

Welcome to the study programme

## International Design Engineering

Lecturer: Duncan Hepburn



New English taught BSc programme  
starting in September 2020



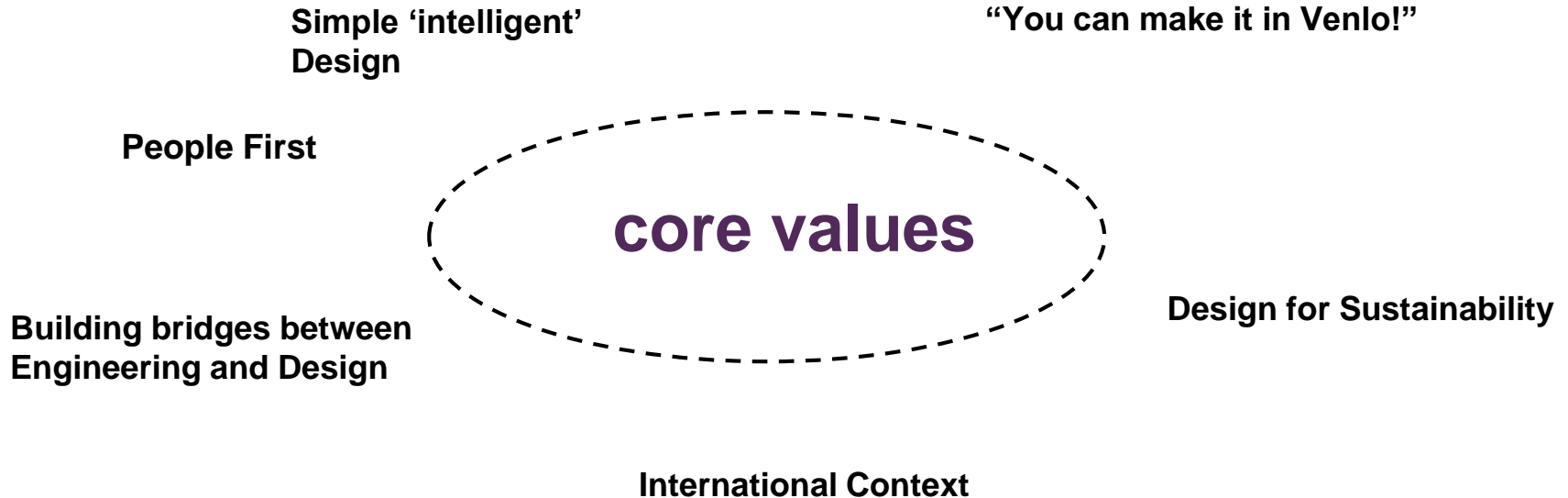
New English taught BSc programme  
starting in September 2020



- Industrial Design Engineering → IDE
- Combination of 60% creative design and 40% technical theory
- Products require increasingly complex interactions- with the user, with technology and with the environment.
- These interactions effect how the products functions, how it looks and how it's made.
- The IDE designer is able to combine these 3 factors ( and others) to produce the 'best' product for the different needs.

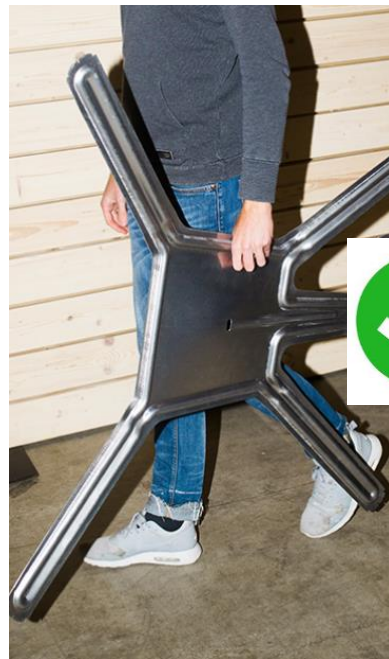
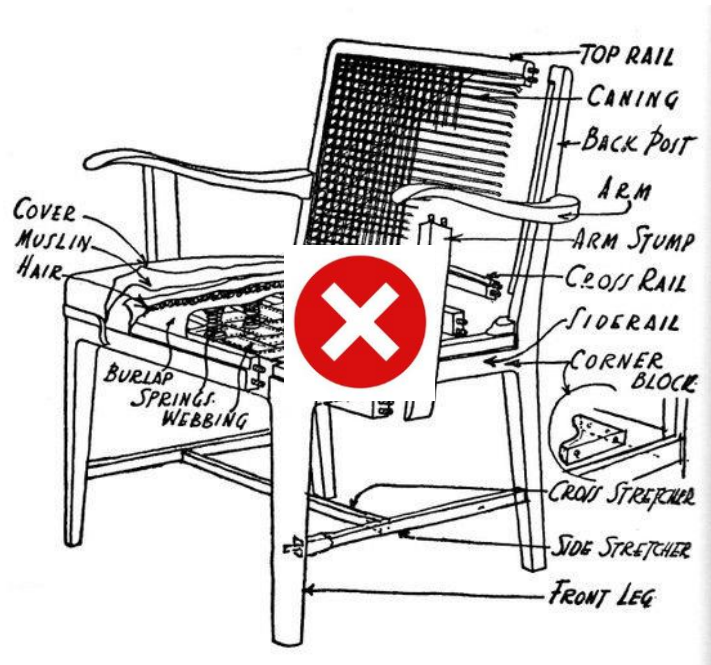
New English taught BSc programme  
starting in September 2020

- Unique in the NL – 4 year, English Language ‘Industrial Design’ BSc.
- Excellent Industrial contacts whereby at least 1 of the 4 years is spend getting real work-experience.
- In an international setting-in an institute with a long history of international programmes. Some Euregional ( NL, Du, Bel) and some fully English Language.
- Excellent facilities- accessible workshops for modelmaking and prototyping for example.
- No entrance portfolio requirement

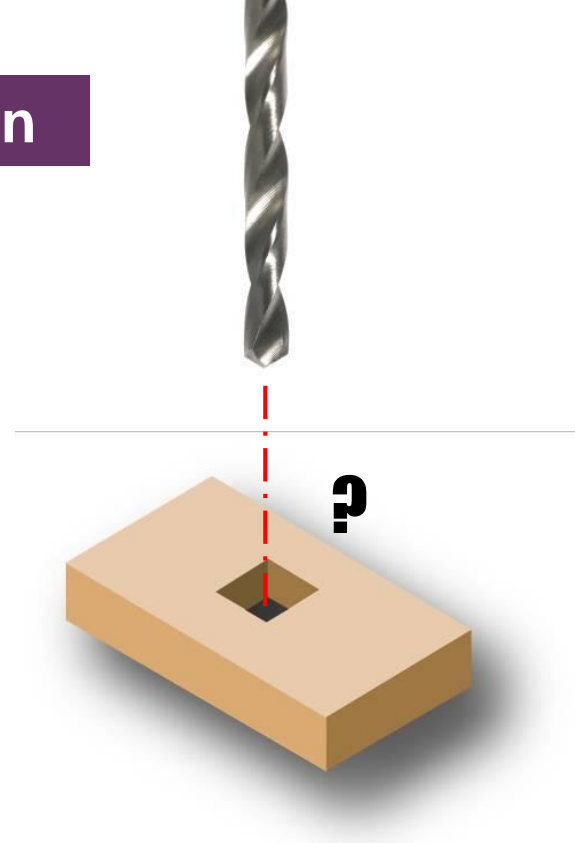




# Simple 'intelligent' Design

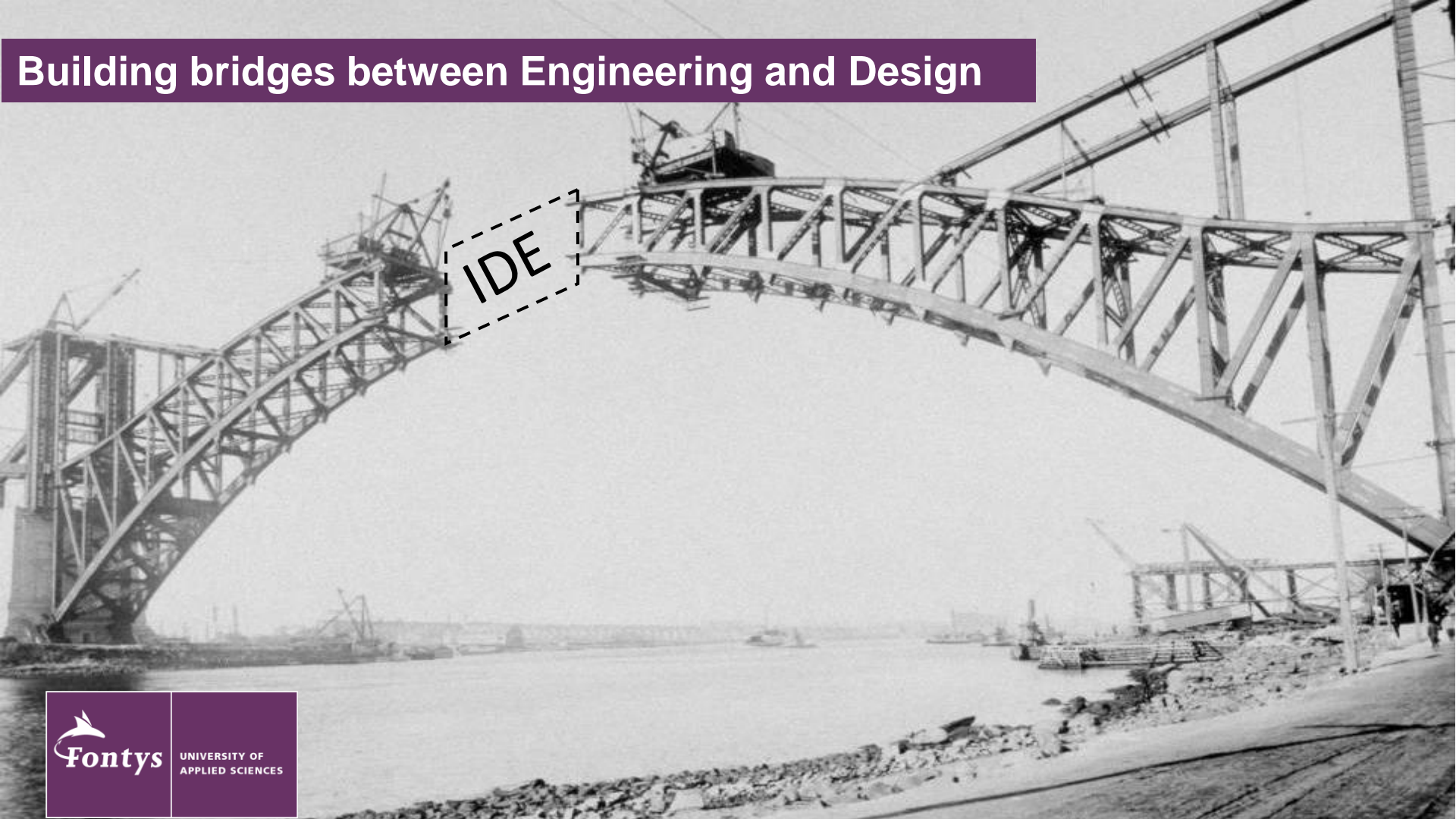


# Understanding materials and production



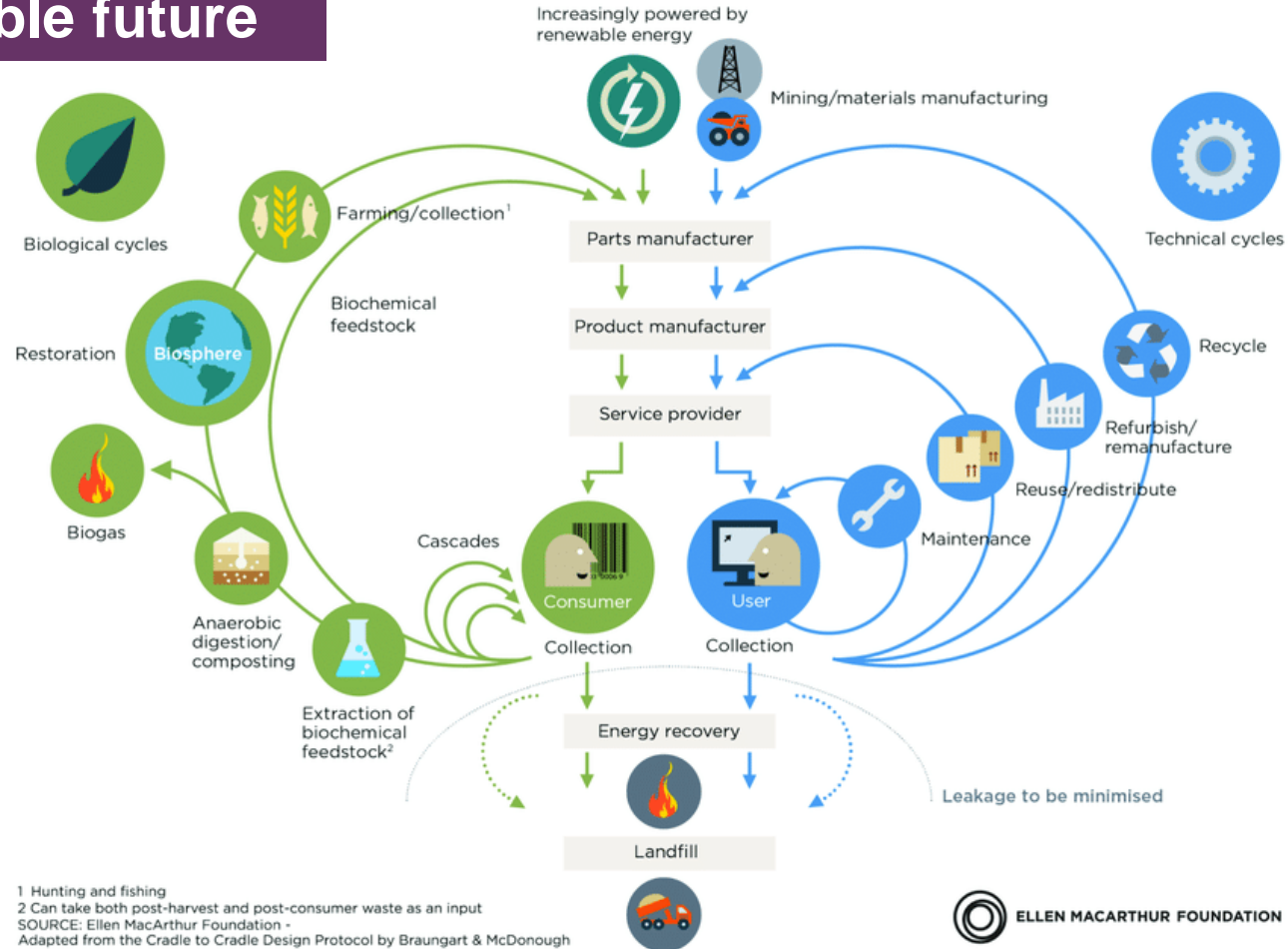
"Make it in Venlo"

# Building bridges between Engineering and Design

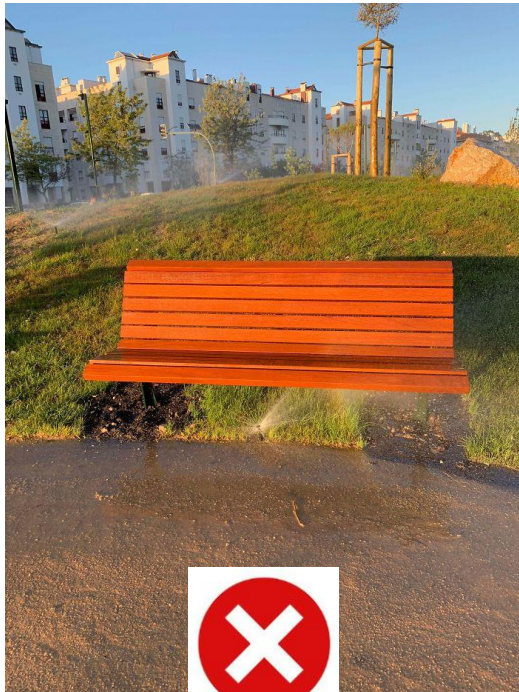




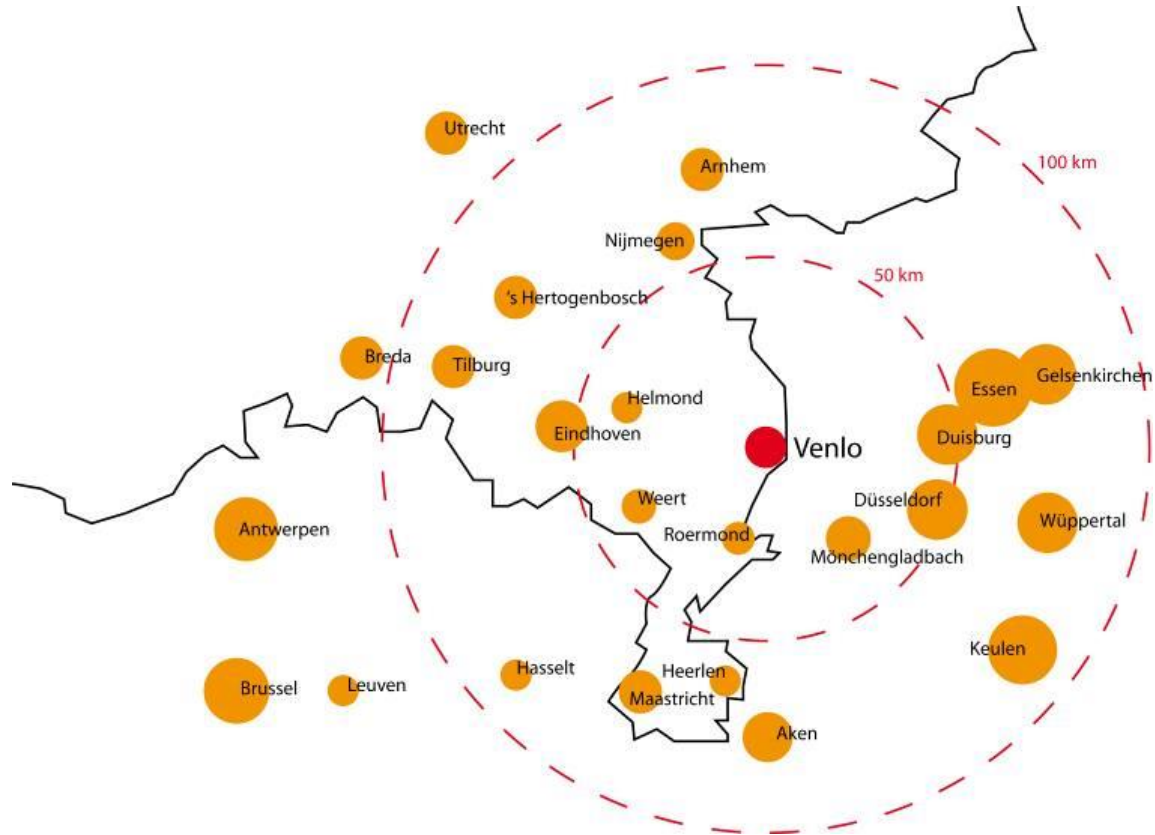
## Design for a sustainable future



# People First-User Centred Design



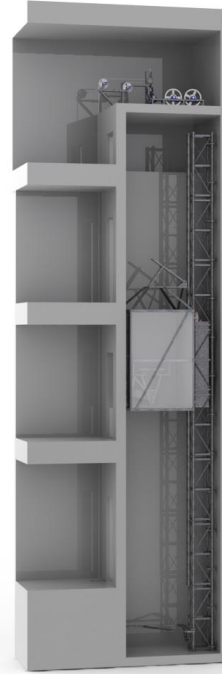
# International context





# International context

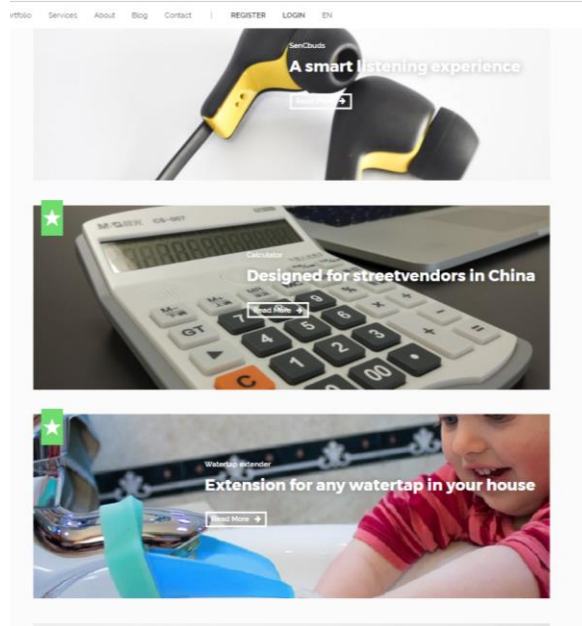
## Project: Lift project Nepal



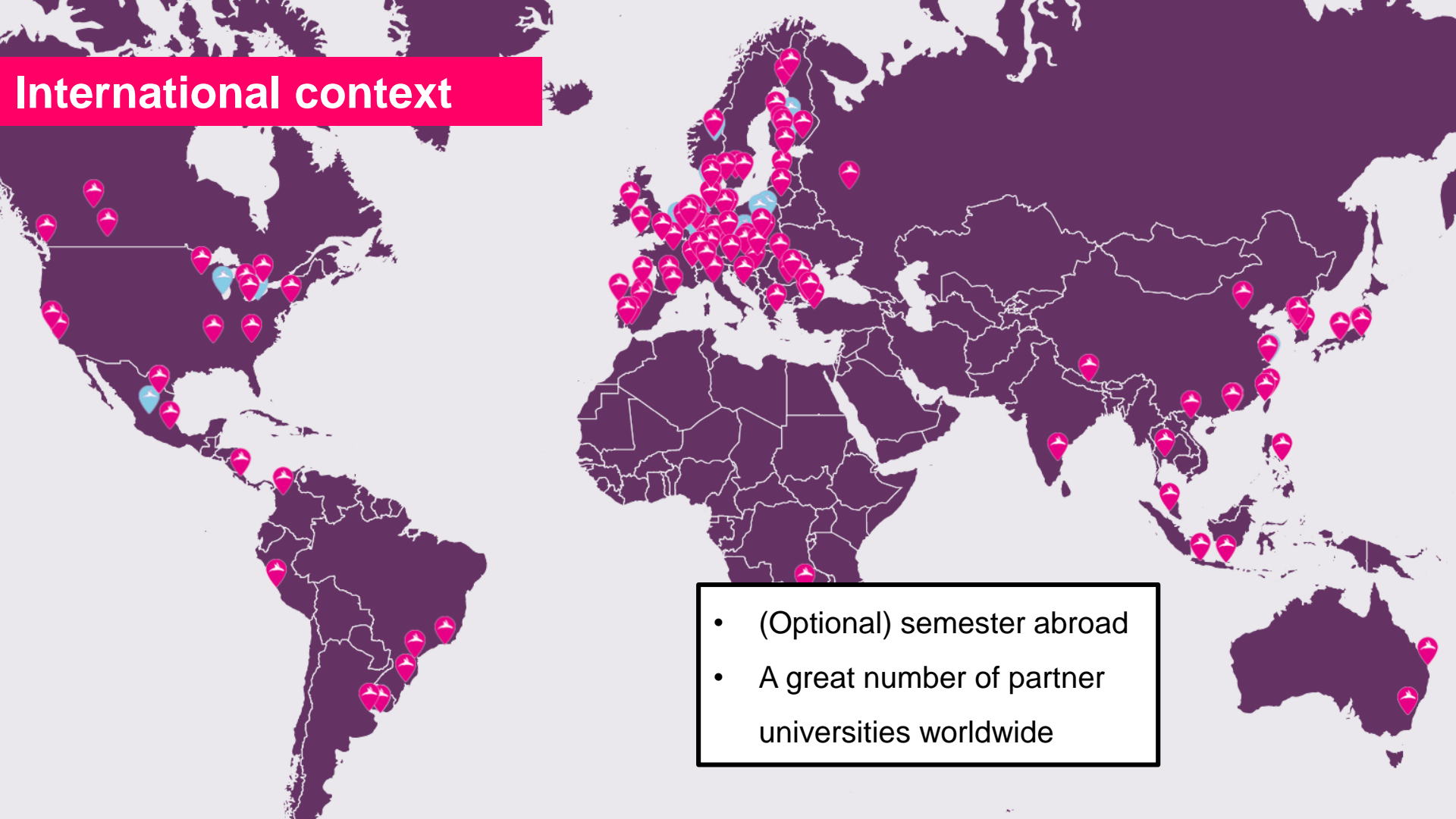


# International context

## DESIGN2GATHER



# International context



- (Optional) semester abroad
- A great number of partner universities worldwide

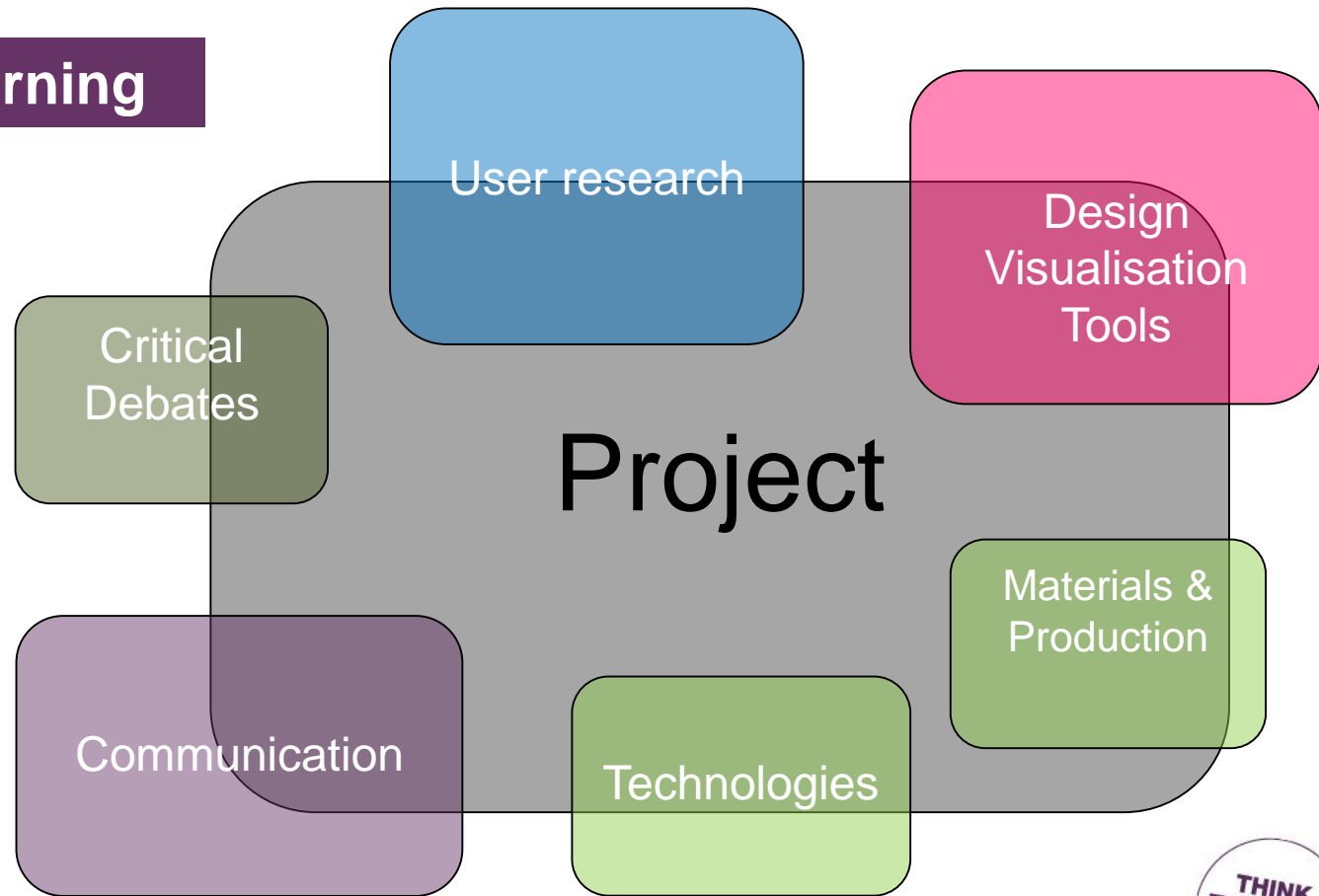
# The complexity of a simple object

Form  
Sustainability  
Ergonomics  
Logistics  
Material  
properties  
The law



Marketing  
Shelf life  
Economics  
Mechanical  
properties  
Production  
Unique selling points

# Project driven learning





## National Competence Profile of Industrial Design in the Netherlands

- A General and Project management
- B Orientation
- C Analysis
- D Idea Development
- E Concepten Development
- F Materialisation/Resolution

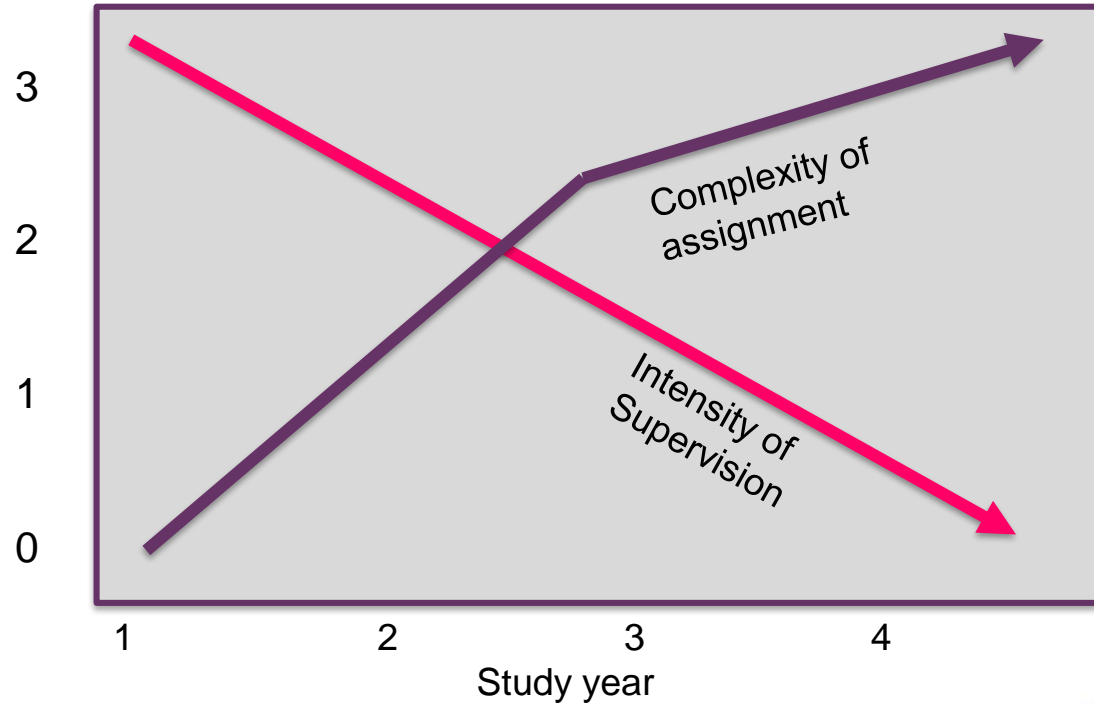
These will be assessed in a portfolio each competence being 'worth' 5 credits.



# IDE curriculum

First year has a well defined framework for supervision. Briefs are specific and deliverables defined.

By final-year the students are much more free in their own development- self select projects and modules (electives) are the norm.



Typical 1st year example:  
Design a light for a specific  
client.

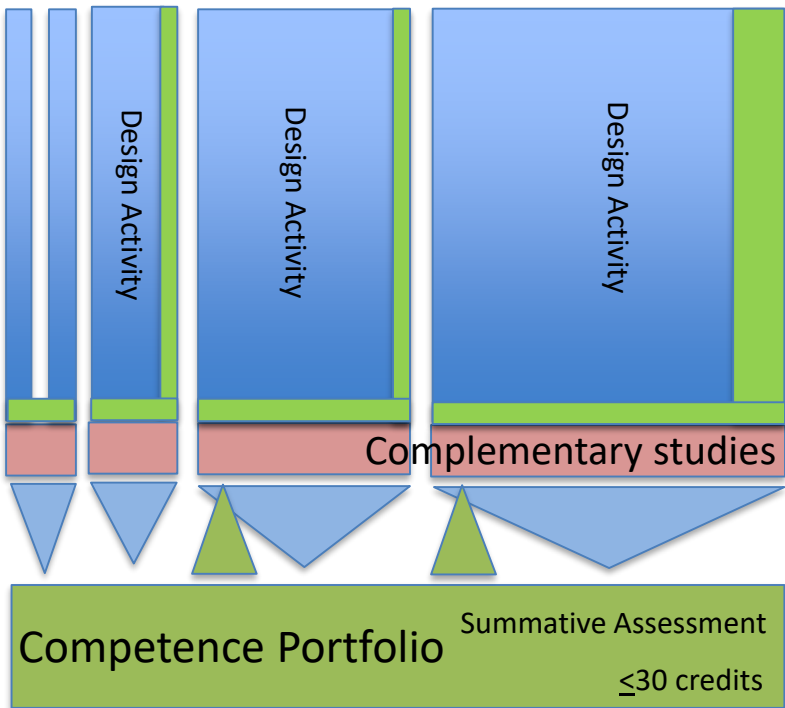
Understanding the Design  
process, users, materials and  
workshop processes



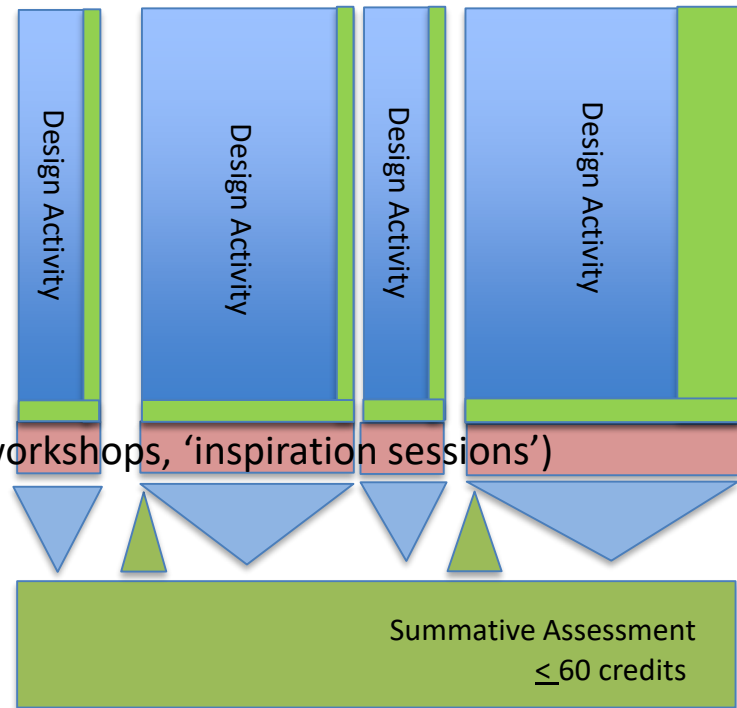


# Project driven learning

Semester 1



Semester 2



# IDE Curriculum

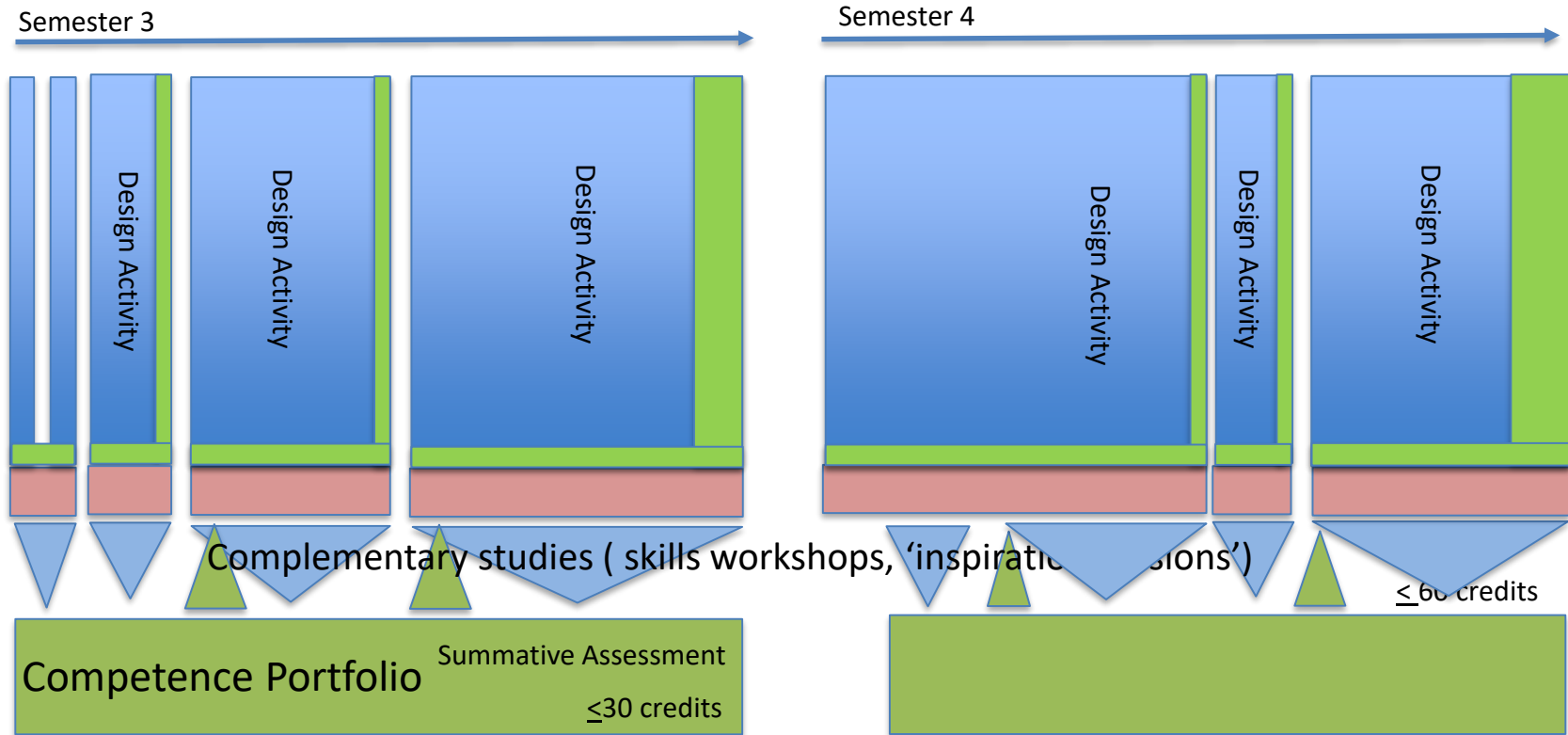
## Competence portfolio and Propadeutic Structure

							Semester 1	Semester 2	total		
A	General and Project management						5	5	10		
B	Orientation						5	5	10		
C	Analysis						5	5	10		
D	Idea Development						5	5	10		
E	Concepten Development						5	5	10		
F	Materialisation/Resolution						5	5	10		
								Total		60 Propadeuse Progress	

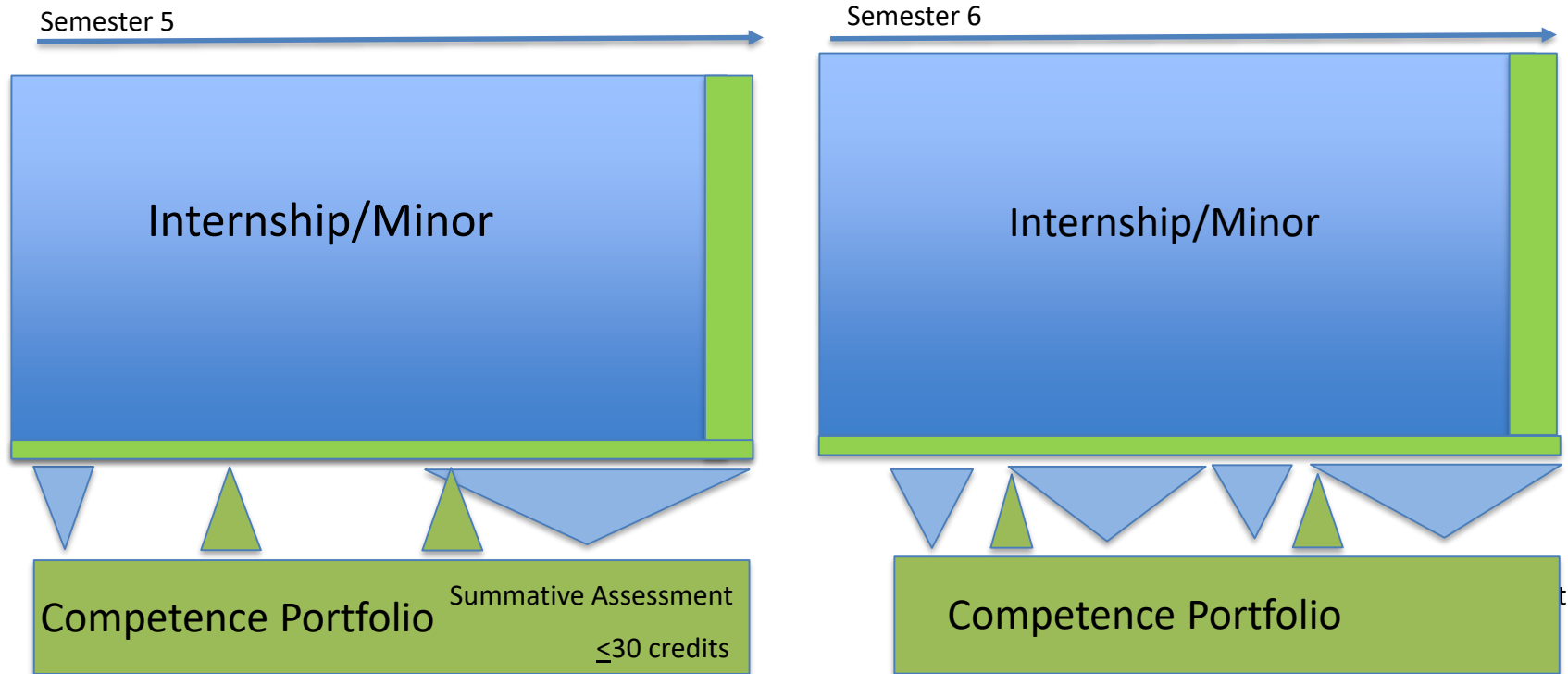
Propadeutic Structure:

- 60 credits Propadeutic diploma awarded
- ≥45 credits progression allowed ( tbc)
- ≤45 credtis progression not allowed

# IDE Curriculum



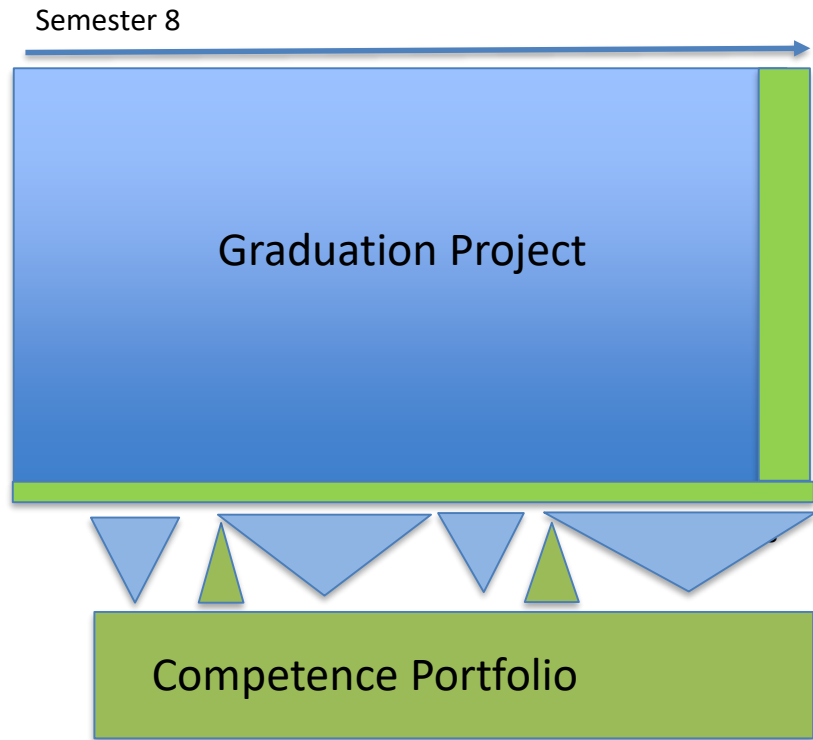
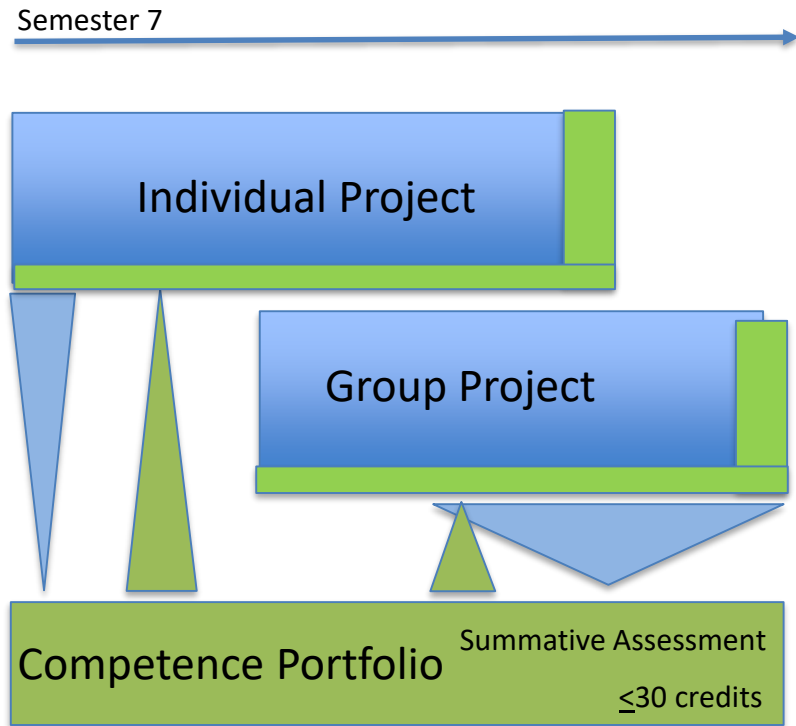
# IDE Curriculum



One of Internship, Minor or Graduation obligatory  
to be carried out in a foreign country



# IDE Curriculum



# IDE Curriculum



In Project centred learning you develop skills and knowledge of:

- Communicating through sketching ( visualisation)
- Users ( ergonomics and consumer behaviour)
- understanding construction and materials ( engineering and design for manufacture)
- how professionals do 'design'( professional practice and work placements)
- how to design sustainable products, ( Designing for a circular economy)
- how to validate your designs – by prototyping and testing for example
- and.... how to apply all this in design projects (live projects, work placements/internships)

# IDE Curriculum

Typical 1st Year example-  
design a light for a  
specific client.

Understanding the  
Design process, users,  
materials and workshop  
processes



# IDE Curriculum

4th Year project: Autonomous groups, frequent client contact.

'Design the future of 3d Printing' for CANON  
or  
'Design The Future of Coffee' for Philips



# Company partnerships

Project: Coffee of the future



**PHILIPS**



UNIVERSITY OF  
APPLIED SCIENCES





# Company partnerships



# Multi disciplinary projects



# Form follows function



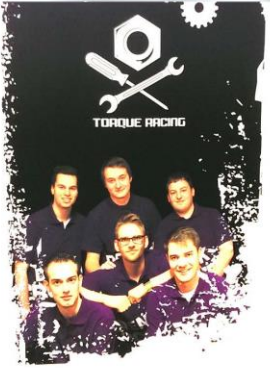
Toegepaste Ergonomie: bepaling van optimale race-houding van de coureur



Rendering: Digitaal model van het product in wording

**ACCUBOORMACHINERACE**  
in Oostenrijk, op 26 juni 2015

Fontys WTB/NPO neemt deel met 2 teams uit de  
Minor 'Integrated Product Development'



Fontys Hogeschool Techniek en Logistiek



THINK  
BIGGER



# Internship / Graduation assignment

- Two integrated internships
- Duration: 3,5 - 6 months each
- In the 5th Semester Internship / Work Placement & Report
- In the 8th Semester Internship / Bachelor Thesis
- Personal support by a specialized lecturer and company advisor



# Curriculum: Internship and graduation project

**Canon**



The ahrend logo, featuring the word "ahrend" in red lowercase letters with a small crown above the "h".



**BOSCH**

**Dräger**



**Miele**



# Career paths

- Design Consultancies
- Manufacturers
- Service Providers
- Industries-
- Consumer Products
- Packaging,
- Automotive
- FMCG
- Furniture
- Engineering Design



# Career paths



## Along with projects you learn:

- to communicate through sketching ( visualisation)
- to make prototypes ( in projects)
- to understand users ( ergonomics and consumer behaviour)
- to understand construction and materials ( engineering and design for manufacture)
- how professionals do 'design'( professional practice and work placements
- how to design sustainable products, ( Designing for a circular economy)
- and.... how to apply all this in design projects (live projects, work placements)

# Summary: Industrial Design Engineering

- Qualification: Bachelor of Science (BSc)
- Language of instruction: English
- Starts in September 2020
- Contact person:
- Duncan Hepburn
- [D.Hepburn@Fontys.nl](mailto:D.Hepburn@Fontys.nl)
- 0(031)885075551
- 60% 'Design'
- 40% Technology and Engineering
- English Language
- International experiences
- Focus on users
- Focus on conceptual thinking
- Focus on sustainable Design




# Further questions...


## About Admissions and accommodation



### Student Service Center

 [SSC-Venlo@fontys.nl](mailto:SSC-Venlo@fontys.nl)


 0031 6184 19353 (text only)

 0031 8850 76022

## About the study programme



### Duncan Hepburn

 [D.hepburn@fontys.nl](mailto:D.hepburn@fontys.nl)





# Thanks for your attention