EUR-ACE Going Global

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Challenge-Based Learning: Many Opportunities

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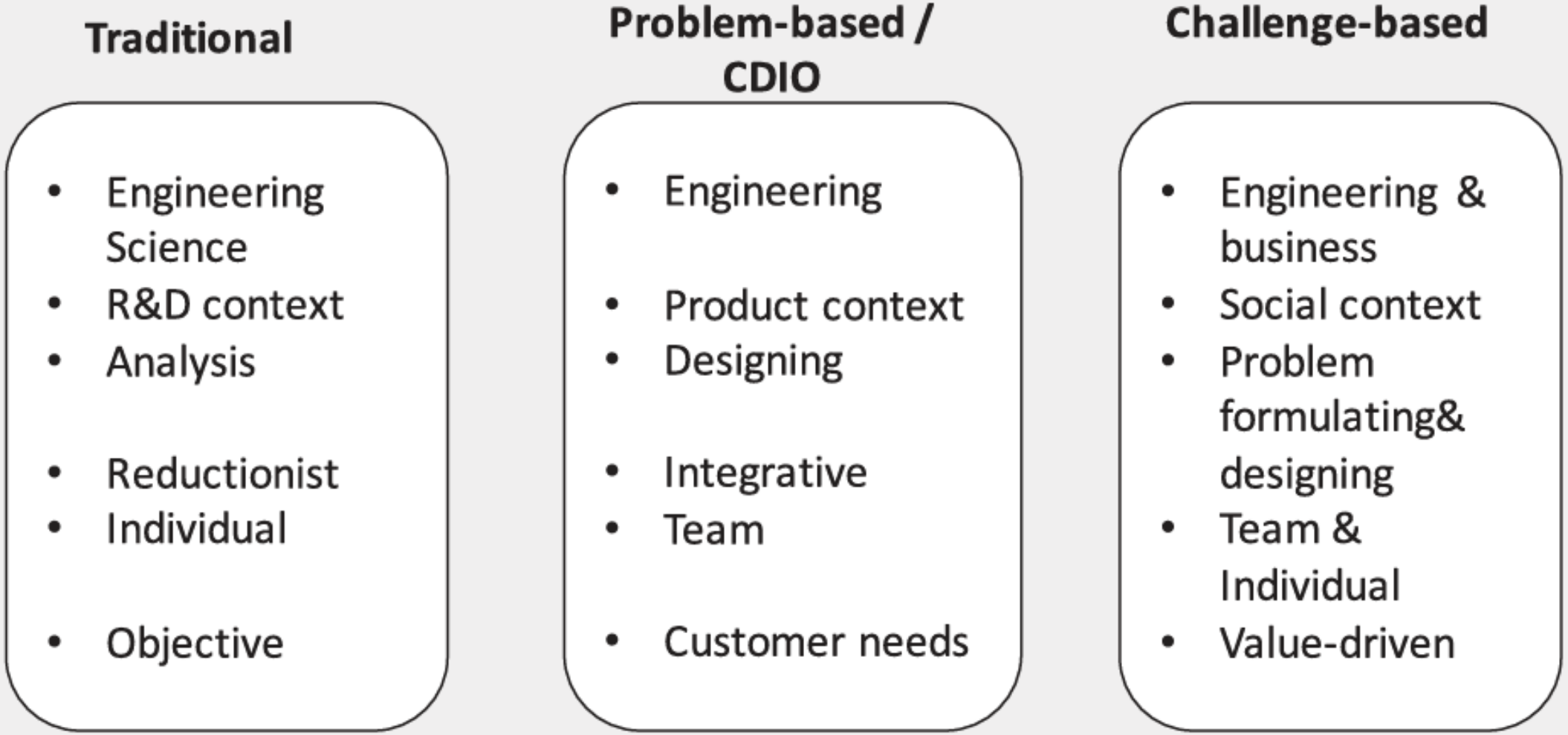
Challenge-Based learning

- What is it?
- How does it compare to
  - Traditional learning
  - Project-Based Learning
  - Problem-Based Learning
- Some examples
- Strong points
- Challenges …

So, what is Challenge-Based Learning?

- Challenge comes from a social actor
- Students go through the identification, analysis and design of a solution to a socio-technical problem
- Is typically multidisciplinary
- Aims to find a collaboratively developed solution
- Solution should be environmentally, socially and economically sustainable



Kohn-Rådberg et al., 2020

Challenge

“D*evelop a sustainable product that counters the effect of urban heat islands and reduces heat stress for vulnerable target groups in the city*”

Solution

The Cooling Flower
a bench for up to 20 people
that cools its surroundings
(a few degrees)
by a cooling mechanism inside

Challenge

"D*evelop a sustainable product that overcomes loneliness and prevents social isolation for the elderly*"

Solution

Silverline:
a user-friendly device,
allows older people to independently establish a video call
with their friends and family,
without the need for technical expertise

Strong points of Challenge-Based Learning

- Use of authentic open-ended societal problems
- Learning to deal with complexity
- Collaboration in teams
- Across disciplinary boundaries
- Key competences such as communication, collaboration, reflection, entrepreneurial mindset
- Is a motivator for students

Challenges …

Find social actors that formulate challenges – interdisciplinary teams

Need for

- Content support
- Supervisory support
- Infrastructural support
- Contextual support

Scalability

Cross cutting to the eight learning areas of EUR-ACE

Knowledge and understanding
Engineering Analysis
Engineering Design
Investigations
Engineering Practice
Making Judgements
Communication and Team-working
Lifelong Learning