Innovative Construction and Nordic cooperation

Mika Rantakokko
Senior adviser
Nordic Innovation Centre

- Nordic Innovation Centre
- Innovative Construction
- New Call for proposals
Nordic Innovation Centre

- Stimulate increased innovation through increased cooperation between the innovation systems in Nordic countries.

- Establish Norden as one, inner market and a borderless region through removal of barriers and stimulating increased competition.

NICe’s overall mission and role

- Making it easier to develop and run business across the borders of the Nordic countries

- Nordic innovation Centre is the Nordic Council of Ministers single most important instrument for promoting an innovative and knowledge-intensive Nordic business sector
Nordic co-operation

- Ministers of trade & industry
- Committee of senior officials
- Ministers of Nordic co-operation, NSK
- Nordic council of Ministers secretariat
- Nordic Innovation Centre

Nordic Innovation Centre

- Geography
  - Nordics
  - The extended Nordic region, Baltic countries
- Organisation
  - 14 employees
- Project portfolio
  - Total value ~ 35 M€
  - NICE’s share ~ 10 M€
  - 50-100 new projects/year
Innovation is
- A new product
- A new process
- A new organisational structure
That creates success in the market

Market driven innovation

Research or inventions can only become innovations through interaction with commercial interests

Focus areas

A focus area is a thematically limited area, creating a frame around a bundle of related projects carried out in parallel with financial support from NICe.
Focus areas

- Food Safety/
  SafeFoodEra
- Functional Food
- Creative Industries
- Innovative Building
- Innovation Policies
- Micro & Nano technology
- Borderless region

- 1-2 new focus areas changes every year

Nordic Innovation Centre and
Innovative Building

- Long history in financing Nordic cooperation in
  the field of innovative construction
- European collaboration
  - **ERABUILD**: NICe is a partner, being
    involved in Calls for proposals.
  - **European/Nordic Construction
    Technology Platform**
- At the moment NICe finances projects in the
  field of construction worth 3 M€
• **Adaptable house** – model configuration. A feasibility study, coordinated by Teknologisk Institut, Denmark, is focusing on dialog in between users and market, as well as describing the possibilities in the field of construction.

• **Partnership in Nordic construction**, coordinated by Statens Byggeforskningsinstitut, Denmark, is focusing its activities to promote exchange of information between the players in Nordic countries via setting up a Nordic network.

• **Integrated energyplanning (IEP)**, coordinated by KanEnergi AS, Norway, is focusing on reaching optimal solutions in construction processes taking also into account the energy aspects.

• **Badeværelser** – user driven business model, coordinated by Statens Byggeforskningsinstitut, Denmark, is focusing on developing and testing a new method to build and renovate bathrooms.

• **Demand controlled ventilation systems for energy efficiency and good indoor climate**, coordinated by Chalmers University of Technology, Sweden, is focusing on developing ventilation technology which is also environmentally friendly.

• **Ljuddesign av storrumskontor**, coordinated by Saint-Gobain Ecophon AB, Sweden, is focusing to identify critical parameters concerning development of open plan offices taking into account the special needs related to acoustics.
Adaptable house project: Quality of life

- Can spaces change your life
  - Sensuality
  - Tactility
  - Diversity
  - Light
  - Beauty
  - Softness

- Built on, by, with and for
  - Emotions
  - Passion
  - Enthusiasm
  - Curiosity
  - Adventurer
  - Courage

Nordic think tank; some central findings

- The Nordic area has a common cultural basis, is situated in the same climatic zone, as well as similar economic bases and social structures – but there are sufficiently large differences to prevent the Nordic countries regarding themselves, or functioning, as a self-evident single construction market.
- The conditions for the housing industry will be radically changed through increased international exchange of trade and services.
- The Nordic countries can make a global contribution to a new industry that focuses on industrialised construction, based on future human needs of functions and experiences in and around the buildings.
Paradigmshift in construction

- 40% of all business involves construction
- It is faster to build an Airbus than a house; also less complaints in airplane building than in construction...
- Unclear roles of different players in construction
Construction for humans

There is a need for a consumer oriented approach which puts people in the centre, and where the approach is not what people shall have, but consideration of the personal needs.

For example:
- Integration of work and housing
- No installation of components which cannot be moved; it should be possible to alter dwellings for people who, for instance, do not want a kitchen.
- Mobile approach to houses
- Modularisation and component manufacturing to construction sector

Nordic focus for future development in construction

- Sustainable development
  - Life-cycle thinking
  - Energy efficiency
- The new role of construction players
  - Planners
  - Builders
- Building safety
- Full utilisation of ICT
- User driven innovation
  - Experiences
  - Lifestyle
  - Flexibility
  - Health/wellbeing
  - The public good – access for all
Nordic Call based on think tank recommendations

- Projects to be financed with help of NICe’s Innovative construction Call for proposals shall combine the human needs of experiences and functions in built environment with technical development in the field of construction. Both individual and community needs are included to this approach.

- **Long-term sustainable development**
  - Commercialisation of sustainable construction products - “Turning sustainability into business”
  - Promotion of broader acceptance of sustainability in the field of construction
  - Life cycle value growth and life cycle cost (energy, maintenance, service, adaptability)
  - Energy efficiency, with special focus on how to get also old houses into today’s level – not just new technology solutions, but also business models, awareness raising etc.
• **The new role of construction players**
  - New focus for architecture – from building to human
  - New focus for contractor – from builder to developer
  - Development of new business models for construction sector

• **Building safety**
  - Strengthening the expert networks in the field of building safety to exchange information about safety problems in construction sector
  - Linking building safety to life cycle thinking - "20 year warranty"

• **Full utilisation of ICT**
  - Utilising the potential of home automation and Plug&Play components to enhance quality of life, exploit services, sustainability and reduce maintenance cost and trouble
  - Changing room/space more as an interface to services with basis in interactive communication
  - Utilising the potential of augmented reality, digital object models, e-business
  - Exploitation of how does the unlimited access to information (via internet) changes the behaviour of the consumer; *information asymmetry in the markets.*
- **User driven innovation:** Adapting the construction business to the individual needs, lifestyles and life phases, quality of life and value judgments of people
  - *Experiences:* life among the buildings, individuality, enjoyment of nature and manmade environment
  - *Lifestyle:* people's changes in life phases, freedom from worry, fulfilling the unsatisfied and unidentified needs, consumer co-design
  - *Flexibility:* multifunctionality, multiple use (different life phases, home, leisure time, work, child/childless)
  - *Health/wellbeing:* physical and mental comfort
  - *Public good - access to all:* viability, human sustainability, affordable price

---

- **Applicants and actors**
  - Nordic actors from national and regional public bodies, industry and industry federations, innovation institutes, and other call-relevant organisations are invited to apply.
  - A Nordic consortium may invite Baltic or other relevant international actors to join the project in order to add value and improve impact of the project. The international approach of the call is applicable to all measures as long as the Nordic synergy and focus is prevailing.
Application procedure

- As a first stage, the Nordic Innovation Centre requires the submission of an Expression of Interest describing the project idea.
- **Deadline** for sending in EOIs is **25 May 2007**.
- The applicants meeting the criteria of the call and with EoIs of highest potential will be asked to develop full project proposals.
- Projects up and running during this year

Projects: Basic criteria

- Nordic relevance
- Innovativeness
- Spreading the results
- Min 3 Nordic countries (good if all 5)
  + Baltic countries, Scotland...
- Min 50% own funding, including working hours and direct funding
- Project period max 36 months