

## VERA - Information Networking in the Construction Process

- VERA is a national technology programme for building industry funded by Tekes, Technology Development Centre Finland
- Technology programmes are means of creating new technological know-how through the cooperation of companies, research institutes and universities
- The programmes promote the technological development of a specific field of technology, industry or even of an individual company

**TEKES**

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Mika Lautanala Tekes  
Kari Kaitanen VTT

**VTT Building Technology**

## Programme planning group

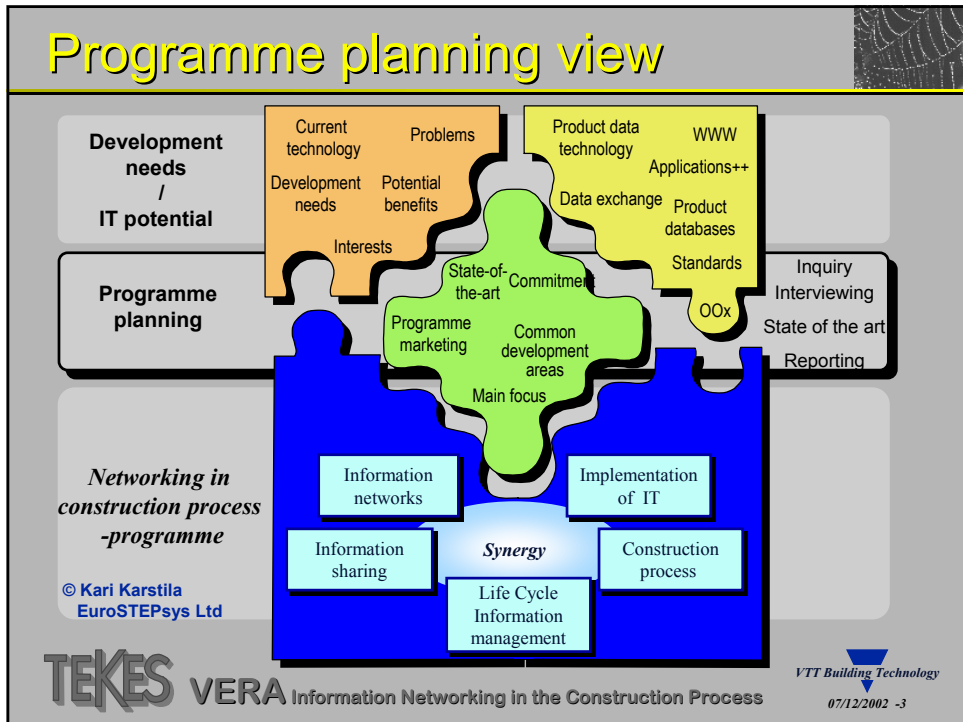
- Project coordination
  - ☑ Mika Lautanala, Tekes
- FM, clients, architectural and structural design
  - ☑ Arto Kiviniemi, VTT Building Technology
- Construction companies
  - ☑ Riitta Takanen, NCC-Puolimatka Ltd
- Building material and component industry
  - ☑ Kari Karstila, EuroSTEPsys Ltd
- Building services
  - ☑ Pekka Metsi, Olof Granlund Engineering Ltd
- International research in building sector
  - ☑ Bo-Christer Björk, KTH

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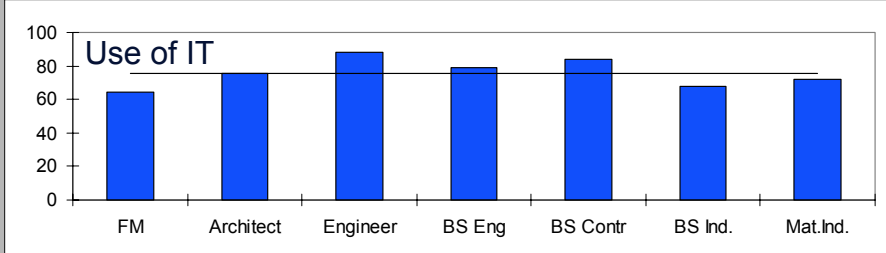
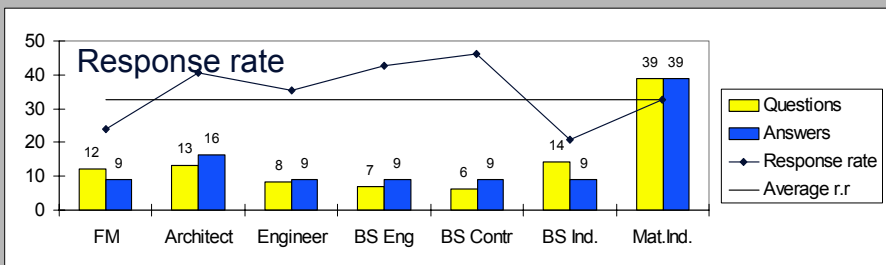
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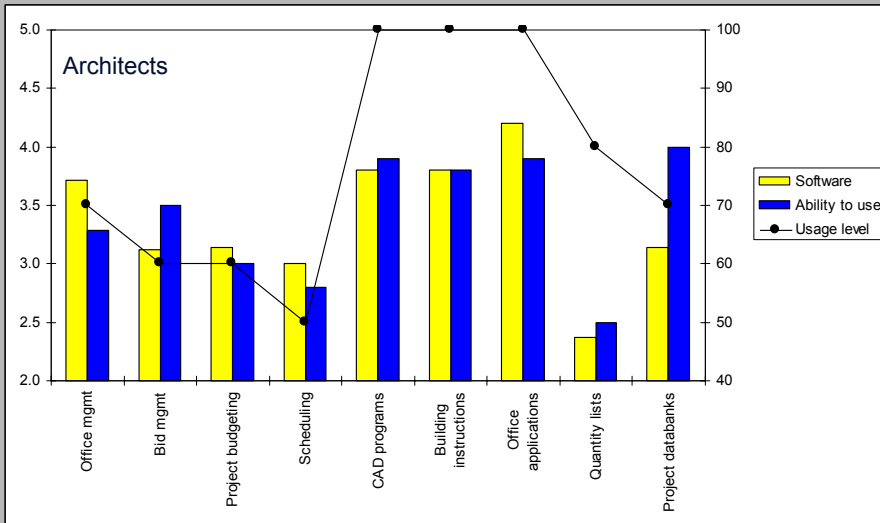
# Programme planning view



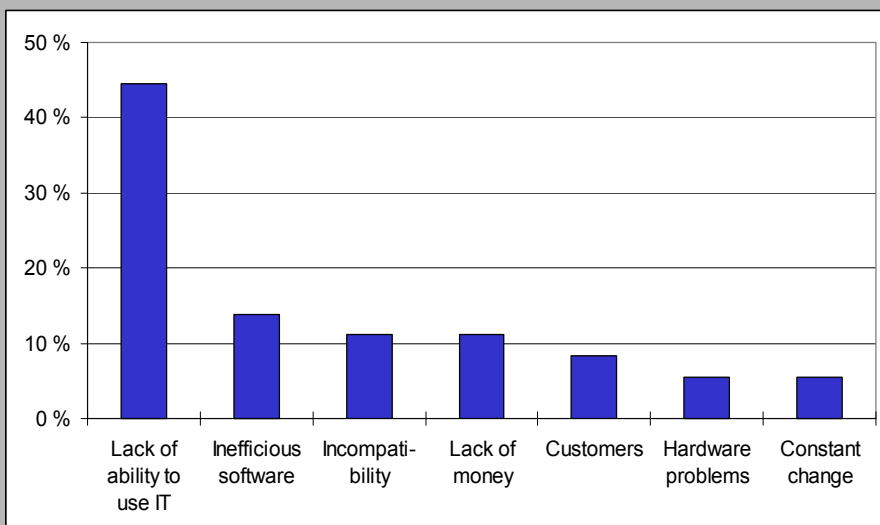
# Response rate and use of IT



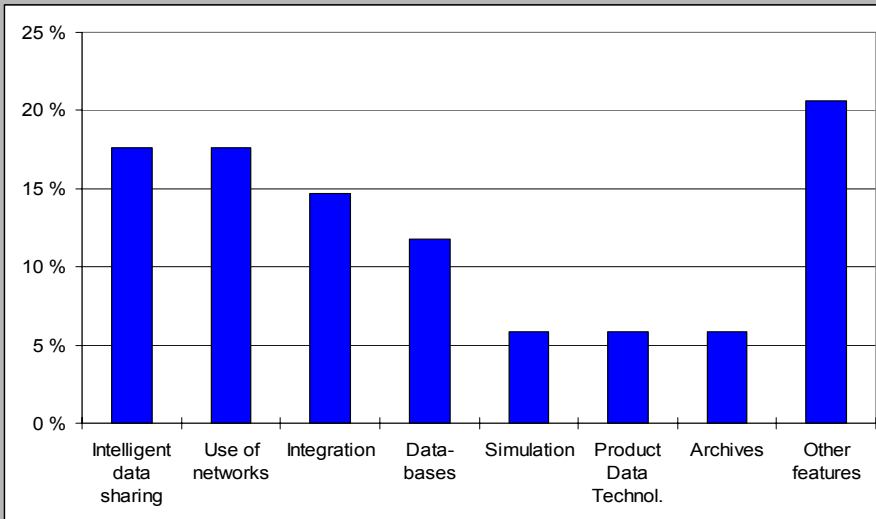
# Satisfaction and usage correlation



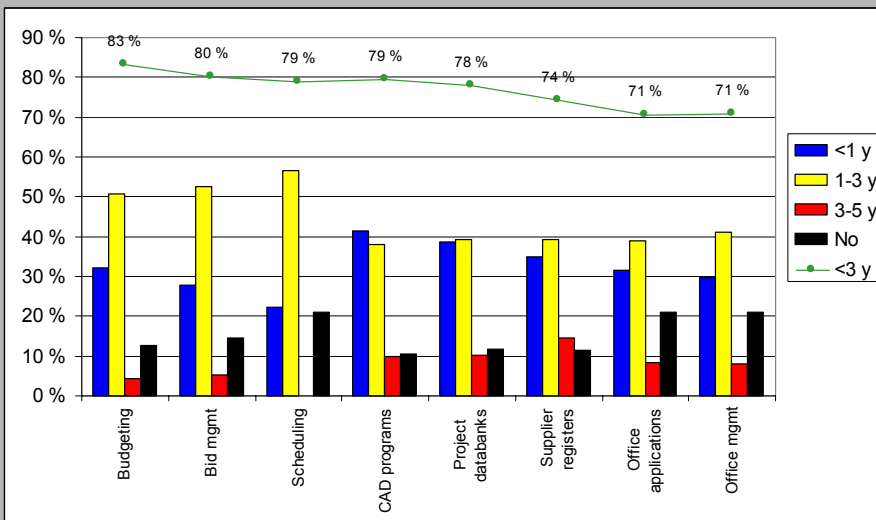
# Main hinders in use of IT



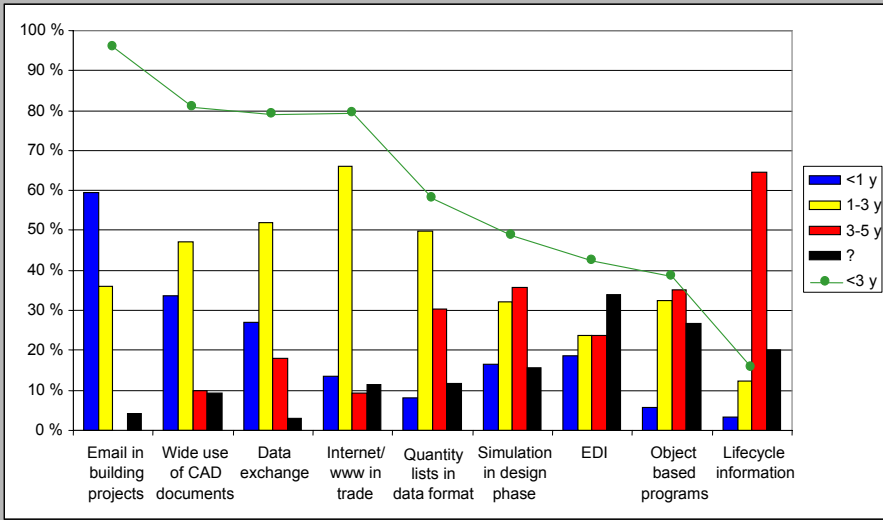
# Unused features in current technology



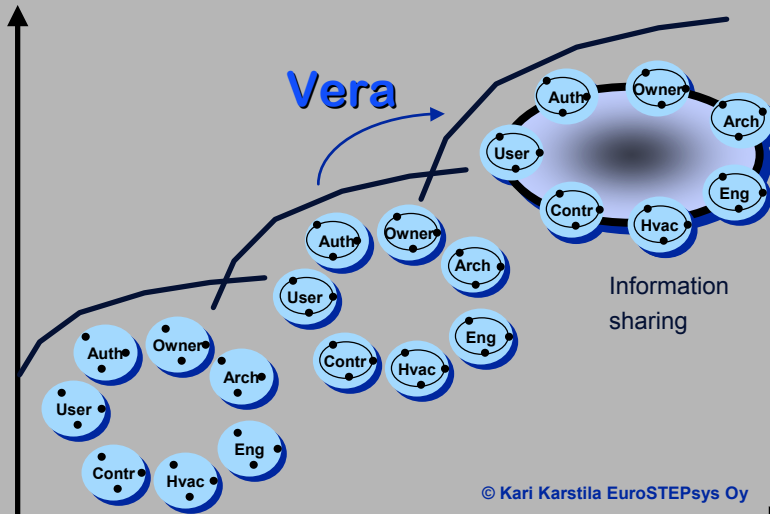
# Company development schedule



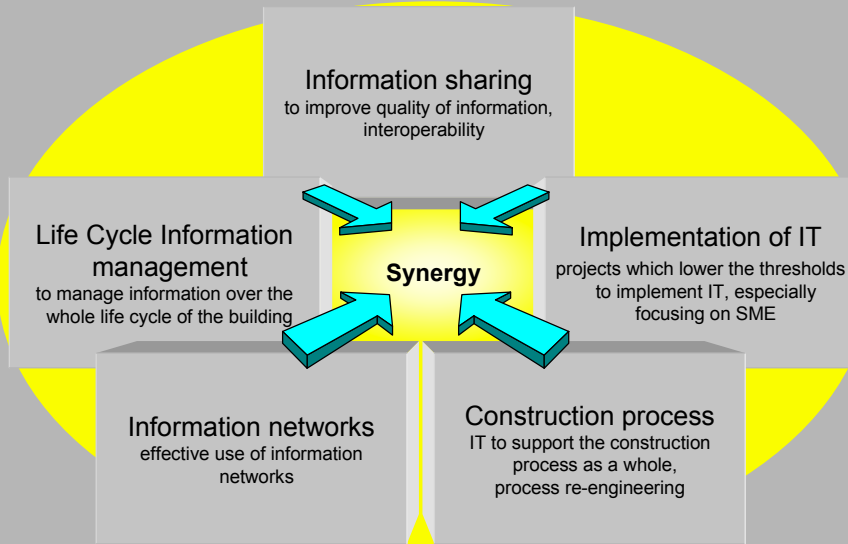
# Industry development vision



# Technological steps



# Synergy of components



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# Main items for the programme

- Efficient use of IT
  - ☑ benchmarking
  - ☑ pilot projects, questionnaires
  - ☑ education in building industry
- Information management between participants
  - ☑ management of revisions and changes
  - ☑ legal issues in electronic documents
  - ☑ feedback
  - ☑ standards: IFC, STEP
- Construction process
  - ☑ project instructions
  - ☑ new working methods
  - ☑ re-engineering of the process

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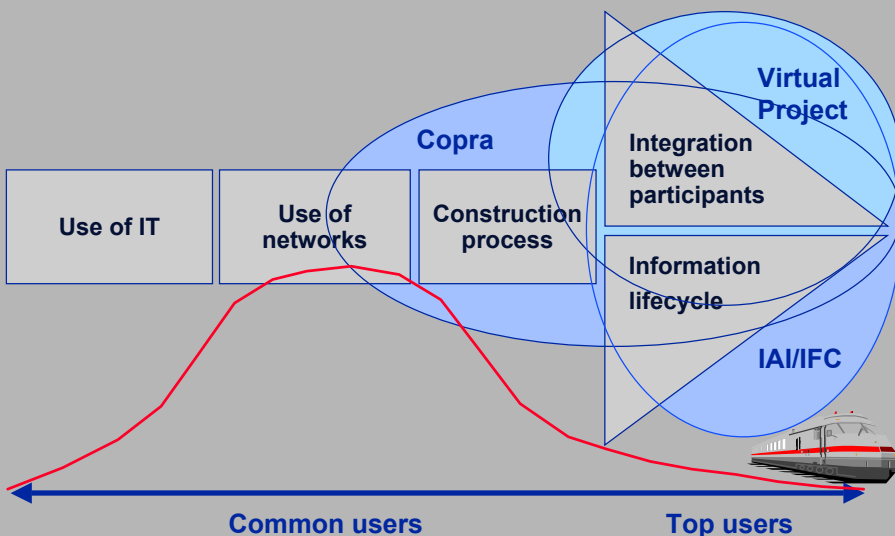
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# Main items for the programme

- Efficient use of information networks
  - ☑ data transfer and project data banks
  - ☑ building instructions
  - ☑ virtual design teams
  - ☑ data security
- Information lifecycle
  - ☑ client briefing, design, construction, use, renovation and demolition
  - ☑ information as a part of product
  - ☑ as-built information
  - ☑ product data as a part of the documentation
  - ☑ standards for common product databases
  - ☑ requirement management

# Ongoing projects

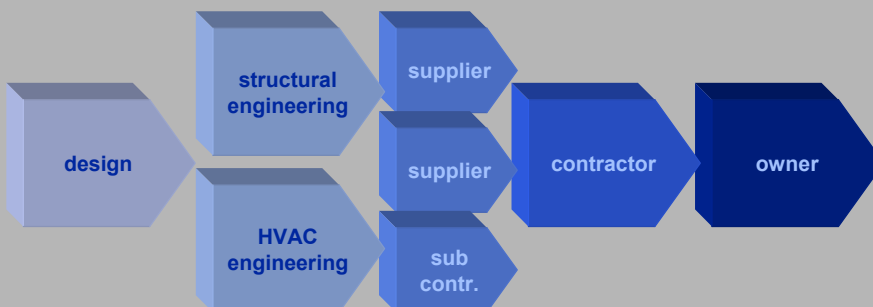


## Programme schedule and budget

- 1-3 years (1997 - 1999)
  - ☑ efficient use of current technology
  - ☑ project instructions
  - ☑ document storage in project database
- Evaluation of achievements and goals
- 4-6 years (2000 - 2002)
  - ☑ use of product models
  - ☑ information structures
  - ☑ information management
  - ☑ product information in project database
- Total budget 170 million FIM ~ US\$ 34 million
  - ☑ Industry 100 million FIM ~ US\$ 20 million
  - ☑ Tekes 70 million FIM ~ US\$ 14 million

## Project principles

- to develop construction process and IT solutions simultaneously
- to promote R&D in networks
  - ☑ projects which include parts of the value adding chain in construction process



# General idea of the program

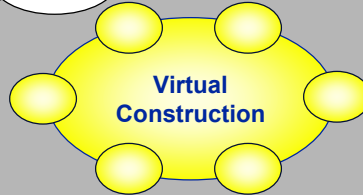
Effects

Quality and Productivity  
Process re-engineering

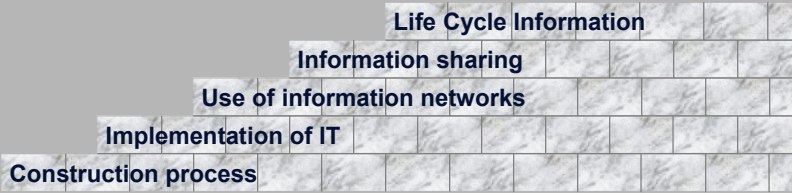
Improved profit in facility management

Export  
New business areas

Target



Main themes



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