MARVEL

coordination

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partners

Higher Technical Institute (HTI)
Department of Mechanical Engineering
Nicosia, Cyprus

Berufsbildende Schulen II Delmenhorst
Delmenhorst, Germany

Bildungswerk der Niedersächsischen Wirtschaft (BNW)
Delmenhorst, Germany

Festo Didactic GmbH Co.
Denkendorf, Germany

Zenon S.A. Robotics & Informatics
Athens, Greece

University of Porto
Faculty of Engineering (FEUP)
Porto, Portugal

Scottish Qualifications Authority (SQA)
Glasgow, Scotland

West Lothian College (WLC)
Livingston, West Lothian, Scotland

Swiss Occidental Leonardo (SOL)
Haute école valaisanne (HEV)
Sion, Switzerland (external partner)

Virtual Laboratory in Mechatronics

Access to Remote
and Virtual e-learning

http://www.marvel.uni-bremen.de

Education and Culture

Leonardo da Vinci
Pilot projects

MARVEL

project

The aim of the pilot project MARVEL is to implement and evaluate learning environments for Mechatronics in Vocational Training, that allow students ubiquitous online access to physical workshops and laboratory facilities from remote places. The project will cover concepts that merge real and virtual as well as local and remote worlds in real time. This will support teleactions and remote laboratory experiments in mixed reality work environments.

The increasing dissemination of mechatronics in combination with remote techniques implies new demands to the skilled workers in this field. Thus the MARVEL project is intended to stimulate learning concepts, that serve an actual need in industry.

idea

MARVEL will produce evaluated working examples of remotely accessible practical environments together with supporting e-learning and student assessment material for the following application fields: robotics, modular production systems and process control. This includes the creation of actual demonstration models (learning scenarios and environments) in partner institutions and industry for evaluation purposes.

target group

Main target groups of the MARVEL project are students in vocational education and training in Mechatronics. Main teaching subjects are system control, maintenance, process monitoring, automation technology of networked mechatronic plant and machinery on the basis of remote techniques (tele-services). The MARVEL concept is also intended to have impacts on life long learning and extended vocational training of full time workers (mobility and flexibility through the combination of local and tele-courses). Using remote technique, our concept supports students' mobility and helps institutions for vocational training to offer mechatronic courses in cooperation with industrial partners.