Re-submission:

Engineers in a global context

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| *This document is a* ***revised version*** *of the proposal submitted for TU/e’s Education Fund call 2016.*  *It builds on the ideas and set-up explained in the proposal submitted earlier. The revised version will thus only concentrate on the parts that needed specification. Accordingly, this revised version*   * *is tightened and more specific* * *the relevance to Higher Engineering Education becomes clearer.*   *With this we hope to address the two points the evaluation committee requested us to clarify.* |

### Aim and justification of the project

**Our project aims to explore and implement stimulating learning approaches, which link and integrate university education with the global context.**

After graduation, it is likely that students will work for an international company in the Netherlands, or abroad. This project will prepare students for this by explicitly engaging with the global context in their university education. Strengthening the link between context- and university education aligns with TU/e’s aim to educate so-called ‘T-shaped’ engineers: the project will contribute to students’ ability to communicate and collaborate not only across but also beyond their disciplinary boundaries.

Context learning approaches will teach students the skills that they will need in their future careers, in which they will have to (inter)act with(in) a broader, multicultural and transdisciplinary practice-context. By integrating the global context in education students will experience and learn about the importance to consider diverse social and cultural contexts, user backgrounds and expectations and ethical implications when designing technology interventions.

### Objectives of the project

We will implement 2-3 specific learning approaches in the first part of a USE course sequence on globalization.

**These learning approaches will include activities, in which**

1. **university education “is taken to the global context” by**

* visiting international companies, societal organizations and/or government authorities.
* working on assignments (co-)designed with the actors mentioned above; students have to interact with these actors in order to execute the assignment.

1. **the global context is “brought inside the university” by**

* expert guest lectures from the private, non-profit and/or public sectors.

### Expected outcomes

The outcome for **students** will be that they

* can communicate and interact with experts from outside the university;
* can work with people with different cultural backgrounds, in an international context
* understand the relevance to consider the context when designing technology solutions

The project will be relevant for **higher engineering education**, as it will

* identify and underpin specific learning approaches of university-context education;
* reflect on the approaches’ possibilities and challenges when implemented in practice;
* reflect on changing roles and requirements of teachers aiming to apply these learning approaches in their education.

The educational structure of a USE sequence in combination with the courses’ content-orientation on globalization from an **ideal framework** for exploring and successfully implementing forms of university-context education.

### Project design and management

As detailed in the initial proposal, the project will **unfold** in **three phases**, Identification, Integration and Synthesis, during which the research questions will be answered.

In addition, we would like to mention one relevant specification:

**Learning from ongoing projects at TU/e:**

In the identification of relevant learning approaches we will not only review relevant literature but will also consider ongoing projects that are implemented at TU/e and that explore context-university education. In particular, we will interact with persons engaged in

* the “Design for Education Project” (main lead: Dr. Bekker, Industrial Engineering) and
* ‘Betadidaktisch ontwerpen” (main lead: Quant, ESoE).