National Innovation Policies in Finland
Finnish innovation environment = public-private partnership
Key actors of the Finnish innovation environment

- Finnish Industry Investment Ltd
- Business Angels
- Investors
- Finnish Technology Centres
- Centres of Expertise
- Polytechnics
- Regional ELY Centres
- Regional Councils
- National Board of Patents and Registrations of Finland
- Research institutes
- Universities
- Academy of Finland
- Ministry of Education
- Research and Innovation Council
- Ministry of Employment and the Economy
- National public investment in innovation and know-how
- Strategic Centres for Science, Technology and Innovation
- Tekes
- Sitra
- Invest in Finland
- Private investments in innovation
- Association of Inventions
- Investments in different sectors like environment, health and traffic
- EU structural funds for innovation
The figures represent the total extent of each organisation in million euros in 2008, those marked with star are earlier. In parenthesis the share that is funded from the State budget.

**includes polytechnics  *** includes R&D costs of corporations foreign units

### Private
- **R&D at companies**
  - **4,179***
- **Business Angels**
  - **Approx. 380***
- **Venture capitalists:**
  - Private 364
  - Finnish Industry Investment:
    - direct 19, venture capital funds 131, seed funding 7
  - From abroad 407***

### Public
- **Academy of Finland**
  - 297 (297)
- **Universities and polytechnics**
  - 1,165 (482)
- **Ministries, ELY Centres, sectoral research**
  - 413 (402)**
- **Tekes**
  - 526 (526)
- **Sitra**
  - 35
- **Finpro**
  - 35 (21)
- **Finnvera**
  - 468 (44)
- **Innofin**
  - 7 (5)
- **Finnish Industry Investment:**
  - direct 19, venture capital funds 131, seed funding 7
- **Sitra**
  - 35

### Resources in the innovation environment
- **Basic research**
- **Applied research**
- **Business R&D**
- **Business development**
- **Marketing**
- **Internationalisation**
Innovation strategy
and
new definition
of innovation

Innovation means
knowledge and competence
utilised in a manner that
is new in commerce or society

ie. innovation is perceived as an exploited, competence-based
competitive asset,

which, in addition to the application of technology, can be
founded on e.g. new service and business
models, working and operating methods, or the management of
product concepts and brands.
Three dimensions of innovation promotion

UDI = • Using • Doing • Interacting

Innovations

R&D

Demand

Users

Know-how (science, technology)

Businesses & clusters

New and growing firms

Public services
Finland’s innovation strategy - Focal points

WORLD WITHOUT BORDERS

COMPETENCE BASE

INNOVATIVE INDIVIDUALS AND COMMUNITIES

- Mobility and attractiveness
- Innovation communities & hubs
- Individuals and entrepreneurship
- Broad-based innovation

DEMAND AND USER ORIENTATION

- Participation and contribution
- Lead markets
- Co-innovation
- Leadership & change management

SYSTEMIC APPROACH

- Innovation communities & hubs
- Individuals and entrepreneurship
- Broad-based innovation
- Leadership & change management
Focal Points

Continuity in developing science, technology and innovation environments
- Value creation and capture in global innovation networks
- Cutting edge innovation regions in selected areas

User- and demand-driven innovation processes
- Bringing user and the knowledge of user in the innovation process
- New policy arena with focus on intelligent service economy (services, business models, organizational development, design)
- More incentives to innovate through public procurement, standards and lead markets

Innovative individuals and communities
- Tap the creative potential of people!
- Recognize new innovation models

Broad-based and systemic innovation
- Coherent horizontal approach to innovation policy
- Wide introduction of innovations in the society
Finland’s National Innovation Strategy
Key Directions

1) Strengthening knowledge base
2) Broad-based promotion of innovations (tech & non-tech)
3) Internationalisation and borderless global environment
4) Strong and networked innovations hubs
5) Internationally competitive education and university system
6) Strengthening growth ventures
7) Strengthening demand and user driven innovation
8) Government corporate steering and systemic operation
9) Increasing public funding for STI
10) International evaluation of Finland’s innovation system 2008-09
Innovation friendly markets

Demand-driven innovation policy
- Improves the ability to adopt innovations
- Facilitates demand for innovative products, services and solutions
- Enhances the capability to interpret market needs and demand potential
  - Demanding and innovation friendly regulation
  - Standardisation supporting innovativeness
  - Awareness and knowledge development
  - Public procurement of innovations
  - Regulation as a stimulus for competition

Growing and innovation friendly markets

User-driven innovation policy
- Awareness and knowledge development
- Design as an enabler for user-driven innovations
- More systematic collaboration with users in innovation activities
- Utilisation of advanced methods in identification and analysis of user needs and trends
- Developing innovation policy and measures for promoting user-driven innovations

User-driven innovation policy
The central elements of demand-driven innovation policy

Knowledge and capability development
- Foresights
  - Identification of key socio-economic trends and potential leading edge activities
  - Communicating the results to wide audiences
- Research
  - Focus on major societal challenges and developments
  - Analysis of demand-side innovations and their potential benefits
- Education and training
  - Innovative procurement practises
  - Consumer awareness and readiness to take-up innovations
  - Standards as a means to create stimulus for the market approval and take up of innovations

Incentives for demand-driven innovation
- Financing and tax incentives
  - Taxation as a means to create demand for innovations
  - Financing for R&D and innovation projects
- Pioneering public sector
  - Setting example, by increasing public sector led pioneering activities
  - Increased resources for demonstration and reference projects
  - New development environments and platforms for piloting innovative products, services and processes
  - Better incentives for innovative public procurement
  - Opening up of data bases and public sector held content for commercial use
  - Increasing digital services and novel service delivery method

Infrastructure improvements
- Systemic demand-side innovation policy
  - Improved coordination and consistency in innovation policy design and implementation
  - Policy actions to promote and enable lead-market development
  - Better achievement of jointly agreed targets through improved coordination and governance of public sector of activities
- Public private partnerships
  - Exploring new and more effective ways to build partnerships
  - Creating opportunities for new types of partnerships and effective delivery of public sector services

Regulatory reform
- Regulatory development
  - Future oriented, coordinated, innovation friendly regulation
  - Performance based regulation and demanding performance based targets as a way to motivate market actors
- Recommendations and labelling
  - Increased transparency as a way to enable well-informed consumer choices
  - Usage norms as a way to influence demand
- Competition
  - Stimulation of well-functioning, effective markets
  - Demand and competition as drivers of innovation
- Standards
  - Standards that create markets and support innovation
  - Development of the standardisation system and procedures
## Knowledge and capability development

- **Research**
  - More emphasis on user-driven innovation
  - Development of indicators for user-driven innovation

- **Education**
  - Users’ role as an active and responsible participants
  - Multi-disciplinary education and multi-skilled citizens
  - Emphasis on arts and design related knowledge and skills
  - Strategic design as a business development tool (e.g. service design)
  - Intellectual property and intellectual asset management in open innovation context

- **Methods and tools**
  - Better availability and use of advanced methods including foresight, business ethnography, internet and user needs analysis

## Incentives for user-driven innovation

- **Financial incentives**
  - New instruments for supporting user-driven innovation
  - New financing criteria for existing instruments enabling better support for user-driven innovation
  - Other new types of incentives for open innovation and for public sector context

- **Building user awareness and channels of influence**
  - Raising awareness of user-driven innovation among citizens, businesses and public sector
  - Stimulus for user influence through empowerment and improved channels of influence

## Infrastructure improvements

- **ICT infrastructure**
  - Improvements targeting better quality, trust and more open architectures
  - Open and interoperable ICT-infrastructure supporting user-driven innovation especially within the public sector

- **Development platforms and environments for public private partnership**
  - Support for networks that enable user-driven innovation activities reaching across different sectors and branches of administration

- **Renewal of public sector services**
  - Promoting user-driven development as a mainstream activity within the public sector
  - Adoption of service design principles in the public sector

## Regulatory reform

- **Better utilisation of public sector held data and user information**
  - Evaluation of data protection and privacy regulations
  - Making public sector held data more readily usable for user-driven innovation activities

- **Collaboration with users**
  - Regulatory reform to empower citizens influence and ability to make choices
  - Stimulus for partnerships in public service production

- **Intellectual property**
  - Renewal of the institutional framework to make it more suitable and supportive for open and user-driven innovation
  - More consistent regulation of the intangible value and liabilities resulting from user-driven innovation activities

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## Policy framework

The central elements of user-driven innovation policy

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Policy tools for pooling resources in clusters

- STRATEGIC CENTRES FOR SCIENCE, TECHNOLOGY AND INNOVATION (SHOKs)
  - Coordination at the national level
  - Thematic centres based on content, no regional dimension
  - A longstanding cooperation based on joint research plan
  - Big companies

- CENTRE OF EXPERTISE PROGRAMME (OSKE)
  - Bottom-up approach: local strategies meet national coordination
  - Based on regional strengths and specialization (bottom up), coordinated on national level by multi-sectoral committee (top down)
  - Triple helix: Companies, research institutes and public sector
  - Promoting clusters based on complementary competence
  - SMEs
Centre of Expertise Programme – the Finnish Experience of Smart Specialisation

• Original Concept in 1994 - 2006
• Cluster Based Model 2007 - 2013
Science Parks in 1980 – 2000 and CoE concept

- **University**
- **Company**
- **Science Park**
- **Companies**

- **in 1980’s**
- **in early 1990’s**
- **in late 1990’s and 2000’s**

- **Universities**
- **Polytechnics**
OSKE-partners at regional level

- OSKE connects different innovation policy actors
The Original Regional Based Programme 1994-2006

- **Jyväskylä Region CoE**
  - IT, Control of Papermaking, Energy and Environmental Technology
- **Kainuu CoE**
  - Measuring Technique and Chamber Music
- **Kuopio Region CoE**
  - Pharmaceutical Development, Health Care- and Agrobiotechnology
- **Helsinki Region CoE**
- **South-East Finland CoE**
  - High Tech Metal Structures, Process and Systems for Forest Industry, Logistics and Expertise on Russia
- **Jyväskylä Region CoE**
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OSKE – Centre of Expertise Programme 2007-2013

Centre of Expertise Programme (Osaamiskeskusohjelma – OSKE) is a fixed-term special programme that promotes commercialisation of knowledge and know-how that generates new products and services.

• To make innovation environments more attractive,
• To create internationally competitive centres of expertise
• To facilitate the emergence of new enterprises and jobs, and the renewal of business operations
• To recognise and create new business opportunities emerging at the interfaces between competence sectors and industries
OSKE functions

- Administered by the Ministry of Employment and the Economy of Finland
- Annual funding approximately 23 M€
- Consists of 22 centres of expertise and 13 competence clusters
- 200 people working with the OSKE basic funding around Finland
- Annually approximately 7 000 companies involved
OSKE services for companies, universities and research institutions

- Support for the market entry of enterprises
- Innovation and business networks and partners
- Advice on research, development and innovation funding
- Internationalisation
OSKE - main factors

- Durable, long term policy commitment of Government
- Focus on world class expertise
- Competitive tendering: state basic funding as catalyst and status
- Recognizing the regional needs and opportunities
- National co-ordination
- Specialization between regions and increase of critical mass in R&D
- Public-private partnership at regional level
Government’s catalytic basic funding 2007-2011

Total project funding (EU, national): 195 million euros

OSKE basic (government) funding: 40 million euros
Thematic areas of OSKE: 13 competence clusters in 22 centres of expertise

- **HealthBio**
  - Kuopio, Oulu, Helsinki, Tampere, **Turku**

- **Nanotechnology**
  - Joensuu, Jyväskylä, Kokkola, Mikkeli, Oulu, Helsinki, Tampere

- **Living business**
  - Joensuu, Hämeenlinna, Lahti, **Helsinki**

- **Health and Well-being**
  - Kuopio, Oulu, Helsinki, Tampere

- **Digital Content**
  - Hämeenlinna, **Helsinki**, Tampere, Kouvola

- **Energy Technology**
  - Joensuu, Jyväskylä, **Vaasa**, Pori ja Tampere

- **Food Development**
  - Kuopio, Helsinki, Seinäjoki, **Turku**

- **Ubiquitous Computing**
  - Jyväskylä, **Oulu**, Pori, Helsinki, Tampere

- **Cleantech**
  - Kuopio, **Lahti**, Oulu, Helsinki

- **Forest Industry Future**
  - Joensuu, Jyväskylä, Kajaani, Kokkola, Mikkeli, **Lappeenranta**, Turku

- **Tourism and Experience Management**
  - Helsinki, **Rovaniemi**, Savonlinna, **Turku**

- **Intelligent Machines**
  - Hyvinkää, Hämeenlinna, Seinäjoki, **Tampere**

- **Maritime**
  - Lappeenranta, Pori, **Turku**, Vaasa, Rahe
22 Centres of Expertise
Cluster Example:
HealthBIO – Biotech Competence Cluster 2007-2013

**Oulu – Oulu Innovation Ltd**
- Biomolecules
- Bioprocess
- Biosensor research
- Bio-electronics

**Tampere – Finn-Medi Research Ltd**
- Biomaterials
- Tissue Technology
- Immunology
- Bio-IT

**Turku – Turku Science Park Ltd**
- National coordination
- Pharmaceutical development
- Biomaterials
- Diagnostics
- Molecular Biology

**Kuopio – Kuopio Innovation Ltd**
- Pharmaceutical development
- Molecular Science
- Biomaterials

**Helsinki Region – Culminatum Ltd**
- Molecular Medicine
- Neuroscience
- Bioinformatics
- Industrial process development
Strategy of Health and Wellbeing Cluster
Direct impacts of OSKE in 2007-2011

• 2 300 new high-skill jobs
• 383 new high-tech businesses
• 1450 new innovations (products, concepts)
• 537 new networks
• 35 000 people trained

• Total funding of projects (194 M€)
• State basic funding (40 M€)
Combining national and regional demands remains a challenge

- Although cluster based model has been very successful in combining the regional strengths together, this has same time diminished the role of the programme as an instrument for the regional development

- The programme needs to find the right balance between regional and national objectives
Combining the national and regional objectives

Regional focuses to choose from

- Attractive innovation environments
  - International networks and partnerships, foresight of the international market development
- Renewal of businesses
  - User orientation and business know-how
- International growth business
  - Cross-sectoral and cross-cluster collaboration

Regional added value

Synenergetic benefits through co-operation between regions:
- Increasing specialization and division of labour between regions in innovation activities

Strong competitive regional development
What this means

• The matrix illustrates how the new strategic choices supports national objectives and regional development needs
• This has clarified the focus of national collaboration to the regional actors
• It is easier to set impact indicators and follow them
• Focusing programme actions in the matrix in few priority areas increases the coherence of the programme nationally
Challenges for the new innovation oriented programme 2014-2020

- Synergy of resources at local, regional, national and EU –level
- Coherency; bottom-up and top-down approaches
- Accumulation of critical mass, searching for excellences
- Priority settings: from traditional technology and industry based clusters to thematic ”clusters” like intelligent built environment, vitality of people etc..
- Leaning on spearhead competencies and inspiring to cross fertilisations
- Local hubs, well connected to national and international networks: Searching for best available know-how and global perspective on potential competitive advantage
- New open innovation platforms
- Targeted mainly to biggest cityregions; connections to other regions still unsolved
INKA – Innovative Cities

New policy programme for promoting world-class innovation hubs
2014-2020
INKA – Innovative Cities
Accelerates new innovation-based businesses through development platforms and lead market initiatives

Negotiation process for promoting innovation hubs
- New innovation openings (4-6 biggest city regions)
- All national policy and financing organizations: MEE, Tekes, Ministry of Education, city, universities, research institutes, regional financing agencies
- Discussion of main development challenges in the region
- Aims to create better synergies between national and regional innovation policies

Growth Contract of Big Cities
- Joint Agreement of strategic choices between government and region
- Competence strengths as key element of innovation and industrial policy
- 10 biggest city regions

INKA – Innovative Cities Programme 2014-2020
- Increases synergies between regional and national activities
- Challenges cities to create new growth business
- 10+ regions will be accepted
- Government 10 Meur + City regions 10 Meur
New regional innovation policy approach

- Better alignment of national and regional innovation policies
- Contributes to the economic growth and job creation in big city regions
- Supports regional specialisation by encouraging cities to prioritise their competence areas
- Enables regions to have better access to global value chains and to widen their innovation capacity
- Integrates local development platforms to the implementation of national innovation policies
- Promotes the cross-regional cooperation and international networking
INKA – Innovative Cities Program 2014-2020

Mission

*Accelerates new innovation-based businesses by promoting development platforms and lead market initiatives*

Main objectives and targets

- Establishing thematic networks focusing on new business for global markets
- Creating new innovation-based businesses and start-ups
- Contributing to smart specialisation of city regions
- Encouraging cross-regional and international cooperation
- Creating market opportunities and develop ideas and companies, with a particular emphasis of SMEs.
Actions to be supported by INKA

1) (Local) Development platforms for creating new business and startups
   • Open / co-creation innovation platforms
   • Innovation-based entrepreneurship accelerators

2) Creation of lead markets
   • Innovation ecosystem initiatives (eg. Electric cars)
   • Public-Private cooperation (eg. Healthcare services)
   • Innovative Public Procurement

3) Internationalisation
   • Strategic alliances and networks
   • New practices and action models for promoting Finnish competencies and know-how globally
INKA – key characteristics

• Thematic and cross-sectoral approach (eg. Smart City, Bioeconomy etc)
• Demand- and user-orientation (not technology or cluster-based activities)
• Pools the best competencies locally (companies, research organisations, users)
• Encourages cross-regional and international collaboration
• Competitive, agile, fast, risk-taking
• Actions are closely linked to EU Structural funds and Horizon 2020 programmes
Timetable

• 1st round call started December 2012
• Deadline for submitting proposals February 2013
• First round evaluation March - April 2013
• 2nd round call is expected to start May 2013, June or August 2013.