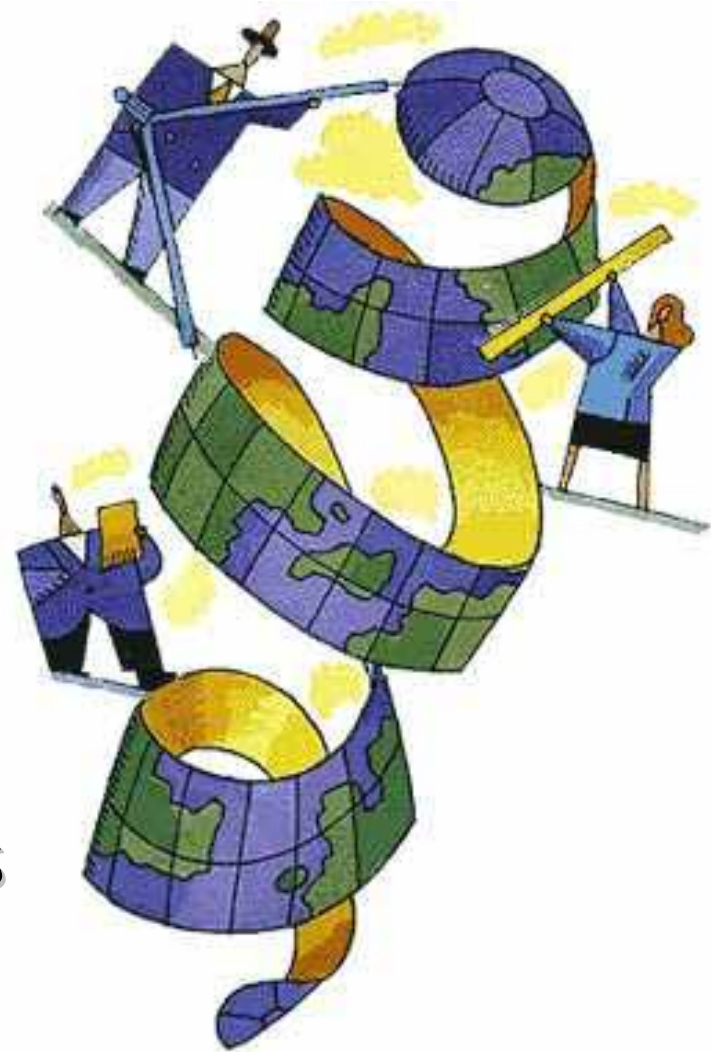


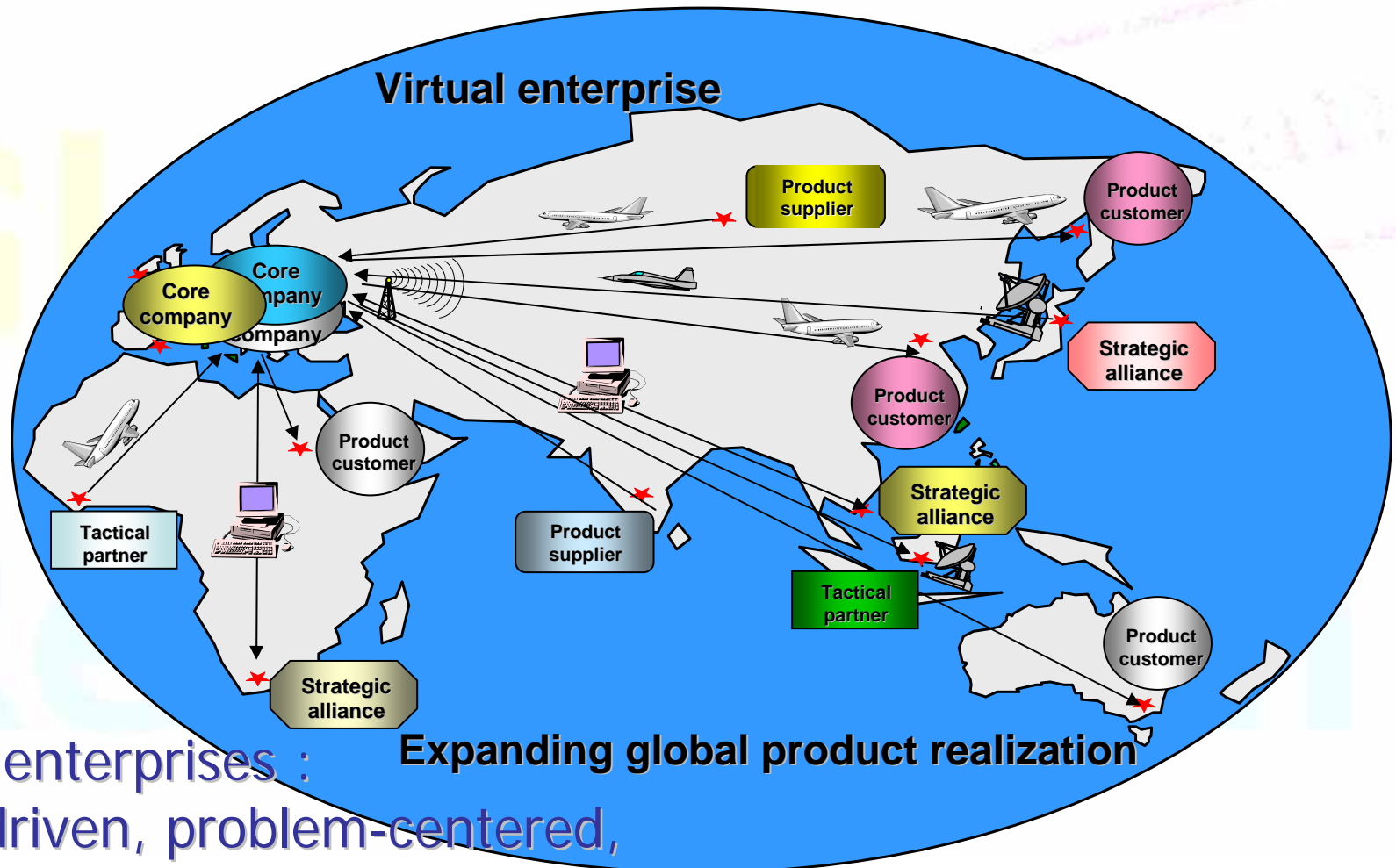
Global Product Realization

European

A course
over boundaries
and thoughts



Globalization of business



Virtual enterprises : Expanding global product realization
profit-driven, problem-centered,
knowledge-related, volatile organizations in industry.

Case Study 1:

Copeland Corporation - Emerson Electric Company



World leader in the production of compressors, condensing units and electronics for domestic and industrial refrigeration and air-conditioning.

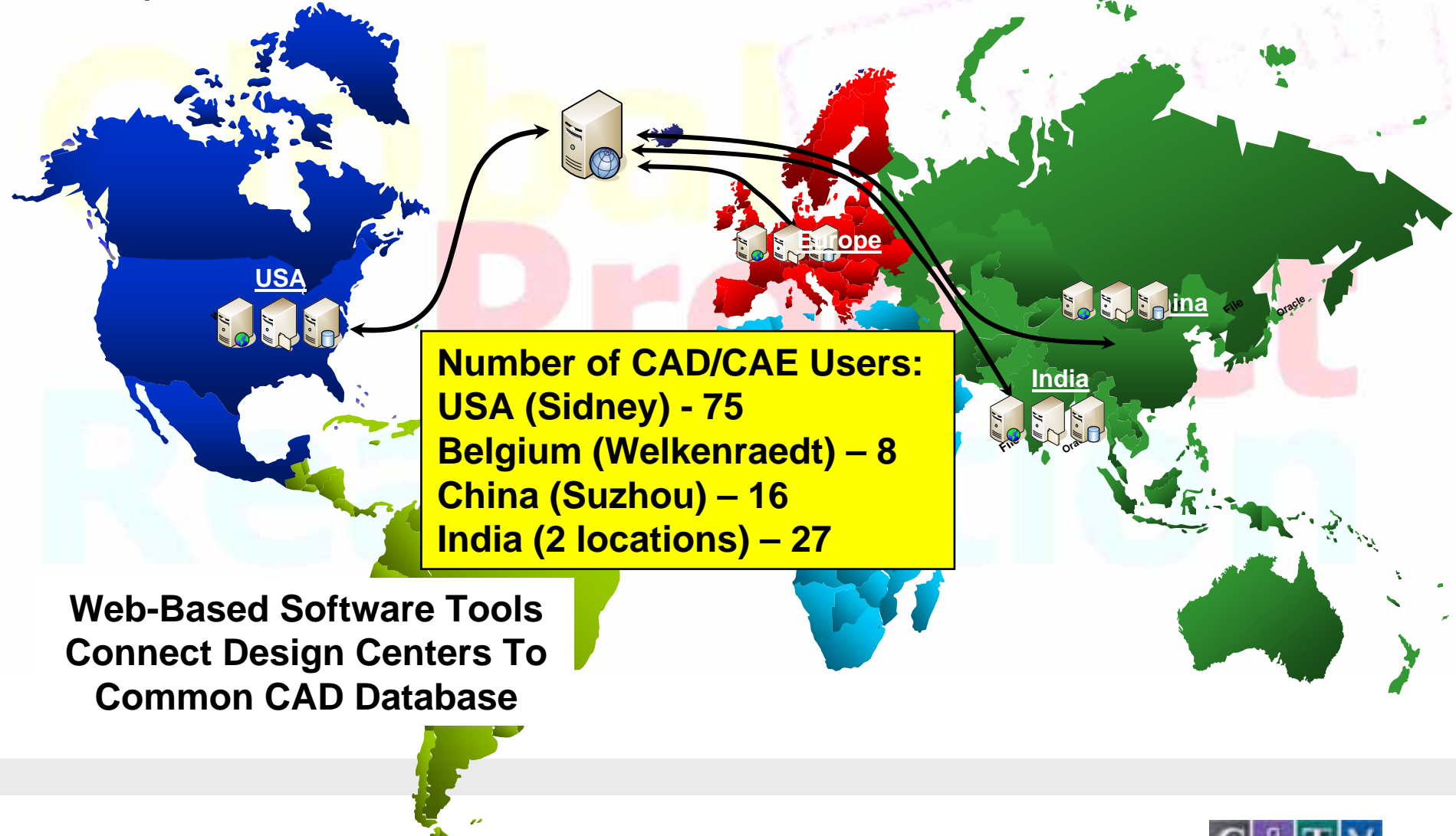


Founded in Detroit, Michigan in 1921 by Edmund Copeland.

- 8,000 employees
- 10,000 compressor models (scroll, reciprocation and screw)
- 10 million compressors annual production
- Design and Manufacturing capacities installed in 11 countries

Case Study – Copeland VE

Copeland Global CAD Network



Welcome to e-GPR

Global ^{European} Product Realization



-Home

-Course Description
-Course Audience

-Student Registration
-Company Participation



-Press Coverage
-Contact

-Blackboard Studio



Welcome to the portal of the Global Product Realization Course!
Bridging **Delft, Lausanne, London, Ljubljana and Zagreb.**

2005 course: finished

In february a new course involving Delft, Lausanne, London, Ljubljana and Zagreb started. The closing workshop was in the first week of june and took place in Lausanne, Switzerland. The students produced and tested working prototypes in a vineyard and presented the results of the project in an exhibition.

Pilot Project Finished!

Fall 2004 we had a pilot of the course as it will be slightly changed in Delft. Students from TU Delft, EPFL Lausanne and City University London worked together in this Pilot. The workshop took place in Delft in the beginning of 2005. Company, Students and Staff were enthousiast about the results.

Introduction

The course "European Global Product Realization" is a highly innovative course in which virtual classrooms will be formed via internet and other latest information technologies. Five universities, University of Zagreb, Ecole Polytechnique Federale de Lausanne, University of Ljubljana, City University London and Delft University of Technology simultaneously offer lectures, case studies and a design assignment that will be attended by students at each of the universities.

2004: Symposium and Exhibition in Lausanne

Due to difference in the educational calendars, starting

Blackboard Studio

If you have access to Blackboard Studio, use this system to keep up to date on your assignments and work. It also allows for personal participation in other parts of the course. Outsiders can use a guest account.

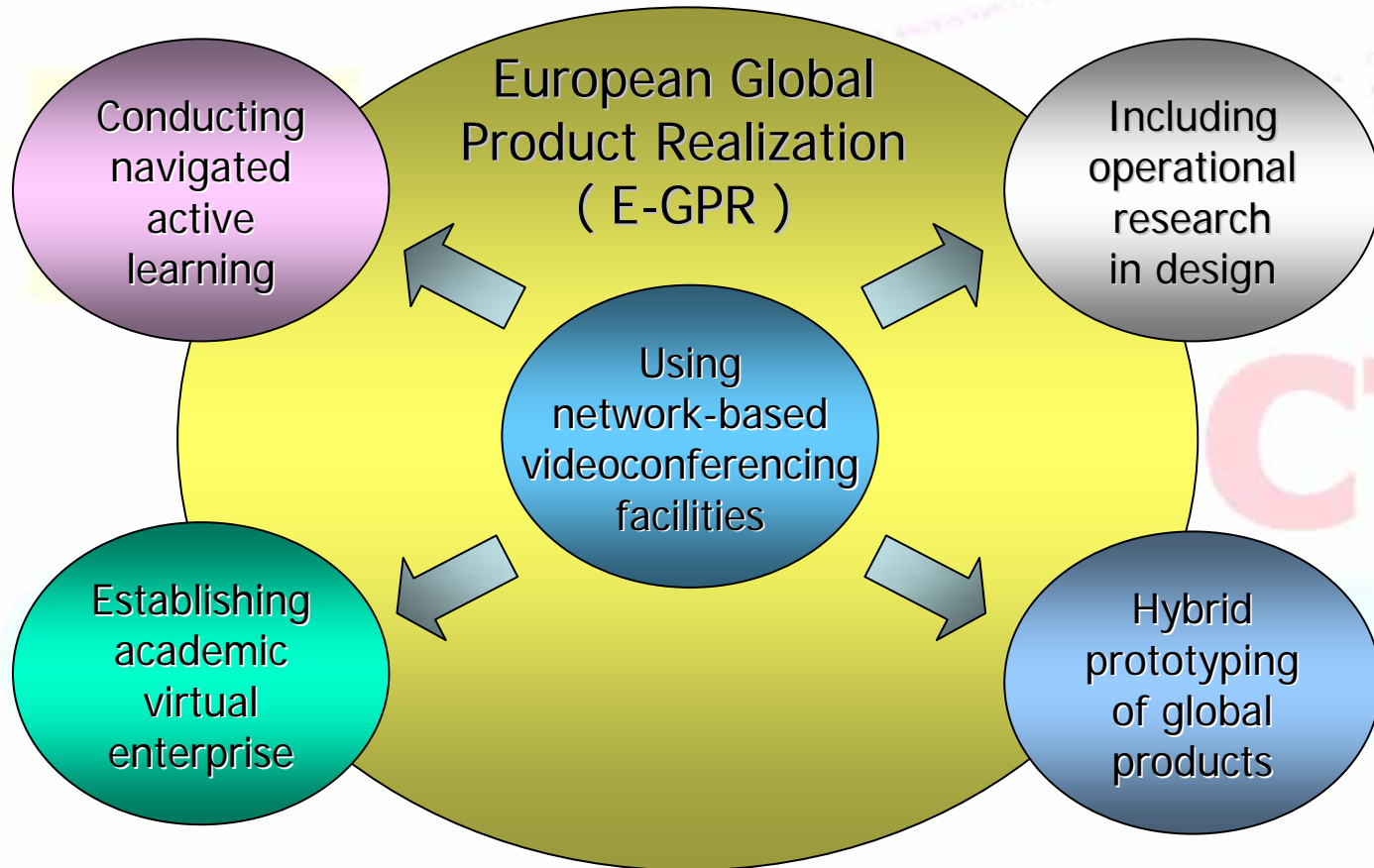
Announcement

Course announcement in Dutch. Check the course announcement on the blackboard studio.

Information

For more information on joining the course, please contact van Bree

Our reply in education

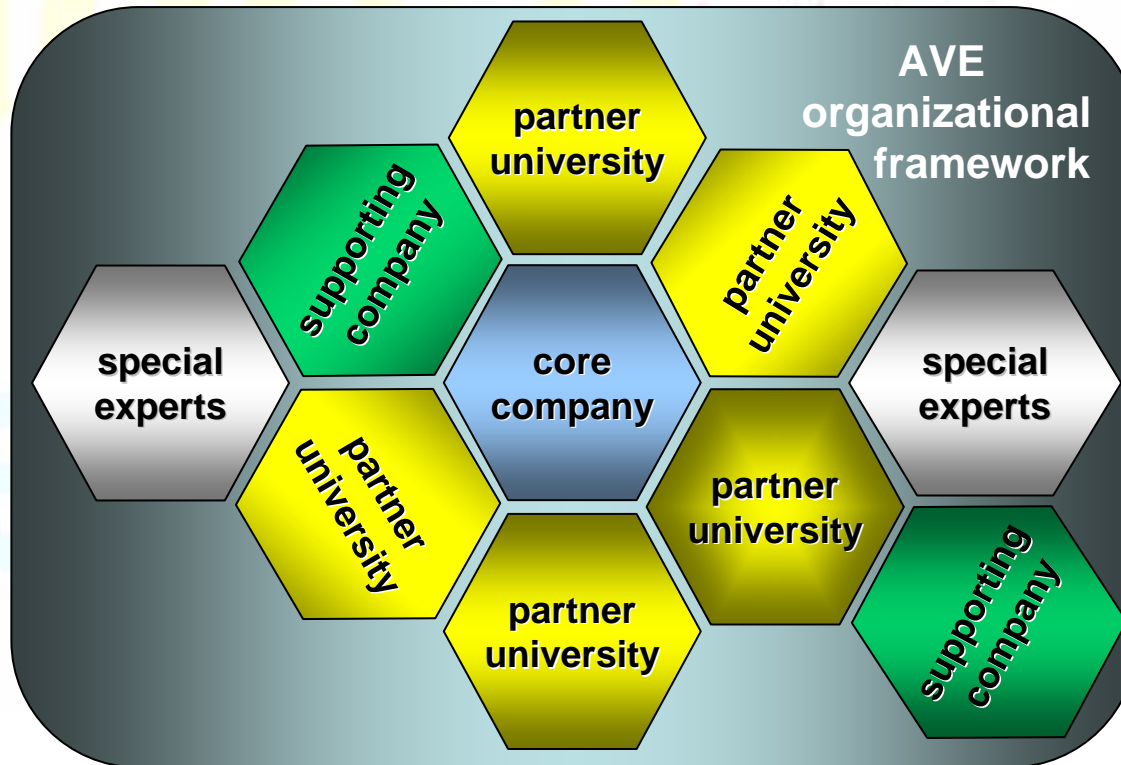


E-GPR

- A video-conferencing based international design course with the participation of the:
 - Industrial Partner
 - Delft University of Technology
 - University of Ljubljana
 - EPF Lausanne
 - University of Zagreb
 - City University of London
- Altogether 48 students

Academic virtual enterprise

AVE is a project-oriented, volatile alliance of industrial and academic partners for mutual advantages.



EGPR Virtual Enterprise

London: Mechanical Eng.,
Communication, Computer sci.

- Catia, Solid Works
 - MD & Inventor 7
 - MSC.ADAMS 2003
 - Comet, Comet-Works
 - Star CD, Star CCM+

Delft: Industrial Designers

- Catia
- Rhinoceros
- Solid Works 2001/2003

Ljubljana: Mechanical Eng.

- I-DEAS, Solid Works
- FE analysis with I-DEAS
- NC milling code generation
- 3D measuring FARO arm
- 3 axis rapid NC Milling
- 3D printer "Dimension BST" by STRATASYS

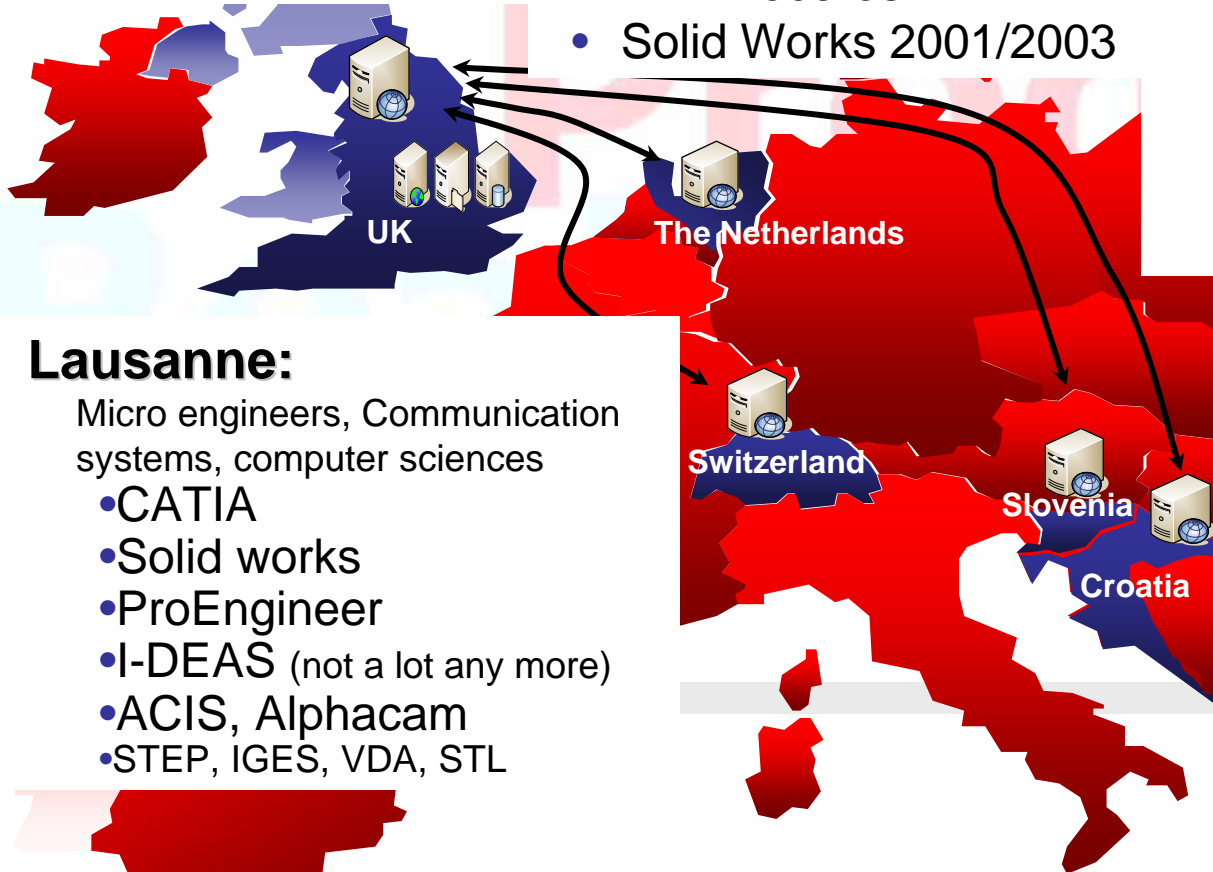
Lausanne:

Micro engineers, Communication systems, computer sciences

- CATIA
- Solid works
- ProEngineer
- I-DEAS (not a lot any more)
- ACIS, Alphacam
- STEP, IGES, VDA, STL

Zagreb: Mechanical Eng.

- AutoCAD 2006, Catia
- Algor,
- Pro/ENGINEER
- Pro/Mechanica
- Solid Works
- 2004/2005
- MSC visual Nastran
- Unigraphics NX3
- Boost



European Global Product Realization

- Using video-conferencing environment is not the goal but the means.

Pedagogical innovation:

- Using navigated active learning as a theoretical and/or methodological framework of the E-GPR course.
- Opening the conventional educational environment by establishing an academic virtual enterprise with industry.
- Consideration of the university students as evolving young professionals who act as academic knowledge producers.
- Working on real-life problems in multi-professional teams.
- Combining creative problem solving and operational research.

The three pillars

- The theoretical and/or methodological framework of the E-GPR course rests on:
 - opening the conventional educational institutions towards academic virtual enterprises,
 - consideration of the university students as evolving young professionals who act as knowledge producers,
 - using real life creative problem solving, operational research, and virtual/physical prototyping of products as means of constructive learning.

Opportunities for Students

- Work in multidisciplinary teams
- Gain experience in intercultural co-operation
- Get to know foreign students
- Challenging assignment
- Get skills of using video-communication

Opportunities for City University

- Establishing more Connection with EU Universities
- Fulfill RAE and IMechE expectation of our courses
- More connections with UK industry
- Get some funding for research in that area
- Gain Competence in Design

Infrastructure

- The information and communication technological infrastructure of the academic virtual enterprise consists of systems such as:
 - Viewstation with auxiliary cameras,
 - MCU
 - Net-meeting, Placeware,
 - Blackboard, whiteboard
 - CAD, CAE, CAPP, and CAM packages,
 - rapid prototyping facilities
 - office documentation and administration packages.



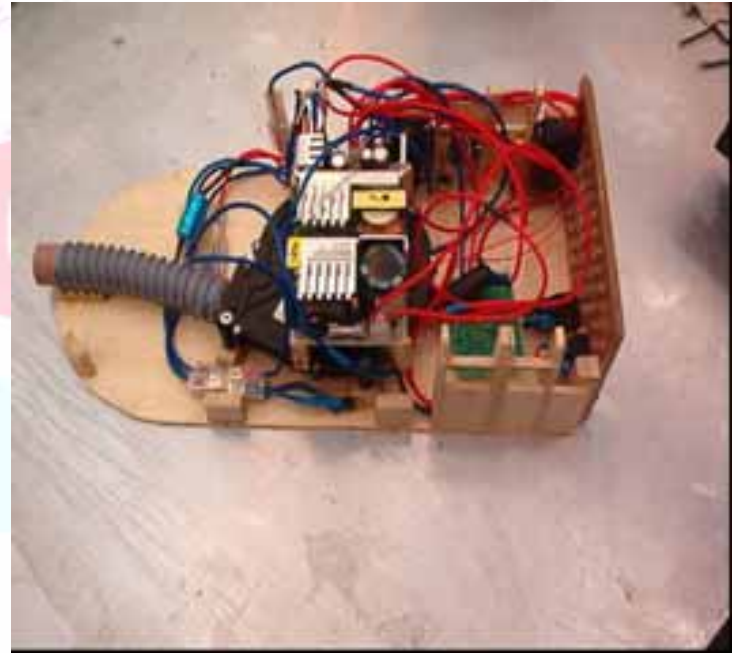
Collaboration



Previous courses

Year	University participants	Core company	Educational focus	Research focus
2002	UoL, EPFL, and DUT VACUM CLEANER	LIV Postojna, Slovenia De Vlamboog, BV, the Netherlands	Redesigning and prototyping of consumer durables for global market	Dislocated cooperation in academic virtual enterprise
2003	DUT, UoL, and EPFL VELDING MASKS	De Vlamboog, BV, the Netherlands	Conceptualization and prototyping future product for the core company	Project oriented learning in virtual environment
2004	EPFL, UoL, UoZ, and DUT VELDING MASKS	De Vlamboog, BV, the Netherlands	Combining operational research and product conceptualization	Navigation of active learning
2005	EPFL, UoL, UoZ, CUL, and DUT SPRAYING SYSTEM	AVIDOR, Switzerland	Human- and environment- centered product development	Development of comprehensive design competencies
2006	EPFL, UoL, UoZ, CUL, and DUT SPRAYING SYSTEM	NIKO, Ljubljana	Human centered product development for specific market	Design for the bottom of the pyramid
<p><i>Abbreviations:</i> EPFL - Ecole Polytechnique Federale Lausanne, Switzerland, UoL - University of Ljubljana, Slovenia, UoZ - University of Zagreb, Croatia, DUT - Delft University of Technology, the Netherlands, and CUL – City University of London, England</p>				

E-GPR results (2003)



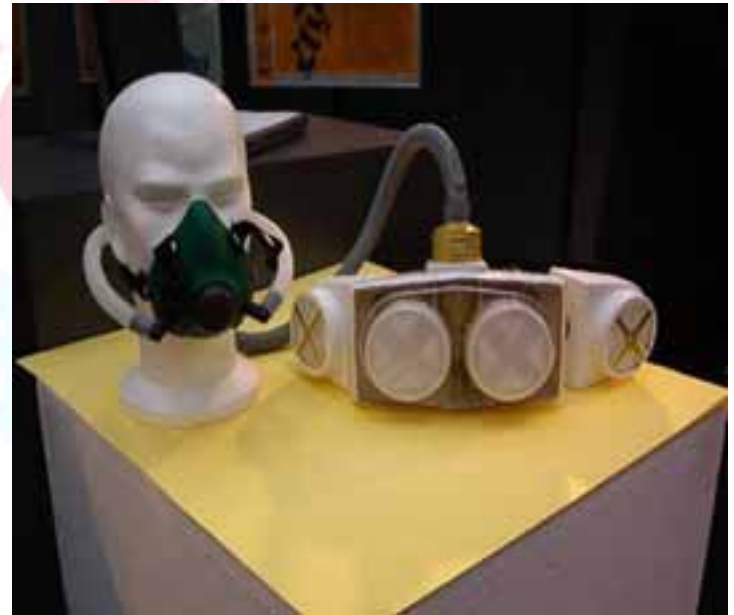
E-GPR results



E-GPR results (2004)

Global

European





E-GPR results (2005)

Global

European





E-GPR results (2006)



