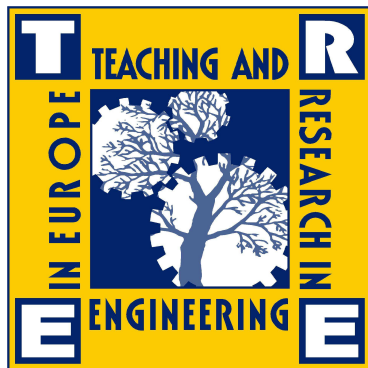


Thematic Network TREE: Teaching and Research in Engineering in Europe





Global goal: development of the European dimension in Engineering Education (EE)

i.e. enhance the compatibility of the many diverse routes to the formation of Engineering graduates which exist in Europe in order to facilitate greater mobility of skilled personnel and integration of the various situations throughout Europe. This was the goal also of the predecessor of TREE, the TN E4.

Because of the continuous evolution of higher education in Europe, this goal constitutes a moving target and hence is still a valid general motivation. Moreover there is the need to go past the purely study phase. The results of E4 (collected in a box of 6 volumes plus a CD-rom) were mainly of such nature and have constituted the starting point of TREE activities.

The results of TREE

The results of TREE are available on the web site of the TN and (from early December) in a publication (volume plus CD Rom) called "Re-engineering Engineering Education in Europe" edited by Firenze University Press. The CD is equipped with a search engine to facilitate its use. The chapters of the volume present the results of the 30 active Special Interest Groups (SIG) of TREE according to themes: *attractiveness of EE, innovative teaching and learning, synergies between education and research, accreditation and quality assurance within the Bologna Process, Continuing EE, glossary, guide of engineering schools in Europe, future challenges.*



TREE was organized along 4 lines:

(A) *TUNING*

(B) *EDUCATION & RESEARCH*

(C) *ENHANCING THE ATTRACTIVENESS OF EE*

(D) *SUSTAINABILITY*

Each Line was structured into several *Special Interest Groups (SIG)* targeted to specific tools, formed by a limited number of members among which the Leader of the SIG.

The Special Interest Groups

A: TUNING LINE

- **A1** Increasing the quality of the majority - a key challenge
- **A2** From ECTS to a complete qualification profiling in EE
- **A3** Inquiry about real needs of industries in international formation
- **A4** Tools for Quality Assurance and Assessment of EE
- **A5** Accreditation of EE in Europe
- **A6** Updating of the Glossary in EE
- **A7** Guide of Engineering Schools in Europe
- **A8** Engineering Demand and Offer in Europe

The Special Interest Groups

B: EDUCATION & RESEARCH LINE

- **B1** Synergies between research and education activities
- **B2** Status of doctoral (PhD) studies in engineering in Europe
- **B3** Facilitating multidisciplinary projects international teams
- **B4** *Engineering students in European research programmes (SIG closed and only partially merged with SIG B6)*
- **B5** Problem based and project oriented learning
- **B6** Stimulating undergraduate research
- **B7** Mathematics education for engineers in a changing world



The Special Interest Groups

C: ENHANCING THE ATTRACTIVENESS OF EE LINE

- **C1** Promoting Higher Engineering Education in Europe
- **C2** *Register of curricula and courses delivered in foreign languages (SIG closed and only partially merged with SIG A7)*
- **C3** Identification of tools for enhancing Tempus projects in EE
- **C4** Promotion of pedagogical abilities of eng. teachers
- **C5** Status of double degrees in EE in Europe
- **C6** Widening participation in EE for under-represented groups
- **C7** Attracting and retaining female students
- **C8** The role of extra-curricular activities



The Special Interest Groups

D: SUSTAINABILITY LINE

- D1 Managing continuing eng. education (CEE) effectively
- D2 Examples of good practice in open and distant learning (ODL)
- D3 Effective use of ICT
- D4 Virtual campuses and their global network
- D5 EFQM concept for managing university change
- D6 Ethical issues in EE
- D7 The formation of good adult learners
- D8 Work-based learning
- D9 Active Learning



Line Promoters

Each Line has a Promoter whose task was to stimulate and co-ordinate all the SIGs of the line ensuring the good communication between them and the Management Committee (MC) of TREE.

The four Line Promoters are:

Line A: G. Augusti (Univ. of Roma "La Sapienza")

Line B: A. Avdelas (Univ. of Thessaloniki)

Line C: K. Hawwash (Univ. of Birmingham)

Line D: M. Markkula (Helsinki Univ. of Tech.)



The Management

Coordinating institution, president, co-ordinator and chief administrative officer as for E4:

University of Firenze (co-ordinating Institution)

C. Borri (president and legal representative)

F. Maffioli (co-ordinator, Politecnico di Milano)

E. Guberti (chief administrative officer)



The Management Committee

The MC included the president, the co-ordinator, the chief administrative officer of the project, the four Line Promoters and the Secretary General of Associations strongly involved in TREE (BEST, CESAER and SEFI) or their officially nominated representatives.

The MC was chaired by the co-ordinator and met at least every 4 months.



The International Advisory Board

TREE had an *International Advisory Board* (IAB) for monitoring the project and stimulating efforts to reach its goals, thus ensuring an almost real-time self-evaluation of the activities.

It was composed of 4 independent experts representative of beneficiaries/stakeholders of different kinds: industrial, academic, professional.



The SIG Leaders

SIG Leaders were asked to report to the MC at least every 6 months.

Once a year a conference of active members of TREE took place in order to assess the progresses of the project. They were articulated into workshops (at least one for each Line) and the results of these workshops were discussed during a plenary session to follow.



The Scientific Council

All SIG Leaders together with the MC form the *Scientific Council* (SC) of TREE, convened together with the annual conference or even more frequently when necessary. The SC is chaired by the president of TREE. The IAB is invited to all MC and SC meetings.

Grant Identification Data (1/2)

Name of the SOCRATES Action:

ERASMUS - Thematic Network Project

Reference n. of the Grant Agreement:

116340 - CP - 1 - 2004 - 1 - IT - ERASMUS - TN

Name of the Project:

TREE - Teaching and Research in Engineering in Europe

Beneficiary name's and address:

Università degli Studi di Firenze

Facoltà di Ingegneria

C/o Ufficio Relazioni Internazionali

Via di S. Marta, 3 - 50139 Firenze - Italy

Grant Identification Data (2/2)

TN co-ordinator:

Prof. Francesco Maffioli
Politecnico di Milano, Italy

Eligibility period:

01.10.04 - 30.09.07

Maximum Grant amount:

574.376,00 Euro

Percentage Financing:

28,64%

Total of approved budget:

2.005.350,00 Euro

TREE Partners

TREE grouped more than 100 partners representing the following countries:

1	AT	1	EE	8	IT	4	RO
9	BE	6	ES	2	LT	2	RU
3	BG	4	FI	1	LV	5	SE
4	CH	6	FR	1	MT	1	SI
1	CY	2	GR	2	NL	1	SK
1	CZ	4	HU	2	NO	6	TR
11	DE	2	IE	8	PL	2	UA
4	DK	1	IS	4	PT	8	UK

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