Overview of Finnish Approach to ICT R&D for AEC/FM Industry

Vera
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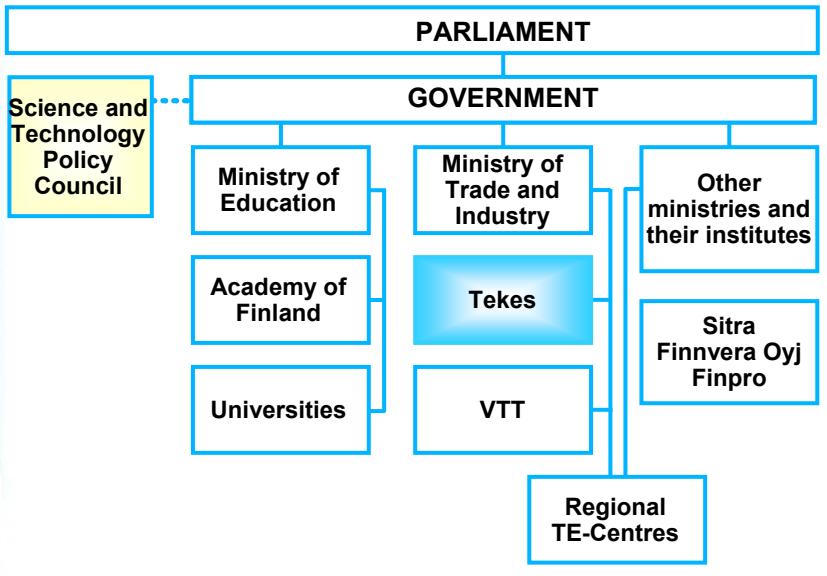
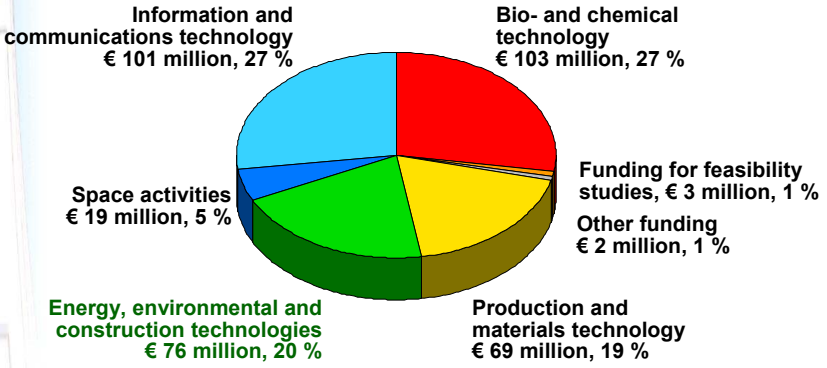
Public sector activities of R&D in Finland

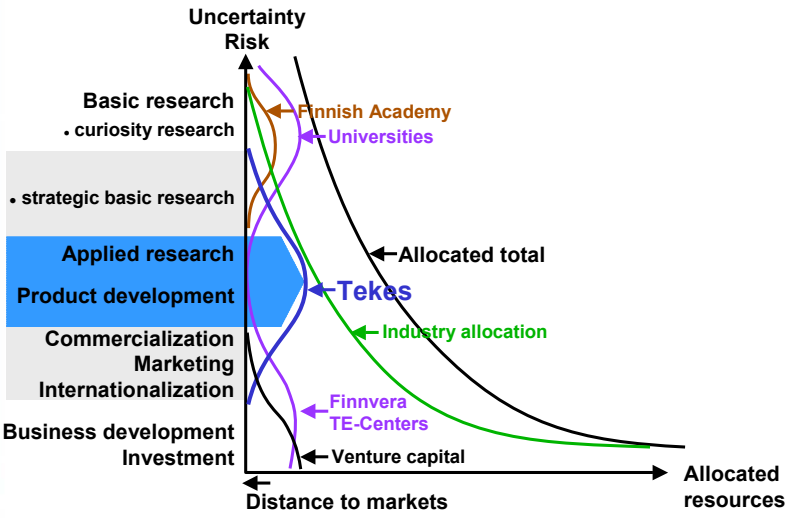


Total Tekes R&D funding in 2000 by field of technology

Total € 373 million (AU$ 688) and 2 297 financed projects



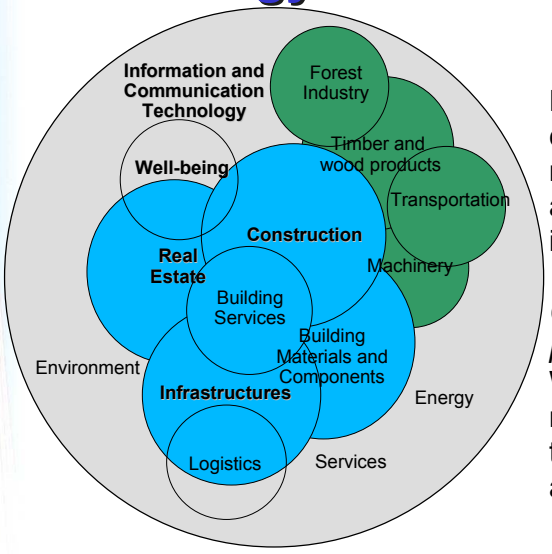
Allocation of R&D resources



Technology Programmes

- Extensive programmes initiated by Tekes and consisting of numerous projects
- Focused on a key technology sector ⇨ pro-active tool to influence the R&D interest areas and create the critical mass
- Implemented in co-operation by companies and research units
- Projects and results are partially public, but the results of industrial projects are proprietary

Tekes: Construction and Wood Technology Cluster



Tekes mission:
R&D must become a constant part of the normal business also in the AEC/FM industry

Change in the basic philosophy:
We must move from minimizing the costs to maximizing the added value

Vera Technology Programme

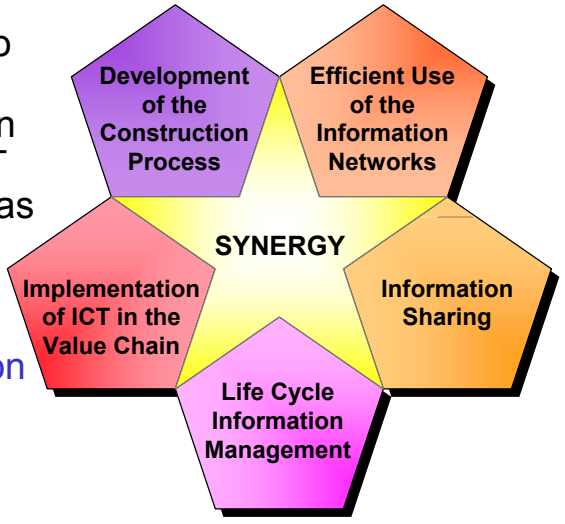
- Information Networking in the Construction Process
- Schedule - six years; 1997 - 2002
- Total volume

~45 % by Tekes	120 million FIM	(AUD 35 million)
~55 % by the industry	140 million FIM	(AUD 41 million)
Total budget	**260 million FIM**	**(AUD 76 million)**

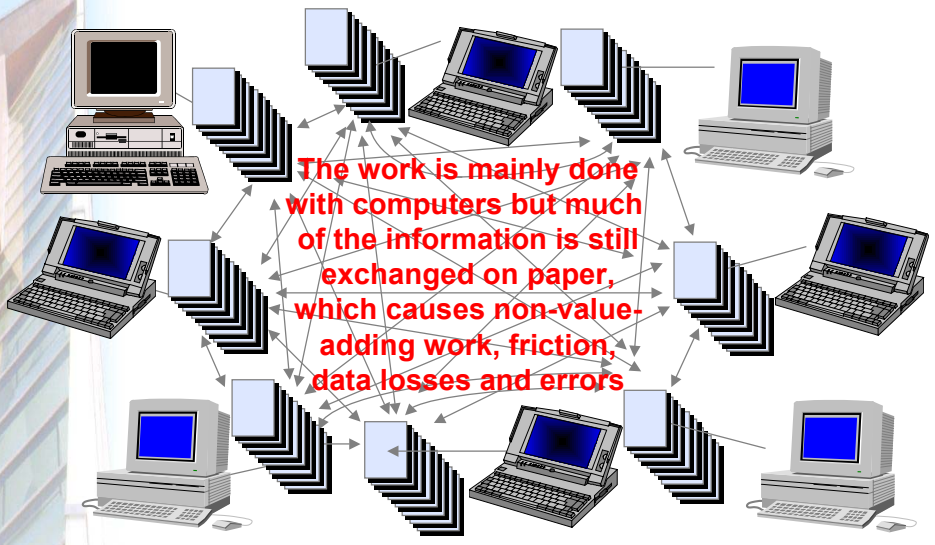
- Allocation January 1997…August 2001
  - Research projects: 35 / 26 million FIM (AUD 8 million)
  - Industrial projects: 90 / 174 million FIM (AUD 51 million)
  - **Total: 125 / 200 million FIM (AUD 59 million)**
- URL: http://www.tekes.fi/vera/

Target

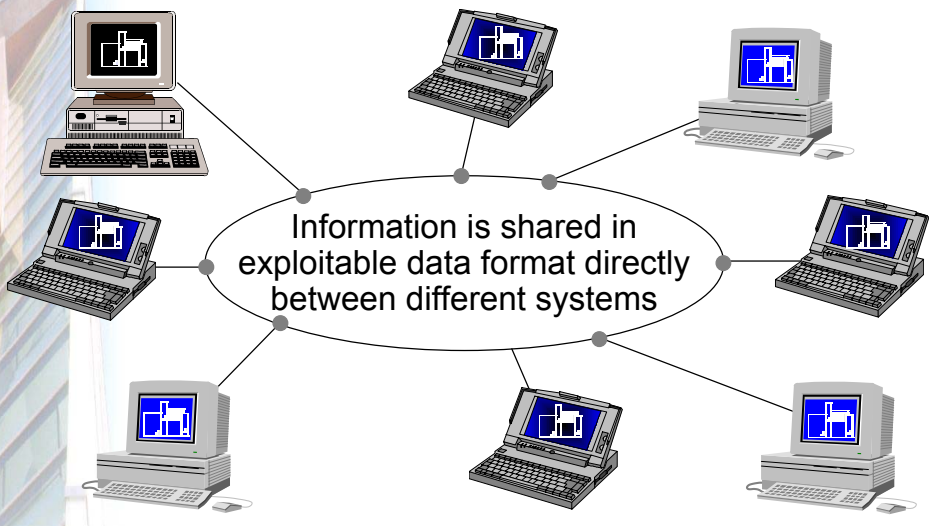
The target is to promote the implementation and use of ICT and networks as the enabling technologies to re-engineer the construction process



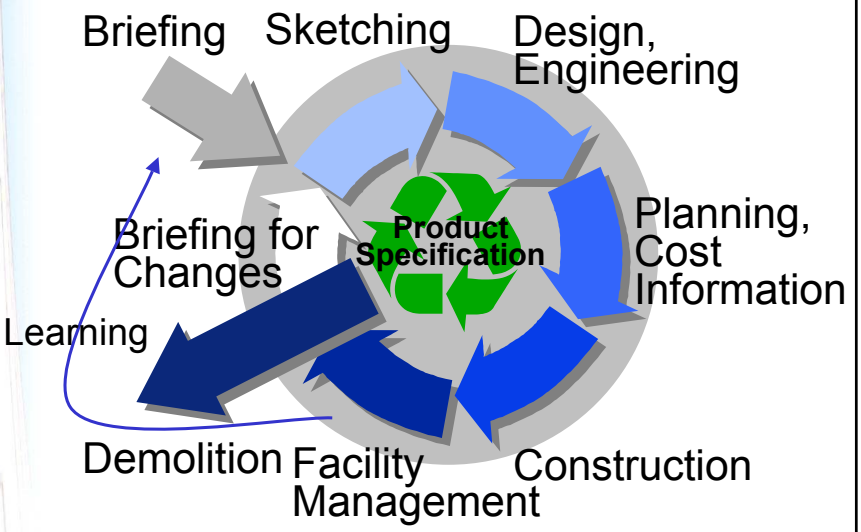
Current Problem



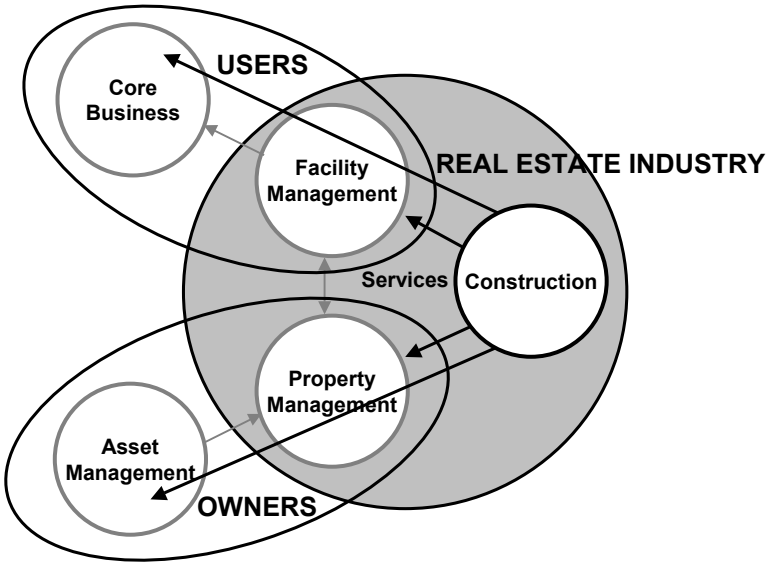
Goal in the Future



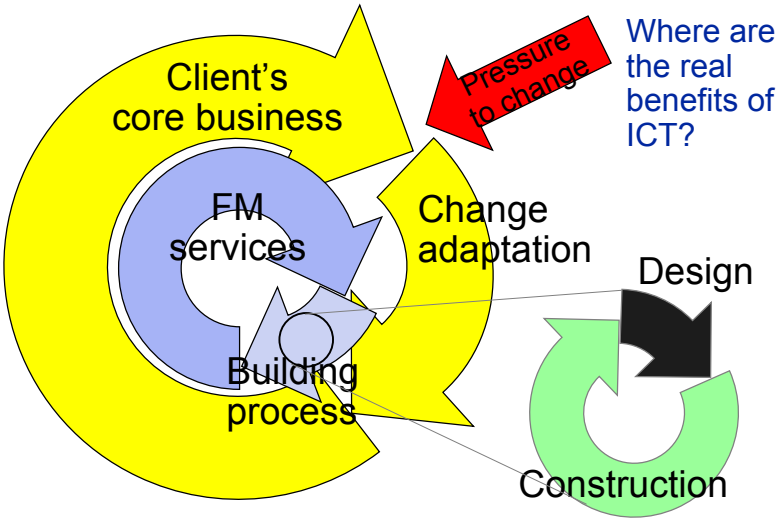
Information Lifecycle - Project View



New View to the AEC/FM Industry



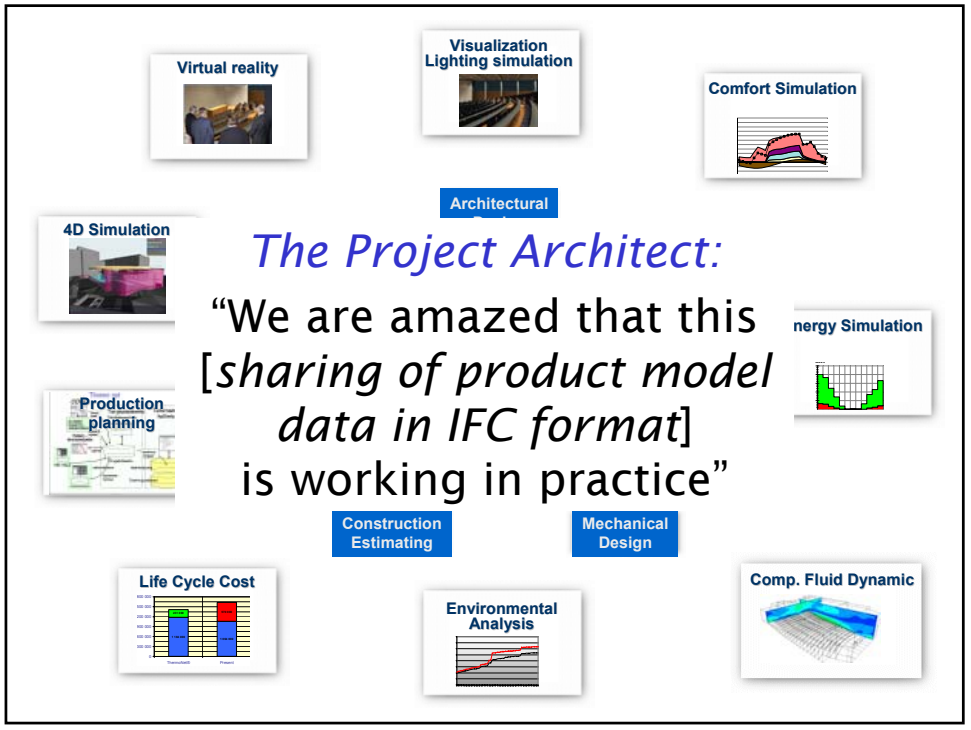
Real Life Cycle View ?

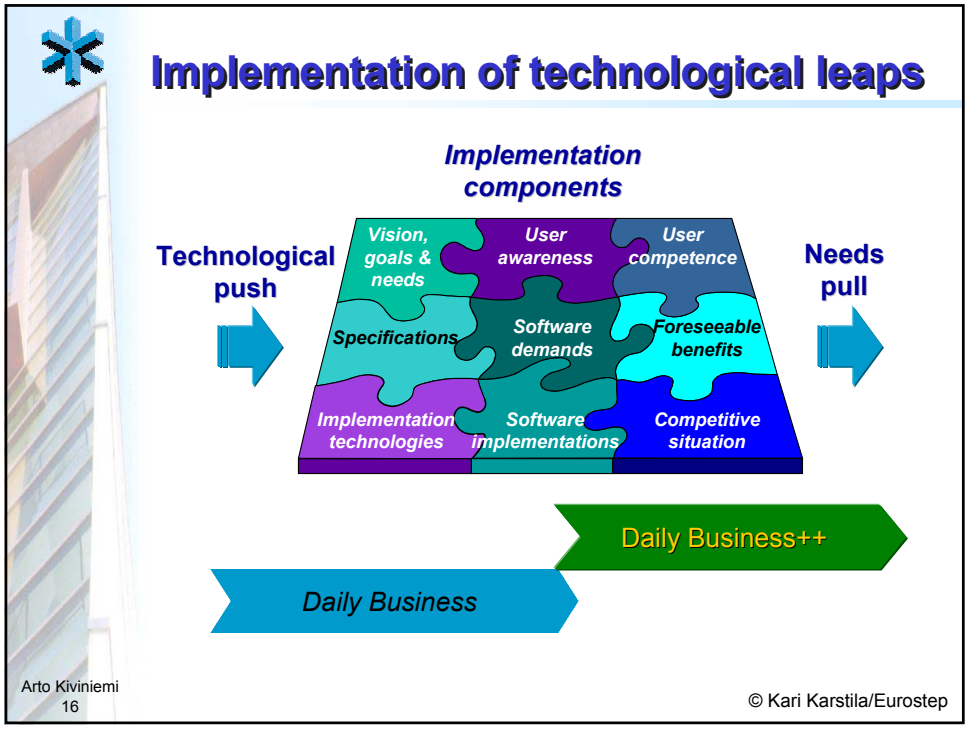


A case study in the application of:

Industry Foundation Classes & 3D/4D Models

CIFE Summer Program 2001, Stanford University


Virtual reality
Visualization
Lighting simulation
Comfort Simulation
Architectural
4D Simulation
The Project Architect:
"We are amazed that this
[sharing of product model
data in IFC format]
is working in practice"
nergy Simulation
Production
planning
Construction
Estimating
Mechanical
Design
Life Cycle Cost
Environmental
Analysis
Comp. Fluid Dynamic


Implementation of technological leaps
Implementation
components
Technological
push
Vision,
goals &
needs
User
awareness
User
competence
Specifications
Software
demands
Foreseeable
benefits
Implementation
technologies
Software
implementations
Competitive
situation
Needs
pull
Daily Business++
Daily Business
Arto Kiviniemi
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