FINLAND KNOWLEDGE ECONOMY 2.0

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1. INDUSTRIAL TRANSFORMATION
TRANSFORMATION OF FINLAND

- Finland in the 1960s
  - among middle-income countries
  - competitive factors raw materials and cheap labor force
  - low value-added of industrial production
  - low productivity
  - high dependence in exports on pulp and paper industry
  - small share of academically educated of the population
  - low R&D intensity

“Finland was lagging behind”

- Finland 40 years later
  - among high-income countries
  - competitive factors knowledge and innovation
  - high value-added of industrial production
  - high productivity
  - diversified industrial base (incl. services)
  - high share of academically educated of the population
  - high R&D intensity

“Finland is among forerunners”
GDP PER CAPITA AT CURRENT PRICES

Source: World Bank
R&D EXPENDITURE IN FINLAND 1992-2012

Billion Euros

Universities
Public sector
Industry

RAMBOLL
70% OF FINNISH WORKFORCE IN SERVICES

2. POLICY LESSONS

Performance Evaluation

**Ratings**

**SER**

*Substantially Exceeded Requirements*

**Exceeded Requirements – Clearly exceeded*

**Met Requirements – Clearly met all requirements**

Exceptional performance in all***
CHAPTER 1: UNDERSTANDING CHALLENGES FROM GLOBAL TRENDS

Lessons

- Open economies subject to international competition
- Focus on competitiveness. Prepare for challenges and transformations
- Promote the ability to renewal
- Technological paradigm shifts can offer growth opportunities

Cases

- Innovation Mill – promoting entrepreneurial activity
- Demola – open innovation
- Forum Virium – digital services
- Vigo Business Accelerator growth entrepreneurship
CHAPTER 2: EDUCATION AS COMPETITIVE PARADIGM

Lessons

• Education is the backbone of KE development

• Wide and high-equality education system crucial
  • Equal access and autonomy
  • Competence of teachers

• Education needs can change rapidly. Flexibility to renew.

Cases

• Aalto Factories
CHAPTER 3: GOVERNING THE INNOVATION ECOSYSTEM

Lessons

• Strive for wide consensus on basic goals – shared vision

• Engage stakeholders. Private sector in the drivers’ seat

• Systemic governance, across sectoral boundaries

• ‘Strong consensus’ may hinder radical changes and renewal

Cases

• Research and Innovation Council

• Foresight activities
CHAPTER 4: IMPLEMENTING INNOVATION

Lessons

- Maintaining an overall balance in STI funding:
  - Private vs public
  - Competitive vs basic
  - Top-down vs bottom-up
  - Centralized vs de-centralized
- Policy planning separated from policy implementation
- Promote cross-sectoral innovation

Cases

- SHOKs
- INKA
CHAPTER 5: MONITORING AND EVALUATING INVESTMENTS

Lessons

- Needed for improving effectiveness and transparency
- Basic data as the bedrock
- Build learning processes into structures
- Evidence and political agendas should be separated
- Plan evaluation and monitoring carefully in advance

Cases

- *Tekes impact assessment*
CHAPTER 6: KNOWLEDGE ECONOMY AND DEVELOPING COUNTRIES

Lessons

• Collaboration changing towards ‘Knowledge Partnerships’.

• Programs as means for coordinated and systemic set of complementary measures

• Collaboration between organizations and institutions often most fruitful

Cases

• Finnode India

• Siyakhula Living Lab

• HEI ICI -instrument
FINLAND KNOWLEDGE ECONOMY 2.0

Overall lessons

1. Major transformations possible, but take time, consistency and determination

2. Political and societal consensus on basic guidelines of innovation policy necessary. But there are risks related to strong consensus.

3. Recognition of innovation as a driver of change, and education as the bedrock of Knowledge Economy.

4. Technological paradigm shifts can offer growth opportunities. Economic crises can provide an opportunity for radical renewal.

5. Mobilisation and engagement of the private sector is crucial.

6. Government plays an important role as a coordinator and facilitator

7. Focus on growth sectors is essential, but too much focus has its risks

8. Knowledge Economy development has many positive side-effects
AFTER THE LATEST CRISIS...

- The dominance of Nokia in the Finnish economy has diminished, but the ICT sector still remains. Knowledge Economy has dispersed from ICT and integrated to other sectors.

- New knowledge intensive sectors are born in software, gaming, media, entertainment, etc. Green economy is building up. The KE basis is broader than before.

- Competitiveness and competence-base remains very strong. Education system is top notch. Patenting remains high. Researcher intensity very high. Etc.

- Investments into RDI remain high, although not quite as high as before

...Finland has shown its capacity to adapt and renew. Can it do that again?
THANK YOU!

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CASE 1.1: INNOVATION MILL

- Founded in 2009 as a three-year joint project by Tekes, Technopolis and Nokia.
- Utilizes and creates new business of immaterial rights that does not fall into Nokia’s core business.
- Goal: to ‘screen’ thousands of ideas to find approximately 100 new R&D projects for companies to acquire.
- Note: reliance on Nokia’s immaterial rights → specific processes have been created to develop and commercialize Nokia’s ideas
- Encouraging initial results: Innovation Mill has created over 250 new jobs and 50 new companies. Current project portfolio is about 30 million Euros and amount of raised risk capital approximately 15m Euros.
- Additional information: http://www.openim.fi/eng/index.php
CASE 1.2: DEMOLA

- A publicly funded open innovation platform: university students together with companies and education institutes develop product and service demo concepts (prototypes) to real-life problems.

- Basic logic: student teams get the immaterial rights of the results, which then can be purchased in pre-fixed prices by the participating companies or developed further by new spinoff companies
  
  → gives students experience from real life business projects as part of their studies; companies get new perspectives and ideas

- Currently 4 Demolas: Tampere (established 2008), Vilnius (Lithuania), Budapest (Hungary) and Oulu (Finland, in 2012).

- So far approximately 1500 students and 100 corporations have participated in approximately 250 projects of which over 90 % have been claimed for business use

- Additional information: demola.net
CASE 2: AALTO FACTORIES

- A platform for multidisciplinary collaboration between Aalto students and researchers, as well as the business world and the public sector

- Currently four factories:
  - Design Factory (www.aaltodesignfactory.fi)
  - Media Factory (http://mediafactory.aalto.fi/)
  - Service Factory (http://www.servicefactory.aalto.fi/fi/)
  - Health Factory (http://elec.aalto.fi/fi/research/health_factory/)

- The factories act as multidisciplinary platforms combining the expertise of the university's various schools and developing new teaching and learning approaches is one of the central goals of the factories. Research data generated as part of the factory projects is incorporated into teaching.

- Concept exported to China and Australia
CASE 3.1: RESEARCH AND INNOVATION COUNCIL (RIC)

• Advises the Council of State and its Ministries in important matters concerning research, development and innovation. Responsible for the strategic development and coordination of Finnish science and technology policy as well as the national innovation system as a whole. Chaired by the Prime Minister,

• Key tasks include: following national and international developments in RDI; addressing major matters relating to the development of STI policy; addressing matters relating to the development and allocation of public research and innovation funding; coordinating Government’s STI activities

• Publishes a science and technology policy reviews every third year, which amounts to a national strategy and vision for the development of the national innovation system.

• Influences policy through its official statements, but also through the individual council members who meet in the councils to share ideas and discuss them.

• Additional information: http://www.minedu.fi/OPM/Tiede/tutkimus-ja_innovaationeuvosto/?lang=en
CASE 3.2: FORESIGHT REPORT

• Government submits a foresight report to the Parliamentary Committee for the Future on the Government’s view of the future during the next 10-20 years.

• The focus of each report is on a defined set of strategically significant issues. In 2012-2013 the main theme is Sustainability and welfare. Previous themes have been Climate and energy policy (2009), Population and immigration policy and ageing (2004).

• The Prime Minister’s Office (PMO) is responsible for drawing up the foresight report and, after its completion, for promoting its implementation. PMO and the responsible sectoral ministry implement the process together with Tekes, the Academy of Finland and the Government think tank SITRA.

• The website for the current foresight analysis is http://www.tulevaisuus.2030.fi/en
CASE 4.1: THE STRATEGIC CENTRES FOR SCIENCE, TECHNOLOGY AND INNOVATION (SHOKS)

• SHOKs are an innovation policy initiative seeking to combine relevant industry-driven and scientific expertise by supporting high-quality excellence and academic research, where industry and academia can both have a role and an interest.

• Currently 6 SHOKs in operation: Energy and the environment CLEEN Ltd; Bioeconomy FIBIC Ltd; Metal products and mechanical engineering FIMECC Ltd; Built environment innovations RYM Ltd; Health and wellbeing SalWe Ltd; Information and communication industry and services TIVIT

• A not-for-profit limited company, the partners in which include key companies, universities and research institutes in a topic area, is responsible for running each SHOK. The SHOKs carry out research in a virtual research organisation, which may consist of geographically dispersed units

• The SHOK’s research strategy is drawn up and decisions on its implementation are made by the partners. Non-partner actors may also take part in research programmes and projects.

Source and additional information: http://www.shok.fi/en/
CASE 5: TEKES IMPACT ASSESSMENT

- Tekes monitors and assesses the results and impacts of the projects that it funds. For monitoring purposes, Tekes collects project effectiveness information at the beginning and end of each project and three years after its conclusion.

- Innovation impact assessment is one of the key tasks of Tekes. Assessment findings are used to develop Tekes operations and to help guide funding and programmes.

- Target-oriented indicators for impact assessment

- External researchers conduct various effectiveness studies on the project portfolio. External experts assess Tekes programmes when they are completed, and usually also halfway through and a few years afterwards.

- The purpose of assessment is to gain feedback on how the objectives of the programme have been attained, how effective the programme has been and what can be learned from it to improve the programme operations and strategies of Tekes.

- Source and additional information: [http://www.tekes.fi/en/community/Results_and_impact/468/Results_and_impact/12](http://www.tekes.fi/en/community/Results_and_impact/468/Results_and_impact/12)
CASE 4.2: INNOVATIVE CITIES (INKA)

• Programme currently in preparation by Ministry of Employment and the Economy, operational management by Tekes

• Objective: to strengthen the establishment of internationally attractive innovation centres in Finland

• Focuses on the biggest city regions, which are challenged to develop new business environments and spear head market
CASE 6.1: FINNODE INDIA

- Established as the fifth of all FinNodes, operates in New Delhi

- Objective: to bridge Indian and Finnish innovation communities, ranging from universities, research institutes, large firms, start-ups, co-creation hubs to final users and consumers.

- Main focus areas: cleantech (renewable energy and clean water), education and learning, healthcare and wellbeing, as well as BOP-markets.

- The center caters to almost 100 Finnish firms active in India, as well as Indian firms interested to venture into Finland.

- Center’s activities include continuous promotion of Finnish-Indian innovation collaboration, typically materialized in support to Finnish and Indian firms, diffusion of information, and organization of targeted travel and events.

CASE 6.2: SIYHAKHULA LIVING LAB (SLL)

• SLL is a multistakeholder operation that consists of academia, industry, government and marginalized communities to facilitate user-driven innovation in the ICTD domain.

• Objectives: Empowerment of the rural communities; integrating the innovative potential in the rural marginalized areas within the general national system of innovation

• Catalyzed by Cooperation Framework on Innovation Systems between Finland and South Africa (COFISA) in 2008-2009
  • COFISA’s role: supporting SLL’s transformation into recognizable living lab: strengthening SLL’s link to the provincial system of innovation

• SLL has been pioneering new approaches to co-creation and user-driven innovation in Africa, and has devised extended methods to involve and empower user groups

• Additional information: http://siyakhulall.org/