



Business from technology

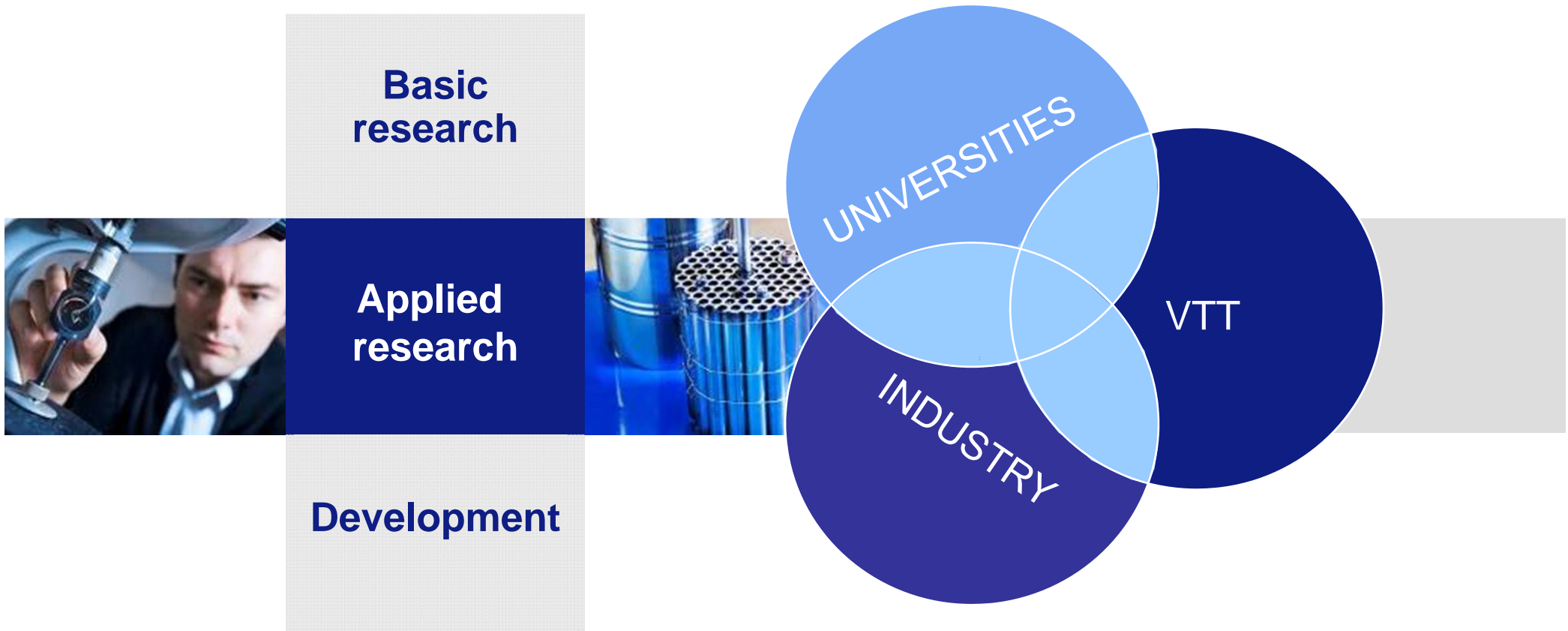
VTT TECHNICAL RESEARCH CENTRE OF FINLAND

Human-Machine Interaction and
Virtual Engineering

<http://hms.vtt.fi/>

Susanna Aromaa
Research Scientist

VTT's status as performer of R&D work



VTT Technical Research Centre of Finland

VTT IS

- the biggest multitechnological applied research organisation in Northern Europe

VTT HAS

- polytechnic R&D covering different fields of technology from electronics to building technology
- clients and partners: industrial and business enterprises, organisations, universities and research institutes

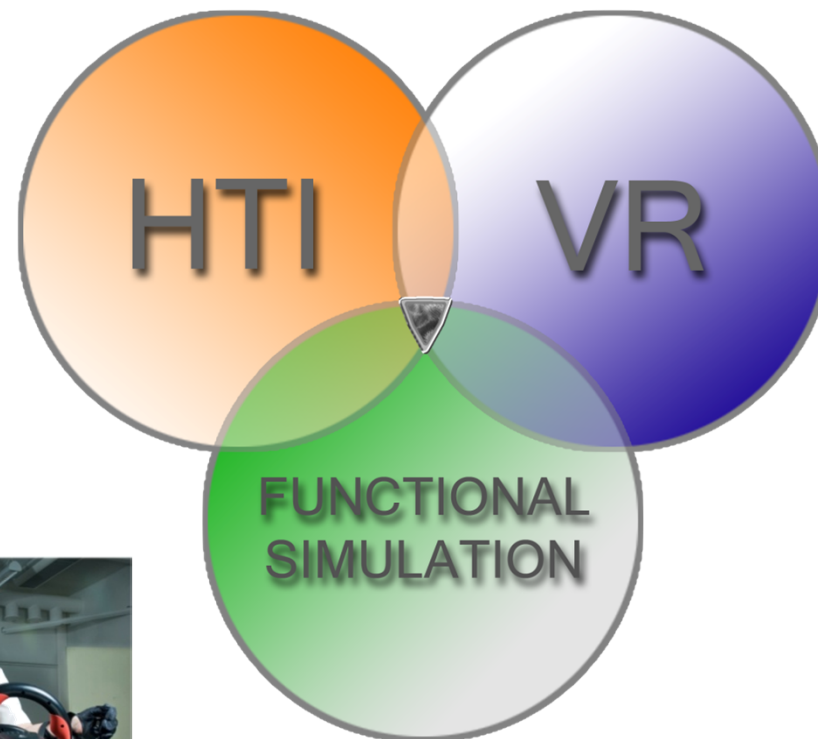
VTT CREATES

- new technology and science-based innovations in co-operation with domestic and foreign partners

- Turnover 276 M€
- Personnel 2,900
- 77% with higher academic degree
- 6,200 customers
- Established 1942
- VTT has been granted ISO9001:2000 certificate.

Mission Statement

Developing customers Human-Machine Systems and workplaces by utilising Virtual Environments and Functional Simulation





Business from technology

Enhancing designers' experience of the final product by using Virtual Environment

CHI conference

Designer Experience: Exploring Ways to Design in Experience – Workshop

Susanna Aromaa

VTT Technical Research Centre of Finland

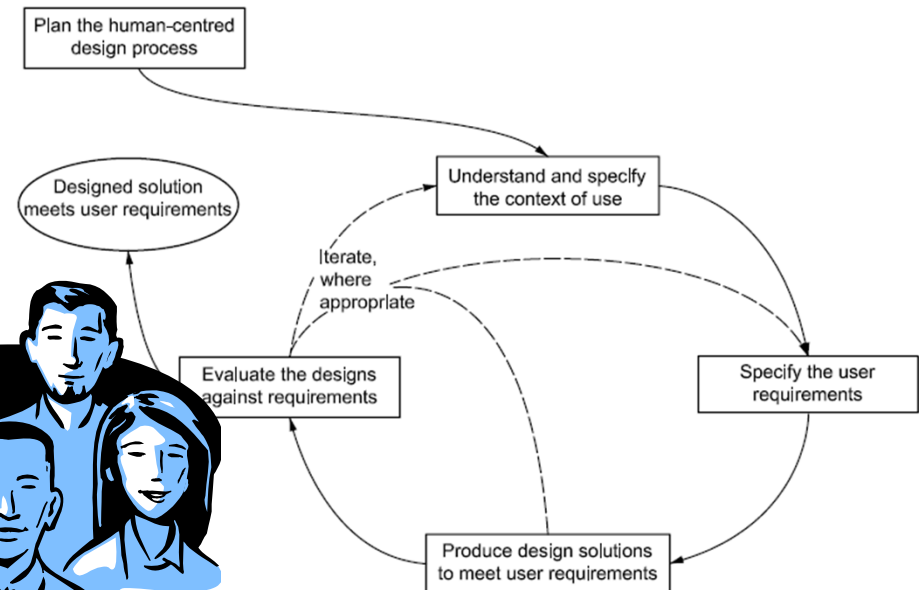
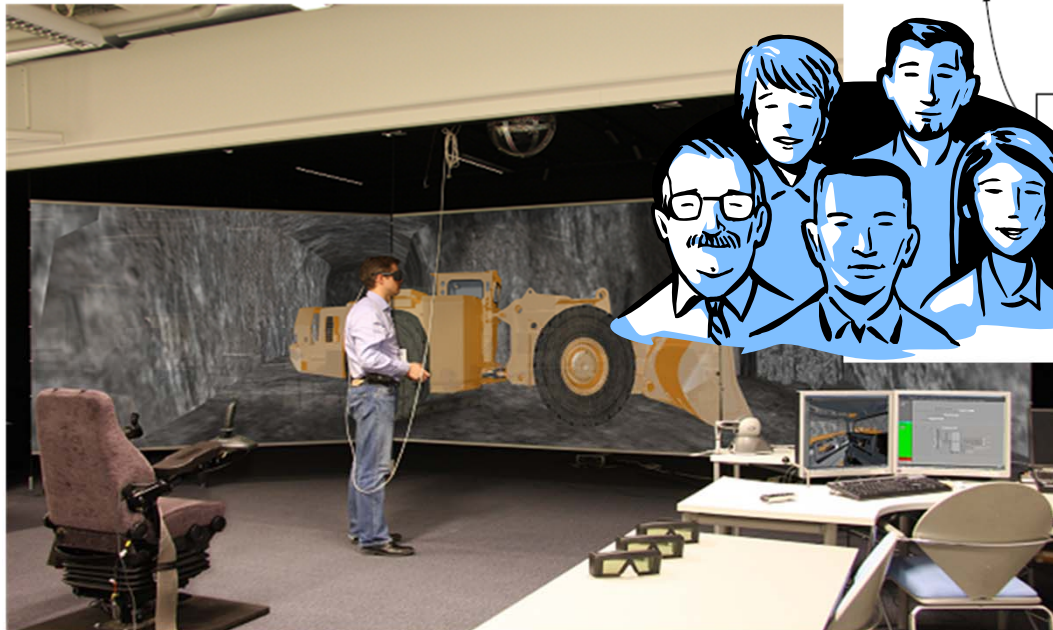
Goal

- Enhancing designers' experience of the final product by using Virtual Environment



Approach

- Virtual Environment (VE) system
- Focus group
- Human Centered Design (HCD)



Case:

- Evaluating user's field of view and task visibility in different design solutions
 - Two crane's cabin locations were tested
 - Different camera views were tested
- Preparations were made (CAD models, focus group people)
- One person was driving, others were discussing



Results and conclusions

- Realistic experience for the designer
- Visualisation is good (also for group of people)
- No need for real mock-ups
- In focus groups it is possible to use knowledge of many people
- Needs experienced end user for better results
- VE technology is mature enough for field of view analysis. Needs still development for realistic experience e.g. auralisation





VTT creates business from technology

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**HUMAN MACHINE INTERACTION
AND
VIRTUAL ENGINEERING**