Date: 27-09-2018

Place: University of Novi Sad

Knowledge FOr Resilient soCiEty

STUDENT CENTRED LEARNING METHODOLOGIES WORKSHOP

Technical University of Denmark

Department of Civil Engineering

(DTU-BYG)

Interdisciplinary courses in Building Design & Processes and Introduction of "Concept of project families"

Discussion in working groups of about 4 members:

- *What are the pro and cons for the project family approach conducted at your institute? (5 min)*
- *What other student centered methods are applied to your institutes? (5 min)*
- *Plan a potential project family thesis project for 2019 (10 min)*
  - *What student centred methods will be included?*
- *One speaker from each group briefly highlights the main results (total 20 min)*

LU and AAL will chip in to the group discussions with their experiences

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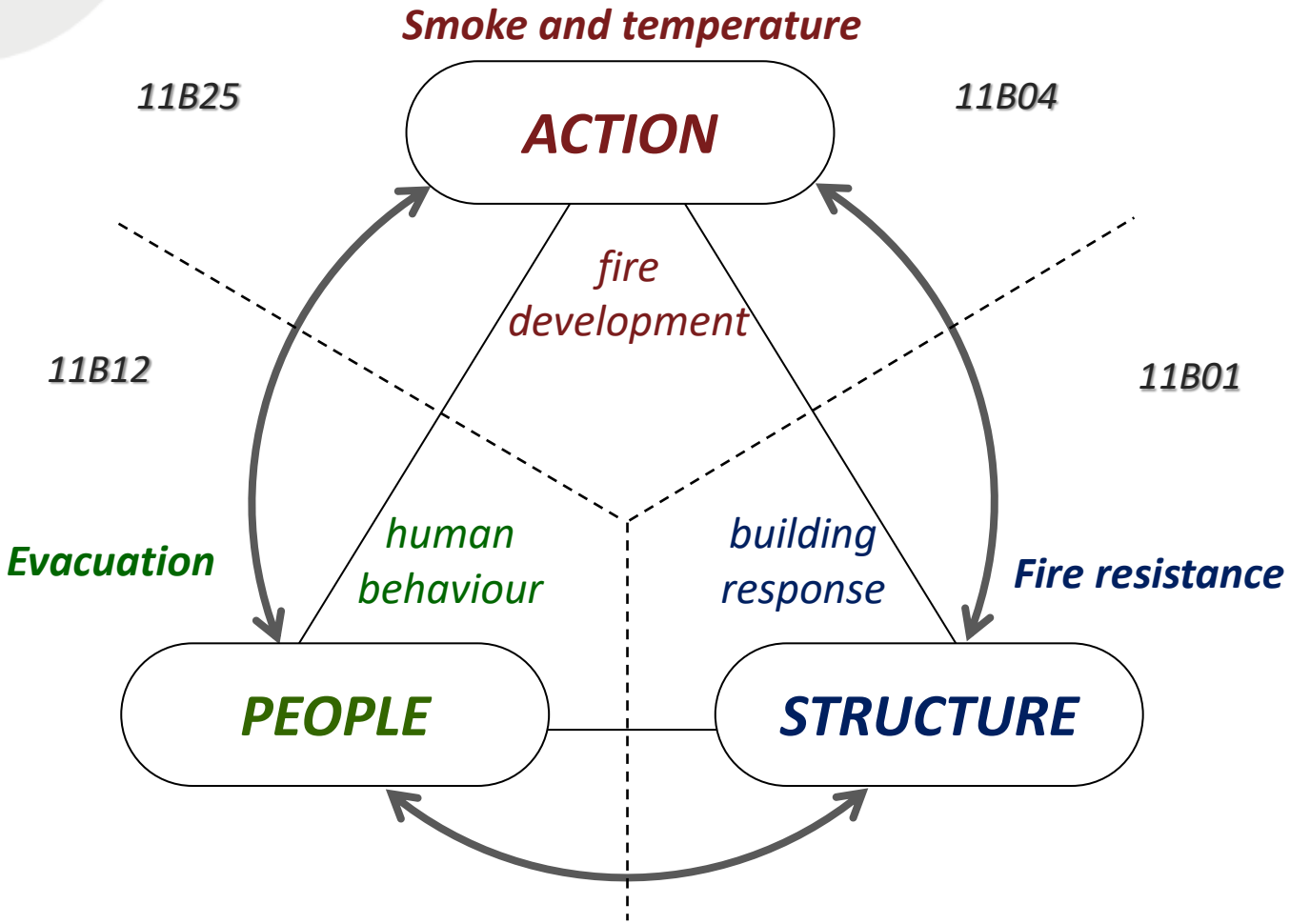
Interdisciplinarity in Fire Safety Design



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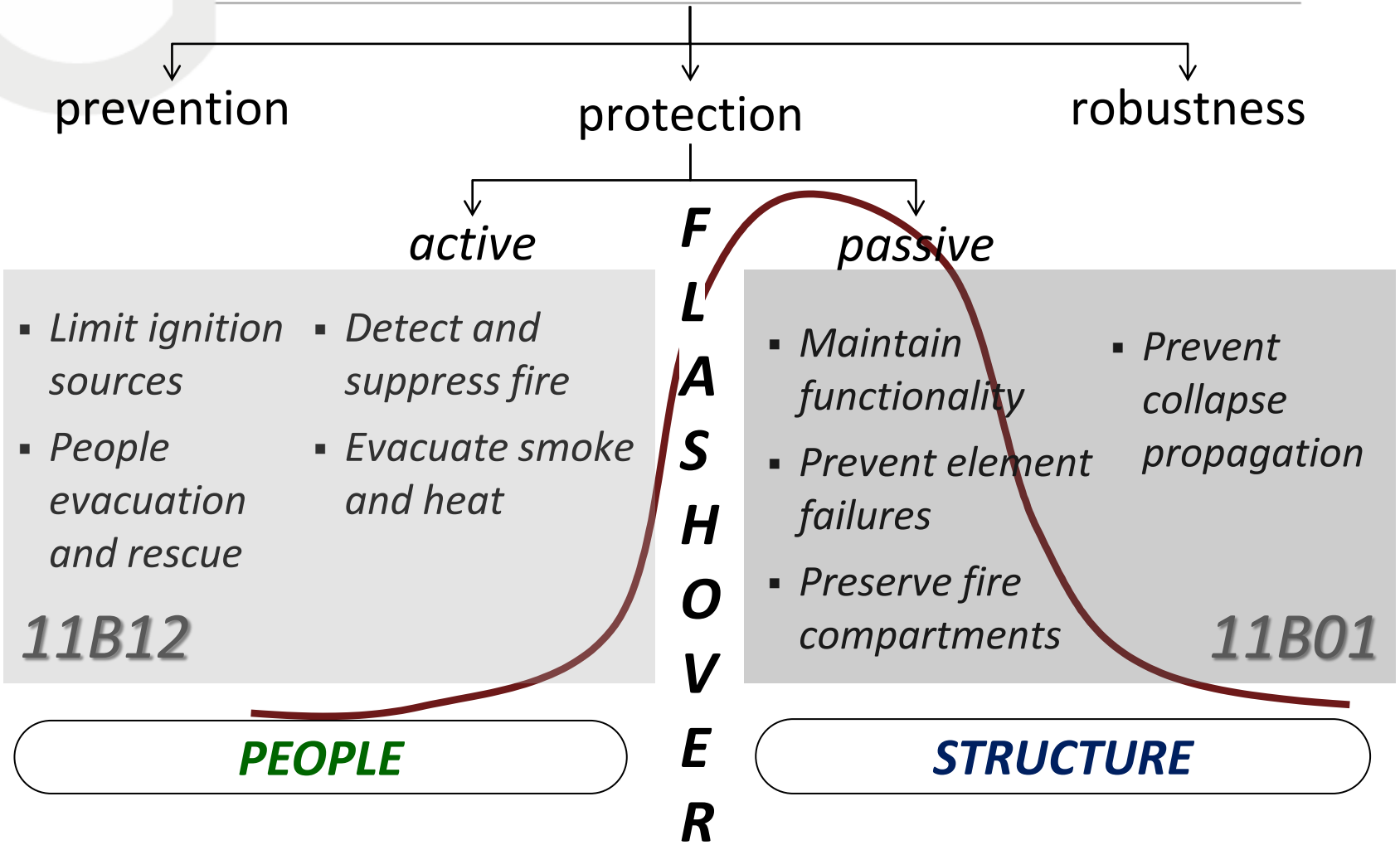
Fire Safety Design Strategies



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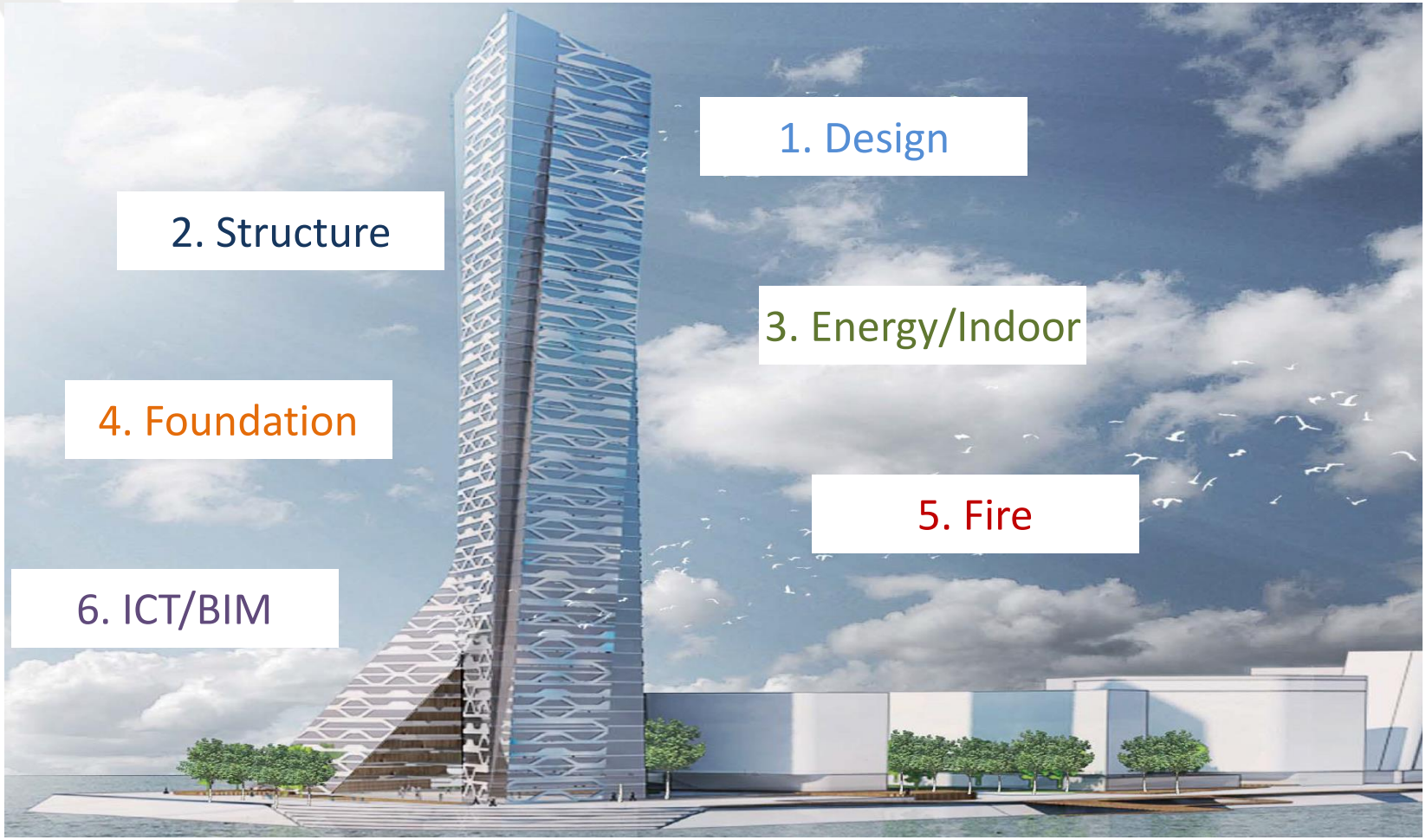
11080 - Advanced building design



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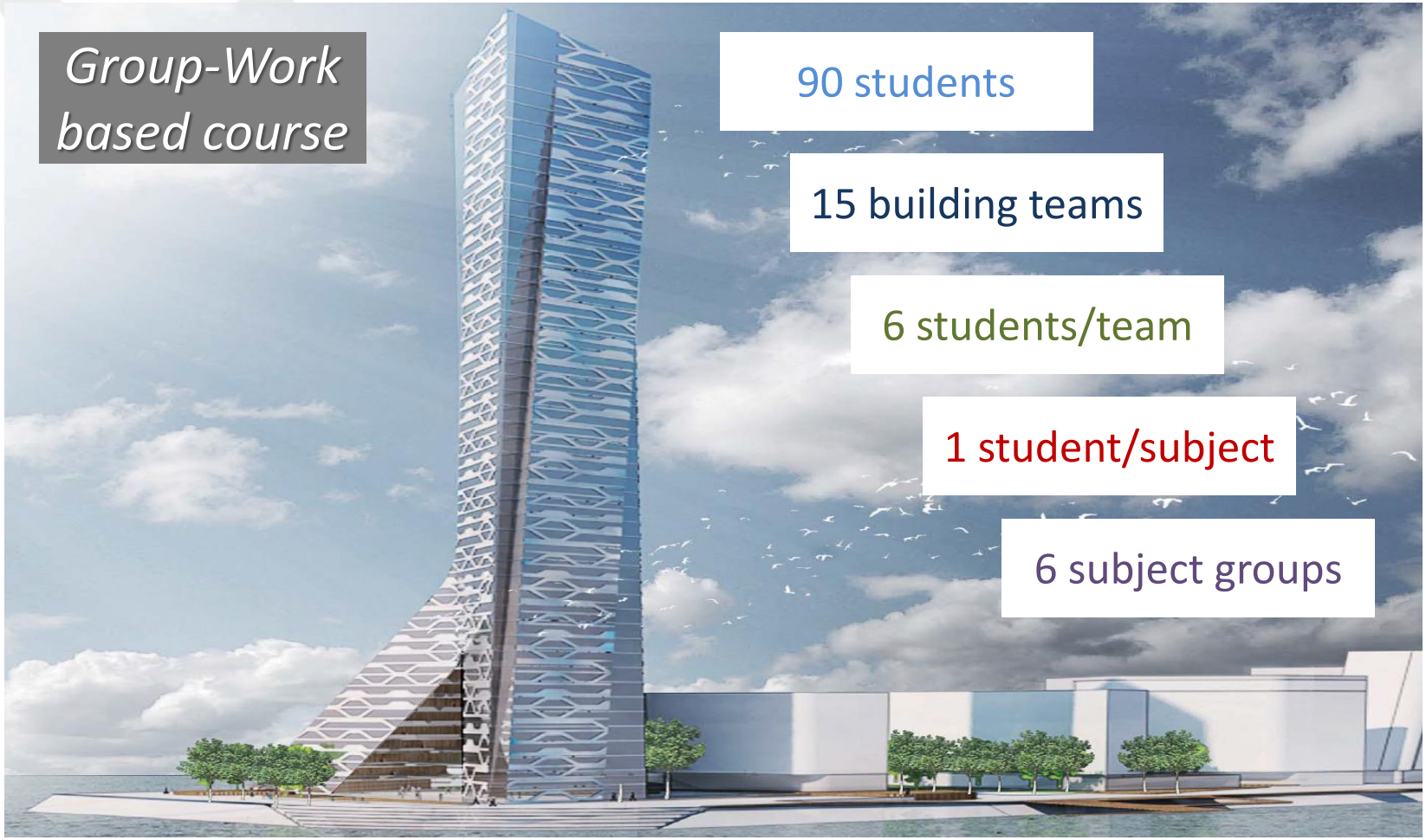

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Inter-relations between Subj.5 and other subjects

Subj. 1: Architectural design

- the design of staircases and rescue staircases influences the evacuation time;
- the distribution of spaces determines the choice and size of compartments;
- the intended destination of usage influences the loads and the resistance class;
- the presence of suspended ceiling influences the height of the smoke layer;
- type and amount of insulations may be incompatible with aesthetic or architectonic needs.

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Inter-relations between Subj.5 and other subjects

Sub. 2: Building structure

- Consistency with the structural and static scheme used in subj. 2 calculations!
- modifications on the element size or material required by fire verifications affect the weight and stiffness of the structure assumed in subj.2 and may therefore require to recalculate the structure for the final design.

3: Building Energy

- when designing the pipe system, pay attention fire compartments and possible escape of smoke and fire from holes and venting in the walls;
- consider installations for fire extinguishing and overpressure in staircases

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Inter-relations between Subj.5 and other subjects

Sub. 4: Geotechnical design

- Limitations of fire spread and evacuation from the underground parking lot (subj. 5.1);
- Boundary conditions of the bottom columns influences subj. 5.2 calculations.

Sub. 6: Management

- Evacuation strategy: cost for training staff and occupants, alarm maintenance
- Active measures: cost of installing and maintaining of the sprinkler system etc.
- Passive measures: cost of insulation and sustainability aspect (toxic paint etc.)

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Presentation of the concept:

PROJECT FAMILIES

- **The concept has been successfully conducted for several years at DTU Civil Engineering**
- **Project Families was awarded the DTU educational price in 2017**

Presentation project familie

Áuthor: Prof. Per Goltermann

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Fire Group
Research
Education

Discussion in working groups

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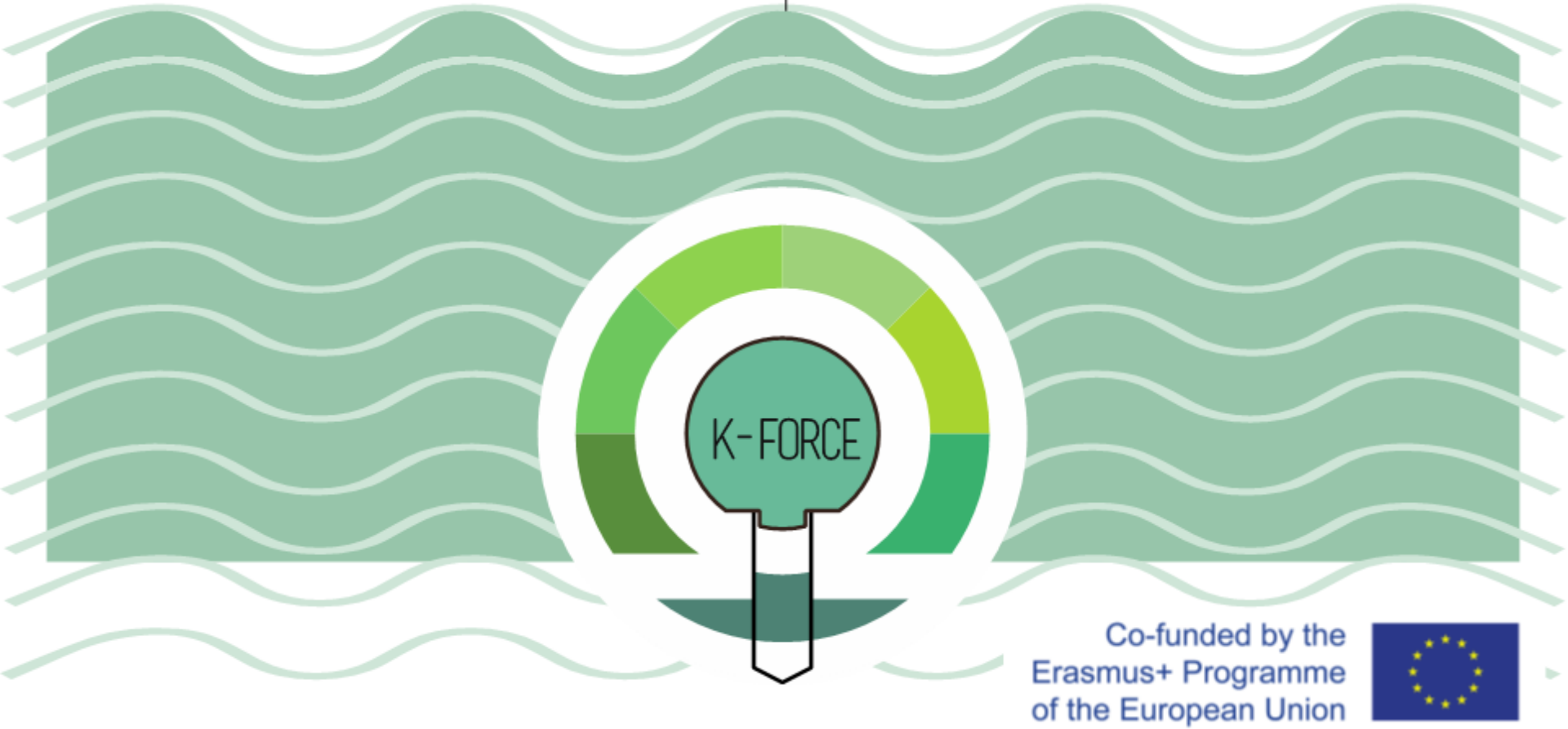

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Thank you for your attention

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Associate Prof. at DTU-BYG (Civil Engineering Department)

Contributions by Luisa Giuliani, Per Goltermann

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