



Clustering Multidisciplinary Research

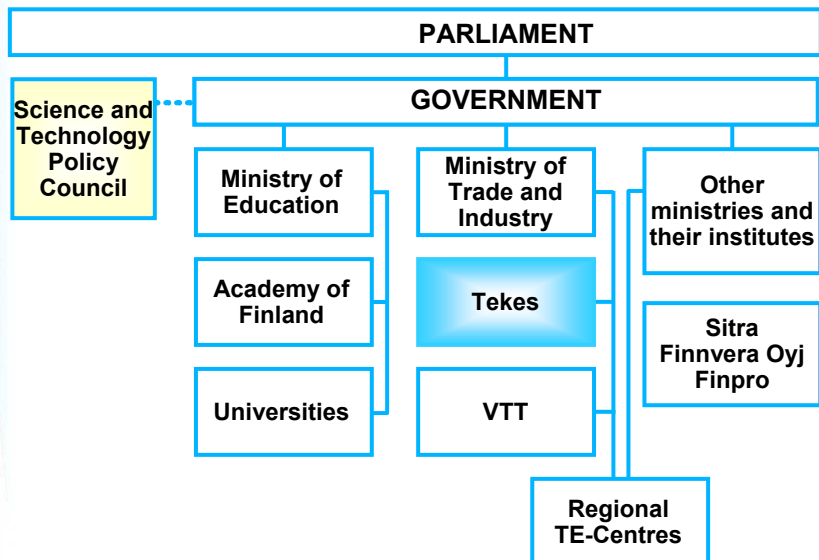
Opportunities and limits, an example in Finland



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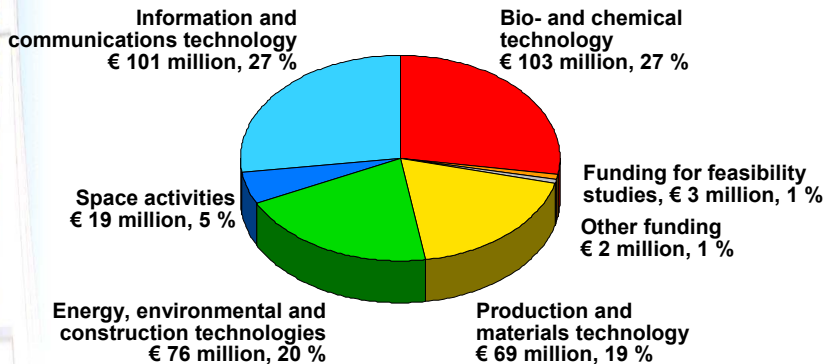
Public Sector R&D Activities in Finland



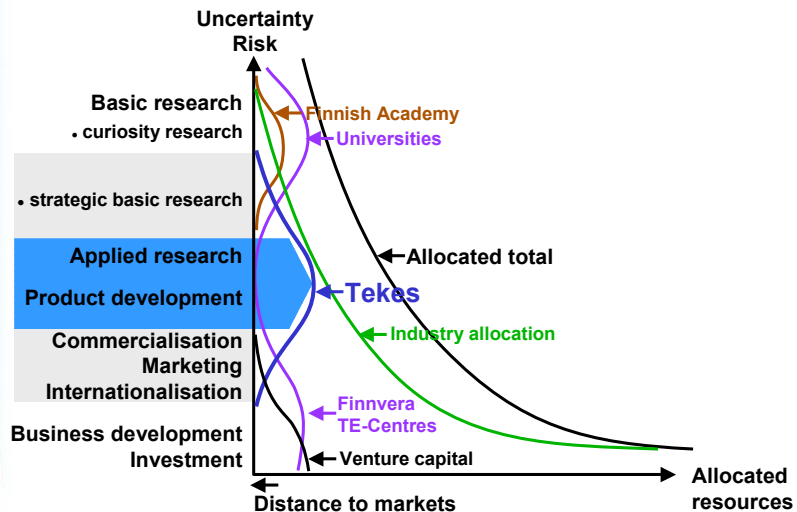


Total Tekes R&D Funding in 2000 by Field of Technology

Total € 373 million and 2,297 financed projects



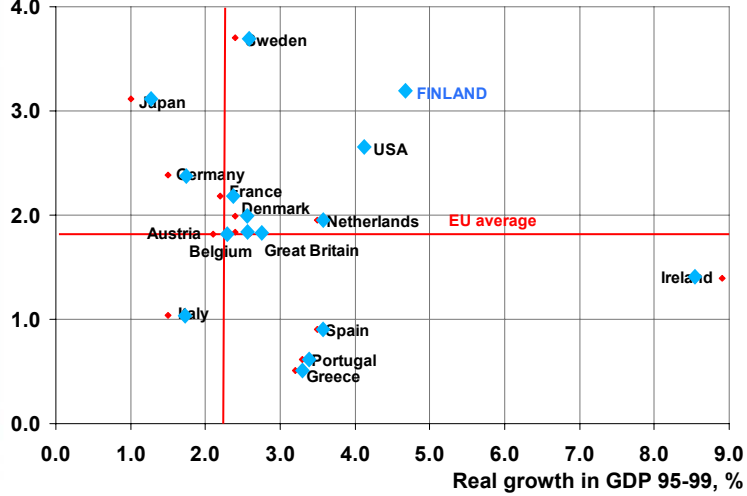
Allocation of R&D Resources





R&D Intensity and GDP Growth in Some Countries

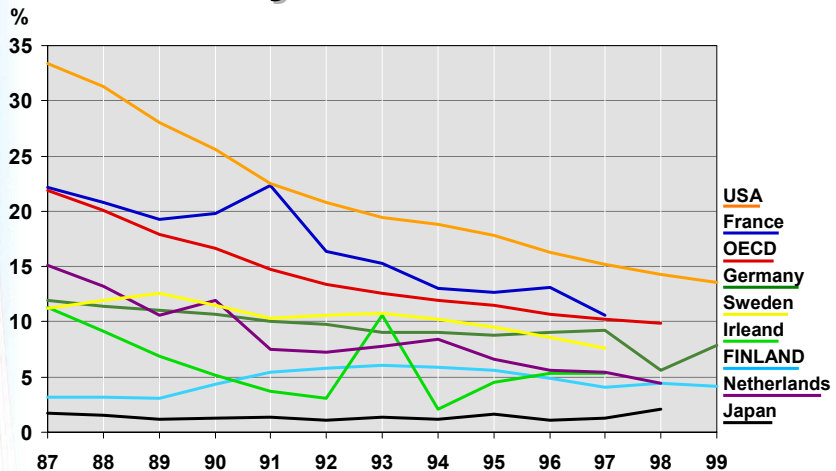
R&D intensity, %



Source: Statistics Finland



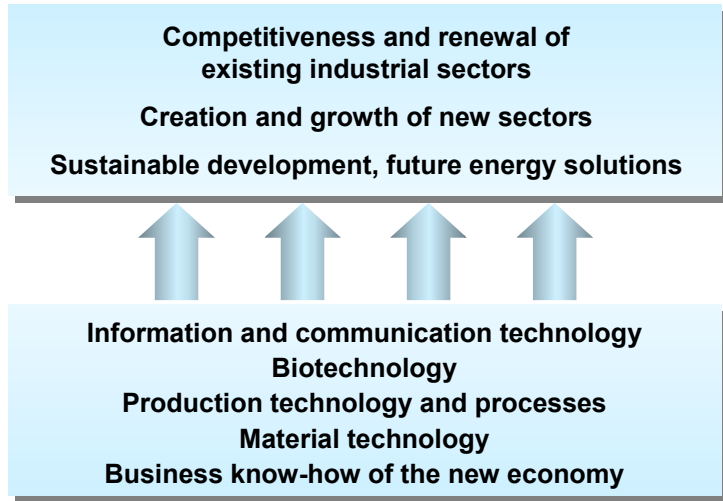
Share of Corporate R&D Funded by the Public Sector



Sources: OECD, Statistics Finland



Identified Key Technologies



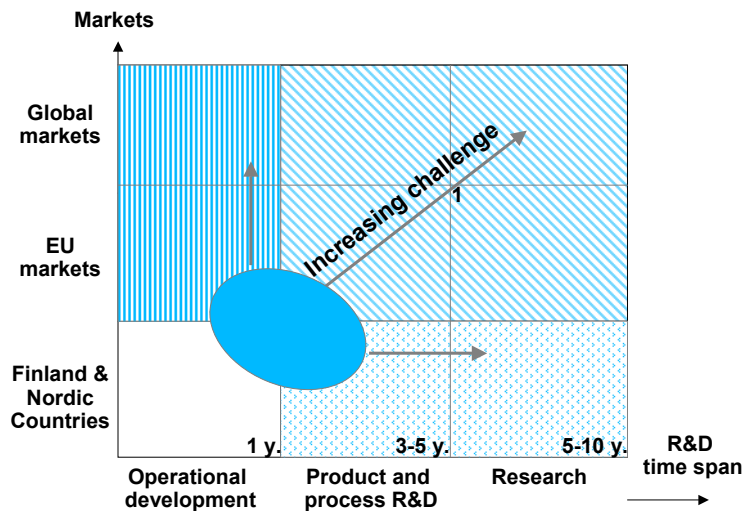
Target Areas of Tekes

Technology development	SMEs	Large companies	Research institutes, universities
Basic research			
Technology development			
Product development			
Pilot projects			
Market entry			

= Target area of government instruments = Strategic direction



Marketing Targets of R&D Projects



Technology Programmes

- Extensive programmes initiated by Tekes and consisting of numerous projects
- Focused on a key technology sector
- Implemented in co-operation by companies and research units
- Companies can participate with their own projects or by joining in common research projects
- Projects and results are partially public, but the results of industrial projects are proprietary



Key Figures of Technology Programmes

- 50 on-going programmes in 2001 with a total extent of EUR 1.3 billion
- Each programme lasts 3- 5 years
- Tekes usually finances half of programme costs
- Annually 1600 - 2400 company participations
- Annually 700 – 900 research unit participations



Construction Technology Programmes in Finland

Vera - Information Networking in the Construction Process	1997-2002	44 M€
ProBuild - Progressive Building Process	1997-2001	13 M€
Healthy Building	1998-2002	21 M€
Rembrand - Real Estate Management and Services	1999-2003	21 M€
INFRA - Civil Engineering and Services	2001-2005	24 M€
Value Added Wood Chain	1998-2003	58 M€
Stone - Technology and Development Program for the Stone Industry	1999-2002	10 M€
Divan - Technology and Development Program for the Furniture Sector	1999-2002	13 M€
Total budget		204 M€



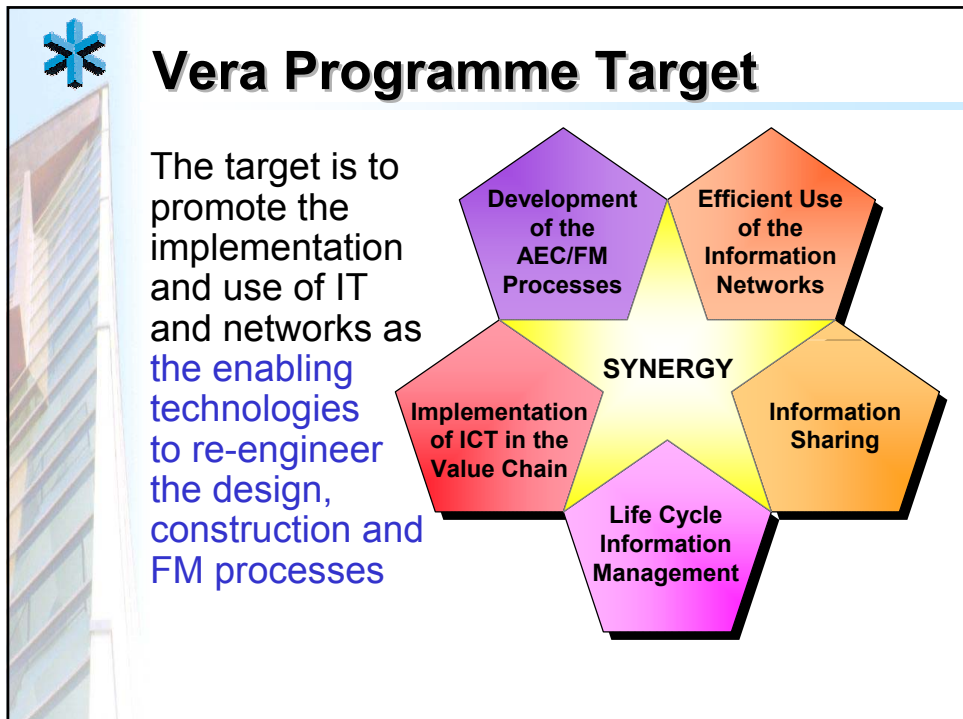
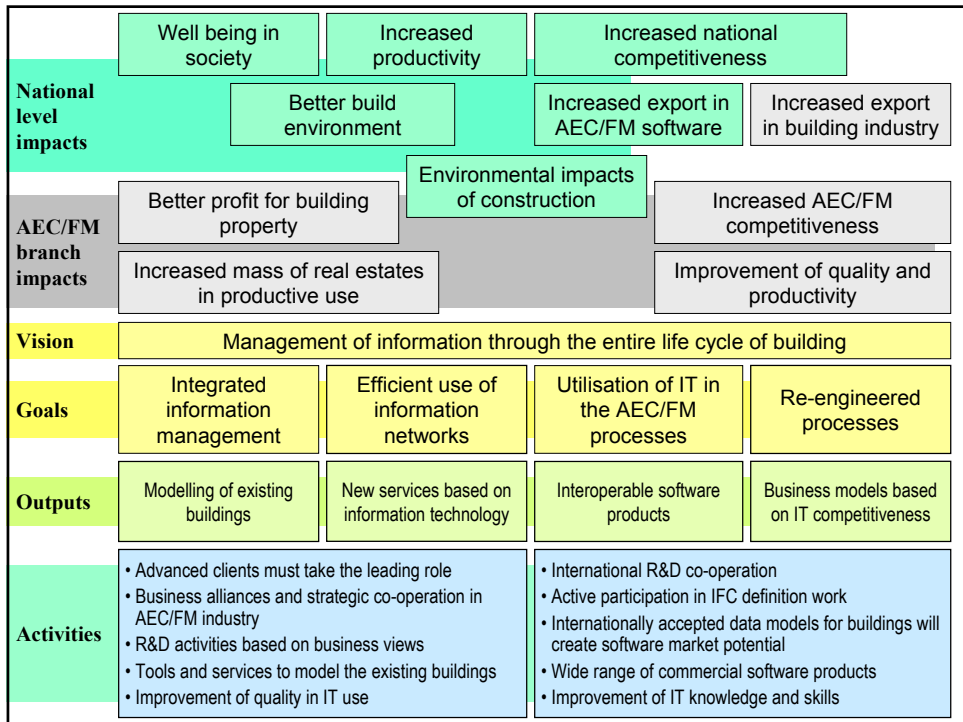
Key elements

- The target is defined in wide collaboration with the industry and academia
 - "Pre-marketing" ⇒ Commitment and shared vision already in the beginning
- Loose framework - only few key projects might be defined in the beginning
 - Flexibility in project selection
- Industry driven
 - Most project proposals from the industry
 - No funding for research institutes or universities without industry funding
 - Industry funding is a "feasibility study"



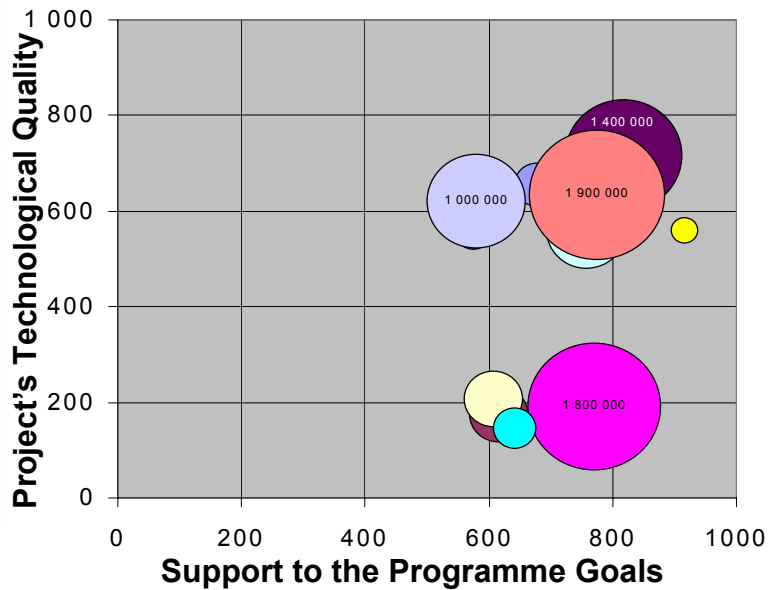
Vera Technology Programme

- Information Networking in the Construction Process
- Schedule - six years; 1997 - 2002
- Total volume
 - ~45 % by Tekes € 20 million
 - ~55 % by the industry € 24 million
 - Total budget € 44 million
- Project allocation 1997-2001
 - Research: 37 projects € 4.7 million
 - Industrial: 93 projects € 30.3 million
 - Total: 130 projects € 35.0 million
- URL: <http://www.tekes.fi/english/vera/>

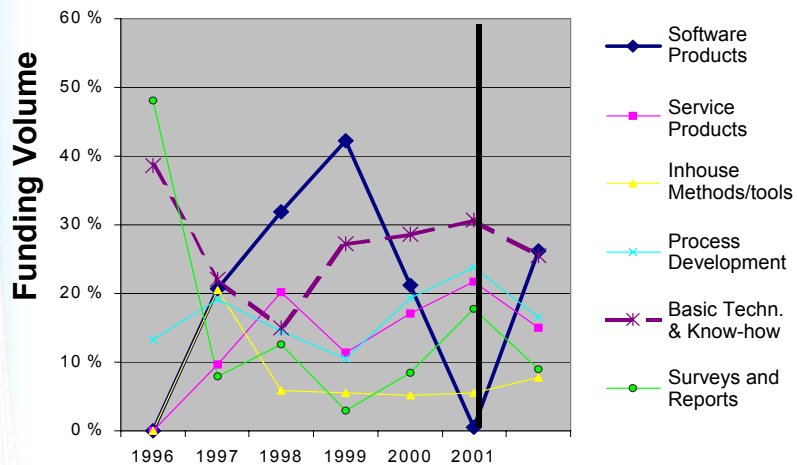




Example: Project Portfolio 2001

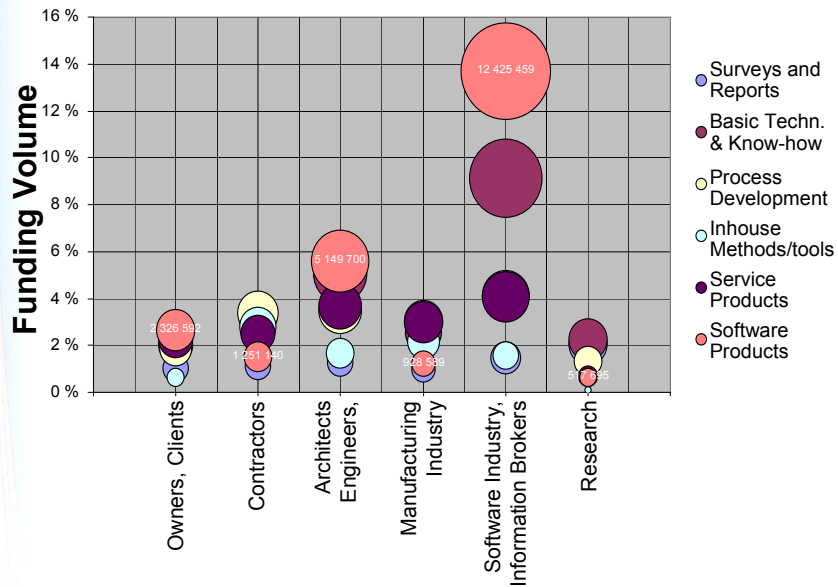


Example: Project Type Analysis





Example: Value Chain Analysis



Some Observations/Remarks

- Finnish Technology Programmes are somewhere between EU Framework Programmes and Integrated Projects
 - Projects are proposed and managed by the team
 - Project and project's steering group selection are the tools to guide the projects
 - Project approval proposed by the Programme Manager and Technology Manager, in Research Projects also the Programme Steering Committee makes recommendation - **the strongest emphasis is always on the support to the programme goals**
 - Final approval of projects always by Tekes



Some Observations/Remarks

- Some differences
 - IPs "Must contain research" - in Finland not required from SME projects
 - IPs: "Can contain training" - in Finland: NO! *(but perhaps we should ?)*
- Main challenges
 - How to "sell" the idea to the industry?
 - How to get the maximum leverage effect from the limited public funding?
 - How to select the most potential projects and partners?
 - How to achieve the critical mass to change the industry?



Implementation of technological leaps

