As a result of a mismatch between the skills of the newly trained engineers and the needs of industry, a new approach called Conceive — Design — Implement — Operate (CDIO) has been designed for producing the next generation of engineers [1]. CDIO is a structured approach to how and when the students acquire technical science/engineering and general/personal competencies, which take place simultaneously through lectures and projects.

At the Technical University of Denmark (DTU), we have, since 2008, joined a network a large number of international universities and implemented the framework to develop a new undergraduate CDIO-based program. The efforts are made in order to transform from an authoritarian teacher-based learning to a student-centered counterpart thereby achieving an active, life-time learning experience for the students.

The course “Design-Build 2: Wind Energy Harvesting” aims at getting students engaged in a problem-based engineering project to design and build wind turbine blades in order to achieve the most efficient conversion rate of the wind into electrical energy. We have been running the course two times, having a diverse student background ranging from life science to mathematics backgrounds as well as diverse nationalities. This article presents our observations in implementation of the CDIO technique in student activation and satisfaction. Challenges in facing “lost students” and implementing the technique correctly are being discussed and advantages in student activation are analysed. In addition to acquiring strong academic knowledge, it is shown that through various steps of the 3-weeks course period, students develop both personal, social and professional skills that are important for their upcoming professional career.