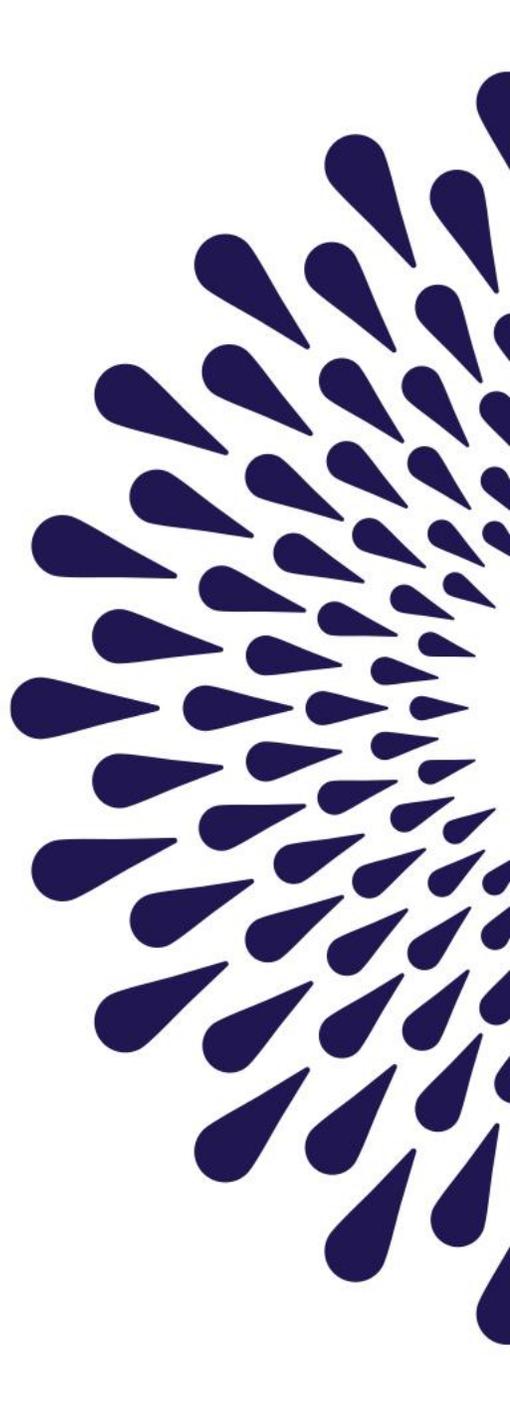


# Future vehicle technologies

Pasi Junell

SeAMK 



# Introduction

## Pasi Junell

### Education:

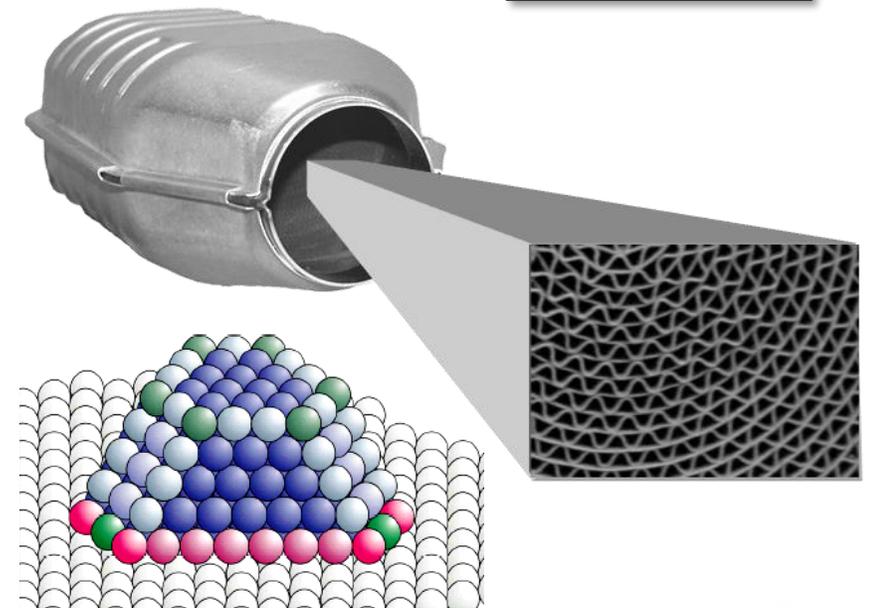
- M.Sc (Tech.), Electrical engineering
- D.Sc (Tech.), Surface Science

### Work experience:

- Research scientist and part time teacher, Tampere University of Technology (~6 years)
- Principal lecturer, Seinäjoki University of Applied Sciences (~15 years)
- Head of degree program, mechanical engineering

### In total:

- Participation in 12 research projects
- 6 journal articles, 13 conference articles, 12 professional articles and 3 editorial memberships



# Future vehicle technologies (FVT)

- Sustainable and intelligent solutions for the transportation of people and goods
- After sales: Maintenance organizations, circular economy, authority interface
- Outdoor robotics: Intelligent mobile work machines and ancillary systems



# Future vehicle technologies (FVT)



## Sustainable road transport:

- New technology: emission control, propulsion, driving autonomy
- Aftermarket: maintenance, equipment, repair,...
- Circular economy

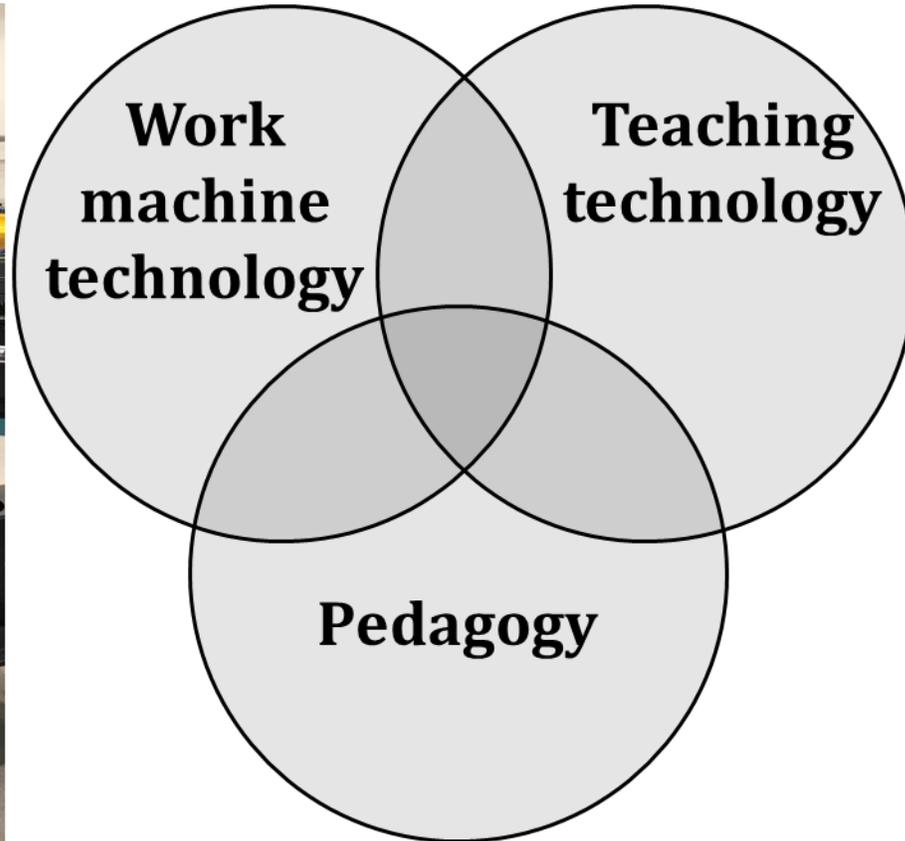


## Work machines:

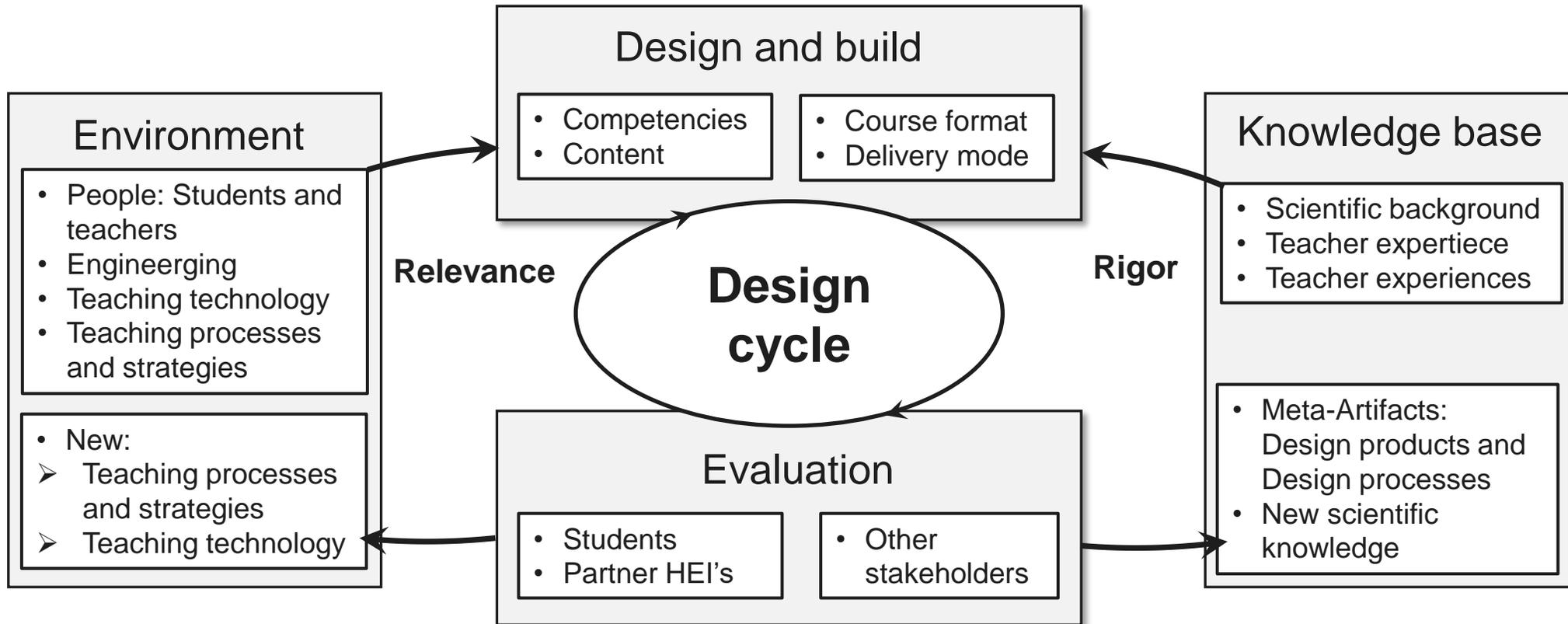
- Navigation
- Automatic control
- Outdoor automation and robotics



# TKI:n kolmikanta



# EDR (=Educational Design Research)



# Towards outdoor robotics

- Sensors
- Machine vision
- IoT, Data Analytics
- Machine situational awareness
- Security issues
- Acceptability

