« European and International Cooperation in Higher Engineering Education: The Associations as main stakeholders »

International Conference on Engineering and Business Education, Innovation and Entrepreneurship

18-21 October 2012, Lucian Blaga University of Sibiu

By
Françoise CÔME
Secretary General SEFI
Secretary General EEDC
ENAAE Vice-President
RCI Vice-President
IIDEA Liaison Officer for Europe
I. Introduction

The European Engineering Education stakeholders:

- Universities/faculties and engineering schools
- Companies
- Student organisations
- Professional societies (by branches of EE)
- National authorities
- European Union
  - The Associations
During the last 50 years, several associations have been created in Europe in the field of engineering education:

1. **SEFI**: *the largest network of engineering education actors in Europe existing since 1973*
2. **EEDC**: *the European Engineering Deans Council, created in 2011*
3. **ENAEE**: *the European Network for the Accreditation of EE (early 2000’s)*
4. **IGIP**: *a 40-year association involved in international Engineering Pedagogy*
5. **CESAER**: *a network of engineering presidents created in the early 90s*
6. **BEST**: *the Board of European Students in Technology (in the 90s)*

Most of them also cooperate with European professional organisations such as:

1. **FEANI**: *the European Federation of National Engineering Agencies (60 years old)*
2. **CLAIU**: *the professional organisation grouping the European university engineers*
Why are they important in the context of engineering education in Europe?

Let’s take a few examples...
II. SEFI and the EE in Europe

Société Européenne pour la Formation des Ingénieurs
**European Society for Engineering Education**
Europäische Gesellschaft für Ingenieurausbildung

*Founded in 1973, it is an international non-profit organisation under Belgian Law.*

SEFI is nothing but its members and the contributions from its members

410 members
(180 universities and schools of engineering)
Our members are:

- **Institutions**
  Institutions of a high level (post secondary) that offer a complete curriculum leading to an academic engineering degree.

- **Individuals**
  Typically teachers of science or engineering + People engaged in international relations. Students / Retired engineers....

- **Corporates**
  Any industrial company, public administration or other organisation having an interest in supporting European Engineering Education.

- **Associations and related members**
  Professional societies or other organisations interested in initial or continuing education of engineers. Student organisations.

SEFI receives the support of its corporate partners:
SEFI in 2012 in Europe only
Our Mission is to

Support, promote and improve European Higher Engineering Education

• by linking Engineering Education institutions and educators,
• by providing services to its members,
• by serving as an international forum,
• by representing the European Engineering Education Community.
With the following objectives:

• to contribute to the development and to the improvement of EE;
• to provide appropriate services and information about HEE;
• to improve communication and exchanges between teachers, researchers and students;
• to promote cooperation between industry and those engaged in EE;
• to act as a link between its members and other societies or international organisations;
• to promote the European Dimension in EE;
• to contribute to the recruitment of good students in EE;
• to promote the position of EE and engineering professionals in society.

We reach them thanks to a series of actions:
1. Working Groups

- Quality Assurance and Accreditation
- Sustainability in Engineering Education
- Curriculum Development
- Continuing Engineering Education
- Engineering Education and Mathematics
- Engineering Education and Physics
- Engineering Education Research
- ICT and Engineering Education
- Diversity and Gender in Engineering Education
- Ethics and Engineering Education
- Attractiveness of Engineering Education
2. Committees and Task Forces

- Cooperation with Africa
- Bologna process and cooperation with EU institutions
- University-Business Cooperation
- Cooperation with students
- The European Engineering Education Journal (*SEFI bi-monthly scientific journal*)
- Web Committees etc.
3. Annual Conferences

- 1973 ... 2000 *(please refer to our web site)*
- New Engineering Competences - Changing the Paradigm (Copenhagen 2001)
- The Engineer of the Renaissance (Florence 2002)
- The Global Engineer: Education and Training for Mobility (Porto 2003)
- The Engineering Education at the Cross Roads of Civilizations (Ankara 2005)
- Engineering Education and Active Students (Uppsala, 2006)
- Joining Forces in Engineering Education towards Excellence (Miskolc 2007)
- Quality Assurance, Employability and Innovation (Aalborg 2008)
- Attracting Young People in Engineering. Engineering is fun! (Rotterdam 2009)
- Diversity Unifies- Diversity in Engineering Education (Trnava 2010)

In 2011

- Global Engineering Recognition, Sustainability and Mobility » (Lisbon 2011) in the context of the First World Engineering Education Flash Week

And.....
In 2012
Aristotle University of Thessaloniki
23-26 September
www.sefi2012.com

285 delegates from 32 countries!
2013 Annual Conference of SEFI
Leuven, 16-20 September 2013
Celebrating the 40th Anniversary of SEFI

2014 Annual Conference of SEFI
Birmingham, September 2014
Published
In 2012

4. Publications
5. Cooperation

EU Projects

- Techno TN
- MODERN
- EUGENE Academic Network
- EU-Drivers
- ECCE
- Eur-ACE
- ECDEAST

International relations

- Official relations with UNESCO
- Regular contacts with the European Commission and the OECD (AHELO)
- Founding member of EuroPace, ENAEE, IFEES, IACEE, IIIDEA and in 2012 of the *European Engineering Deans Council – EEDC*
- Cooperation agreements with IGIP, ASIBEI, JSEE, ASEE
- Permanent contacts with CLAIU, CESAEER, ESMU, FEANI, EUA, CEFI/CNISF, CDEFI, RAEE, SEII, WFEO and RCI
6. Representation and Positions

The Bologna Process: the context

- Sorbonne Declaration (end 90’s) leading to
- Bologne Declaration (1999): 27 signatories
- Since 2009: 46 signatories
- Prague (2001)
- Bergen (2005)
- London (2007)
- Leuven/Louvain la Neuve (2009)
- 10th anniversary: Budapest/Vienna

- Bucharest 2012: New communiqué available on www.sefi.be
SEFI and the Bologna Process

A series of SEFI Position(s) since 2000:

2000: SEFI and the Bologna Declaration
2011: SEFI, the Bologna Declaration and the Engineering Education
2011: SEFI survey on the Bologna Declaration
2011: SEFI, CESAER and CLUSTER Joint letter before Prague
2002: SEFI discussion paper on the Bologna Declaration
2003: SEFI CESAER Communication on the Bologna Declaration
2005: SEFI CESAER Position Paper on the Bologna Declaration
2007: SEFI and the Doctorate in Engineering in the context of Bologna
2009: SEFI IGIP Position Paper on the Process
2012: SEFI BEST Position Paper on Bologna and the Engineering Education

All available on www.sefi.be
As an organisation involved in the promotion and improvement of Higher Engineering Education in Europe, SEFI, is very much in support of the implementation of the Bologna process all over Europe.

Major achievements such as the three cycle study system, increased student and teacher mobility, qualifications frameworks as well as the increase of the cooperation between institutions from the EHEA countries and their counterparts from all over the world are well appreciated by our members.

The fact that the Bologna process has put again higher education on the political agenda is also a key issue.

Our recommendations are on 3 main topics:

1. Promoting Interdisciplinarity and transdisciplinarity
2. Emphasising engagement
3. Stimulating entrepreneurship and innovation
The accreditation of Engineering Education in Europe

In 2012, what do we think?

A new Position Paper published by the SEFI Task Force on Accreditation and Quality Assurance
✔ One of the main goals of the accreditation of EE programmes is to ensure transparency and hence build trust, favouring mobility of students and engineers;

✔ A European accreditation system for EE should respect the rich cultural diversity of European HE Institutions;

✔ SEFI fully supports the development of the EUR-ACE System, since it is fully compatible with the requirement mentioned in the previous point, being based on cooperation and mutual recognition between existing National accreditation bodies, and being based on LO for its implementation;

✔ SEFI also appreciates the fact that the EUR-ACE System has acquired global visibility through contacts with the Washington Accord, the Sydney Accord, and the whole International Engineering Alliance (IEA);

✔ SEFI encourages all its HE institutional members to apply for EUR-ACE labels for their Programmes;
✔ SEFI encourages HE institutional members in countries that have not yet an established EE accreditation procedure to solicit the relevant authorities in this direction, and in the meantime to take advantage of the possibility to let one of the EUR-ACE-authorized agencies accredit (some of) their EE programmes;

✔ SEFI wishes to ensure its strong support and involvement regarding ENAEE activities, and in particular supports the idea of submitting to the EC a new application to further advance the European system for accreditation of EE, in which SEFI intends to play an active role.
III. ENAEE and the accreditation of EE in Europe

The history:

• 2000 = ESOEPE (European Standing Observatory for the Engineering Programmes in Europe) – Paris, SEFI Annual Conference

• 2004: EC Call for proposals for Europe-wide participation projects contributing to the realisation of the European HEA (in the context of Bologna)

• 2004-2006 = EUR ACE Standard « EURopean Accredited Engineer »: Set of standards and procedures for comparing the degrees programmes across Europe that contributed to the formation of professional engineers

• Creation of ENAEE: No supra national body! Accreditation by national/regional agencies members of ENAEE

www.enaee.eu

Dr. Iring Wasser, ENAEE President
EUR-ACE®, the European Quality Label for Engineering Degree Programmes: Current Experiences and Perspectives

with the support of ORDEM DOS ENGENHEIROS
and
Faculdade de Engenharia da Universidade do Porto
Prof. Augusti

→

Former ENAEE President
Former SEFI President
IV. EEDC: a platform for Engineering Deans

In 2011-2012, in the context of EUGENE, SEFI and ISEL created the European Engineering Deans Council in the context of the EUGENE Project.
EEDC: a new European structure

Several meetings and discussions lead European Engineering Deans interested to meet in Lisbon to sign the
EUROPEAN ENGINEERING DEANS COUNCIL

DECLARATION

Signed in Lisbon on 27th September 2011

We, Deans of Engineering at European Higher Education institutions, unanimously support the creation of the European Engineering Deans Council (EEDC) as a non-profit organization. In recognition of the diversity of academic structures in Europe, the term “Dean” for the purpose of this Declaration means “a person in charge of an engineering institution, college, school or faculty in a university”.

We agree that the objectives of EEDC shall be:

- To provide a forum for exchange of information and for discussion of experiences, challenges and best practices to lead an engineering College, Faculty or School,

- To identify opportunities for engineering deans to collaborate with industry and other stakeholders in education, research, and innovation,

- To build a network that will support engineering deans in playing a leadership role in developing European and national policies for the benefit of Society.

We recognise that the creation of EEDC is an initiative of the European Academic Network “EUGENE”, coordinated by the University of Florence, supported by the EU-LLP Programme, under the leadership of the European Society for Engineering Education (SEFI) and Lisbon Superior Engineering Institute (ISEL).

We, the undersigned, confirm our commitment to pool our collective strengths for the advancements of engineering education and research for the benefit of Society and to pursue the establishment of links with similar international organisations that are committed to the same objectives worldwide.
Objectives

To provide a forum for exchange of information and for discussion of experiences, challenges and best practices in leading an engineering college, faculty or schools,

To identify opportunities for engineering deans to collaborate with industry and other stakeholders in education, research and innovation,

To build a network that will support engineering deans in playing a leadership role in developing European and national policy to advance economies.
OBJECTIVES AND ACTIVITIES

Activities

Collect information and analysis concerning higher engineering education in Europe and circulate them to EEDC members

Promote exchanges through the EEDC members, notably exchange of good practices concerning the implementation of the Bologna process

Promote cooperation with Deans organizations and associations at national and international level

Participate in the Global Engineering Deans Council

Organise meetings and workshops for the EEDC members
A strong interaction is expected!

GEDC - Global Engineering Deans Council

EEDC - European Engineering Deans Council

EEDC - VALENCIA MAY 2012
The European Engineering Deans Council

A new networking opportunity for European Engineering Deans

EEDC is an international association launched in Lisbon in September 2011 ("Lisbon Declaration") as an outcome of the EU LLP "EUGENE" project

Interested to know more...

News

- First EEDC Workshop, Leuven, 16 September 2013
- 2013 EEDC General Assembly
- SEFI Annual Conference 2013
- 2nd EGA of EEDC: news
- Invited presentation at the EGA 2012

An initiative of

With the support of

www.eedcouncil.eu
V. Global partnerships

IFEES: *the International Federation of Engineering Education Societies, founded in 2006*

In 2011, SEFI and IFEES created [www.iideainstitute.org](http://www.iideainstitute.org)

International Institute for Developing Engineering Academics

And many others:
- RAEE: Russian Association for Engineering Education
- RCI: Réseau Carthage d’ingénierie
- ASEE: American Society for Engineering Education
- JSEE: Japanese Society for Engineering Education
- KSEE: Korean Society for Engineering Education
- CAEE: Chinese Association for Engineering Education
- LACCEI ...
Najis tuke!
Françoise CÔME
Secretary General SEFI
Secretary General EEDC
ENAE Vice-President
RCI Vice-President
IIDEA Liaison Officer

francoise.come@sefi.be