Centre of Excellence in “Quantifiable Quality of Service” (Q2S) with 4 professors.
Challenges and focus

Main challenges for ITEM [2012]

- Recruitment and student dropouts
- High ranked publications and recognition
- External funding (excl. Q2S)

Main strengths of ITEM

- Holistic communication system competence, adaptable to new application areas
- Very good learning environment and popular graduates

Research focus is on core telematics disciplines

- Security, Robustness, QoS
- Networking technology, architecture, application and service engineering

Technical solutions (application areas) that need our core competence will vary over time. The department research strategy is to continue to focus on core telematics competence to be prepared for new and upcoming application areas.
Education and learning environment

Objective

- Engaging, motivating and including research-based learning environment

Strategic goals

(a) Relevant and attractive study programs that recruit capable and motivated candidates for education in Telematics at all levels
(b) Outstanding quality in education
(c) Provide engineering skills through theoretical and practical tasks
(d) National and international cooperation

Performance goals

- At least 90% of our graduates should have jobs within 3 months after graduation [(a)]
- 70 MSc graduates per year [(a)]
- The percentage of female students should be at least 25% [(a)]
- A new experience-based master should be established within 2018 [(a)]
- The overall dropout should not exceed 25%, and no dropout after the third year in the MSc Komtek program [(b)]
- 80% of the students complete within the nominal time [(b)]
- All courses should have practical exercises or laboratory work [(c)]
- Regular student exchange in 4th year are supported by packages of approved courses from at least 4 collaborative educational institutions from around the world [(d)]
Research

Objective
- High international research quality and recognition

Strategic goals
(a) Research activities of high quality
(b) PhD education of high quality from recruitment to graduation
(c) Obtain substantial long-term research funding
(d) A high degree of national and international research cooperation and mobility

Performance goals
- 2% best paper awards, 20% publishing at level 2 by 2020 [(a)]
- One Post-Doc per 4 PhD [(a)]
- 3 PhD candidates for each tenured position [(a)]
- 7 PhD students graduate on average per year [(b)]
- Recruitment of at least one PhD student each year from our own programs [(b)]
- At least 80% of the PhD students complete within 1 year after the nominal time [(b)]
- The external funding (BOA) should be at least 20% of the annual budget over the period 2012-2018. [(c)]
- Partner in at least one EU, SFF, SFI project [(c)]
- Hosting at least one visiting scholar/professor each semester [(d)]
- Two members of the scientific staff on sabbatical leave on average per year [(d)]
Outreach and communication

Objectives
- Visibility and good reputation in our field

Strategic goals
(a) Clear media strategy
(b) Visibility, increased understanding of our telematics core competence, and good reputation nationally
(c) Visibility and good reputation internationally
(d) Increased media awareness and media knowledge among employees
(e) Well-established communication channels towards industry, business and public administration

Performance goals
- Media Strategy is operational [(a)]
- Organize at least one national or international workshop/conference per year [(b), (c)]
- Media courses completed by 75% of all staff within 2014 [(d)]
- Five commentaries per year [(b), (d), (e)]
Innovation

Objective

- Make innovation a part of the curriculum

Strategic goals

(a) Provide innovation competence in relevant subjects and through project and master assignments
(b) Support entrepreneurship among the faculty based on the research at the department
(c) Established contact arena towards the SME sector

Performance goals

- Organize a national workshop at least every second year [(c)]
Leadership, participation and resources

Objective

- Creative, open, inclusive, and safe working environment

Strategic goals

(a) Employees participate in strategic processes and allocation of resources through open information and dialogue
(b) Increase the proportion of women among academic staff at the department, especially the tenured positions
(c) Work support, procedures and working environment should be appropriate for the international staff
(d) Through systematic efforts and focus on safety, the department will create a creative, open, inclusive, and safe working environment
(e) Flexibility in allocation of resources

Performance goals

- Annual performance talks with all employees [(a)]
- Safety Action Plan is updated and monitored annually [(a), (b), (c), (d)]
- Score high on the bi-annual working environment survey [(c), (d)]
- Retain the size of the tenured staff at 2012 level 5 (e)