



**Project funded by the EU Lifelong Learning Programme  
Project Reference No. 527877-LLP-1-2012-1-UK-ERASMUS-ENW**

---

## SALEIE Student Project in Assistive Technology Project 11

<b>Project Supervisor:</b>	Prof. Dan Mandru	<b>SALEIE partner:</b>	Technical University of Cluj-Napoca
<b>Project Title:</b> Development of a "smart" blind stick			
<b>Project duration:</b>	2 semesters	<b>Project level:</b>	Final year (year 4) undergraduate project
<b>ECTS credits (if applicable):</b>	12 (2, 6 credit modules)	<b>Prerequisite requirements:</b>	Completion of year 3 of study programme
<b>Course Suitability:</b>	Bachelor of Engineering in Electrical Engineering/Biomedical Engineering		
<b>Project Description:</b>			
<p>One of the improvements which can be brought to classical white canes used by the visually impaired persons, especially by the blind people, in gathering information from the environment through the other valid senses (tactile and hearing senses) is to equip them with proximity sensors and systems which can be used to transmit information shaped like acoustic and tactile signals. This project aims to design an "smart" stick equipped with an ultrasonic sensor that takes information about the environment for visually impaired or blind people. This information is processed and is delivered to the handle stick and thus can be interpreted by the users. The new "smart" blind stick would ensure an alternative channel for the sensorial perception (e.g. tactile sense and hearing, instead of seeing). It will be made of a pipe and inside it will contain ultrasonic sensors, the circuitry and the buzzer.</p> <p>This project links into the active <i>EU Lifelong Learning Programme "SALEIE"</i> ( <b>S</b>trategic <b>A</b>lignment of <b>E</b>lectrical and <b>I</b>nformation <b>E</b>ngineering in European Higher Education Institutions) and the work will be aligned to the area of assistive technologies to support students with disabilities.</p>			

The project descriptions are provided and also the contact details of the project proposer for more information or to discuss potential collaboration. These project descriptions are provided as ideas for other institutions to develop projects in assistive technology. If you want to refer to these project ideas, we would ask that you acknowledge the SALEIE project as follows:

"This project idea was developed as one of the project proposals provided under the EU Lifelong Learning Programme "SALEIE" (Strategic ALignment of Electrical and Information Engineering in European Higher Education Institutions). Project Reference No. 527877-LLP-1-2012-1-UK-ERASMUS-ENW Project funded by the EU Lifelong Learning Programme"

---

<http://www.saleie.york.ac.uk>

Project Coordinator: Tony Ward, University of York

Email: [tony.ward@york.ac.uk](mailto:tony.ward@york.ac.uk)