

JORNADA

L'assegurament de la qualitat dels ensenyaments
19 desembre 2011

Accreditació i Qualitat a les Enginyeries.

Contribution by

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EUR-ACE® : the European Quality label for Engineering

is run by **ENAE**, a network of 19
Associations (Eng. Education
Societies, Engineering
Accreditation Agencies,
Engineers' Professional
Associations...



Engineering is a “global” profession:
hence, trans-national recognition is essential.

In 1989, eight National Engineers’ professional organizations
started the so-called

Washington Accord

that, as of 2011, has 14 signatories and 6 “provisional members”

In the Washington Accord,

“qualifications accredited or recognised by other signatories are
recognised by each signatory as being substantially
equivalent to accredited or recognised qualifications within
its own jurisdiction”

No similar initiative in Europe up to 2004.

European engineering graduates encounter significant difficulties in recognition of academic and professional qualifications, and consequently in trans-national mobility.

Lack of a European accreditation system of engineering education accepted on the continental scale.

To fill this lack was (and is) the basic motivation of the whole EUR-ACE exercise, started in 2004: in these seven years significant results have been achieved (as summarized in the following).



The EUR-ACE accreditation system was envisaged by the EU-supported **EUR-ACE project** (2004-06) to make up for the lack of a European accreditation system of engineering education accepted on the continental scale.



To implement the EUR-ACE system, the **European Network for Accreditation of Engineering Education (ENAE)**

www.enaee.eu

was founded in February 2006 by 14 concerned Associations (now 19).



ENAAEE/EUR-ACE adopt the following definition:

Accreditation of an [Engineering] Education Programme

is the result of a process to ensure **suitability of programme as entry route to the [engineering] profession**, by means of

- **Periodic assessment against accepted standards**
- **Peer review of written and oral information by trained and independent panels** including academics and professionals

**The “quality” and “relevance” of accredited degrees
Is guaranteed at all “levels”,
but accreditation refers to education only, not whole formation**



**EUR-ACE is “programme accreditation”;
to qualify it better, it can be called
“pre-professional accreditation”**



Two main outcomes of the EUR-ACE project:

a) a synthesis of existing national Standards:

EUR-ACE Framework Standards for the Accreditation of Engineering Programmes

b) a proposal for the Organization and Management of the **EUR-ACE Accreditation System**

The EUR-ACE Standards and all other relevant documents are available on the site of ENAEE
www.enaee.eu or www.eur-ace.eu





EUR-ACE® Framework Standards for the Accreditation of Engineering Programmes

The EUR-ACE Framework Standards, that were compiled as a “synthesis” between existing national Standards, are **outcome-based**, i.e. specify the **Programme** (or **Learning Outcomes**) to be satisfied. They:

- Are valid for all branches of engineering and all profiles
- Distinguish between **First** and **Second Cycle** programmes, as defined in the European Qualification Frameworks
- Are applicable also to “**integrated programmes**”, i.e. programmes that lead directly to a Second Cycle degree
- **Describe the abilities that the graduates must achieve but not how they should be taught**
- Can accommodate national differences of educational and accreditation practice

The EUR-ACE® Framework Standards require the assessment of a programme for **Quality Assurance** to consider not only the **Programme Outcomes**, but also all the following items:

- 1. Needs, Objectives and Outcomes;
- 2. Educational Process;
- 3. Resources and Partnerships;
- 4. Assessment of the Educational Process;
- 5. Management System

and for each item specify the criteria to be assessed.



Full text of EUR-ACE® Framework Standards
on www.enaee.eu & www.eur-ace.eu

How does the **EUR-ACE® accreditation system** work?

- **National (or Regional) Agencies accredit** EE programmes;
- If the Agency satisfies appropriate Quality requirements, **and** the accredited programmes satisfy the **EUR-ACE Framework Standards**, ENAEE authorizes the Agency to “add” the **EUR-ACE® quality label to the national accreditation, thus giving it an international value.**
- The EUR-ACE® label distinguishes between **FIRST CYCLE** and **SECOND CYCLE DEGREES**, in accord with the European Qualification Frameworks.
- “Integrated (long) Programmes” can be awarded the **SC** label.



The last points underline the consistency of EUR-ACE with the “Bologna” approach, and allow to define it

“European Accreditation ...”

Sample
EUR-ACE[®]
Label Certificate
with new (2011) logo:
the relevant programme is
designated as a
**FIRST [or SECOND] CYCLE
EUROPEAN-ACCREDITED
ENGINEERING** programme;
the respective graduates
can call themselves either
EUR-ACE[®] Bachelor
or
EUR-ACE[®] Master



This is to certify that the **xxx** programme

**Official name of the education programme in original
language (and in English)**

provided by

**Name of Educational Institution, and Faculty or Department,
(if applicable)**

accredited by

(Accrediting Agency)

on **(dd month yyyy)** until **(dd month yyyy)**

satisfies the outcomes of **Second Cycle** programmes specified in the **EUR-ACE
Framework Standards for the Accreditation of Engineering Programmes**, and
therefore for the above period of accreditation is designated as a **SECOND CYCLE
EUROPEAN-ACCREDITED ENGINEERING PROGRAMME**.



For the European Network for
Accreditation of Engineering
Education (ENAE)

Logo

For **xxx**

The President
Prof. Ing. Giuliano Augusti, Sc.D.

Brussels, **xx Month 200x**

The **xxx**
xxxx
Signature

xx, xx Month 200x



Six Agencies [the relevant partners of the EUR-ACE project (2004/06)], were authorized to deliver the EUR-ACE Label (**EUR-ACE-authorized**) in November 2006 and confirmed in October 2008:

- **ASIIN** (Accreditation Agency for Study Programs in Engineering, Informatics, Natural Sciences and Mathematics), Germany
- **CTI** (Commission des Titres d' Ingénieur), France
- **Engineers Ireland**
- **RAEE** (Russian Association for Engineering Education)
- **Engineering Council**, United Kingdom
- **Ordem dos Engenheiros**, Portugal

A seventh Agency was authorized in January 2009:

- **MÜDEK** (Association for Evaluation and Accreditation of Engineering Programs), Turkey



Awarded EUR-ACE labels as of December 2010:

Agency	Date accr/n	Countries oper.	FCD	SCD	Total
ASIIN	Nov.2006	DE, CH	134	111	245
CTI	"	FR, BE, BG, ES	--	229	229
Eng.Ireland	"	IE	70	24	94
RAEE	"	RU, KZ	9	39	48
EngC	"	UK	?	?	36
Ord.Eng	"	PT	0	4	4
MÜDEK	Jan.2009	TR	78	--	78
Overall total:					734

As of November 2011, **overall total > 900**



As of November 2011, a number of applications from other Agencies that want to be **EUR-ACE-authorized** have been received and are being considered:

- **NVAO** (Accreditation Organisation of **Netherlands** and **Flanders**)
 - **ARACIS**, QA Agency, Romania (*)
 - **SKVC**, QA Agency, Lithuania (*)
 - **OAQ**, QA Agency, Switzerland
 - **KAUT**, Accreditation Committee for Technical HE Institutions, **Poland**
 - **QUACING**, Agency for QA & Accr.Engrg.Programmes, **Italy**
- (*) “Candidate Agency” (has overcome a preliminary check)

Moreover:

- **CTI** has agreed with **AEQES** (French-Belgian HE QA Agency) to accredit and award the EUR-ACE label in French-language Belgian HEIs;
- **FINHEEC** (Finnish QA Agency) is preparing the application;
- other contacts are under development, e.g. in **SPAIN**.

As noted, the EUR-ACE labels do not distinguish between engineering “branches” nor “profiles”.

However, distinctions are made in accrediting a programme, e.g., in verifying the graduates’ “knowledge and understanding of **their branch of engineering**”, as required by the EUR-ACE Framework Standards.

Consequently, there is an open discussion within ENAEE whether

- a) to stick to the undifferentiated EUR-ACE labels (FC and SC) based on the EUR-ACE Framework Standards, and leave the differentiation among branches to each EUR-ACE-authorized Agency, in accord to its own practice, or
- b) to introduce differentiated labels that could exploit also the branch-level descriptors developed by relevant Technical Associations, like e.g. EUCEET in the Civil Engineering field and the European Federation of Chemical Engineering.

It also worth mentioning the ambitious OECD initiative **AHELO**, aiming at a worldwide

Assessment of Higher Education Learning Outcomes

now in the feasibility stage,
with special focus on **Engineering** and **Economics**.

A pilot initiative supported by AHELO led to the

AHELO-Tuning

**Conceptual Framework of Expected/Desired
Learning Outcomes in Engineering**

finalized in May 2009 together with the analogous Framework for Economics

The **Engineering Framework** is essentially a merging of the EUR-ACE Programme Outcomes for First Cycle Degrees and the ABET "Criteria for accrediting engineering programs" (and is compatible with other relevant Standards).

Summing up,
ENAAE is creating a two-tier
system of **European-accredited
engineering programmes**.



Variants to accommodate specific national needs and/or additional qualifications (e.g. for specialized degrees or specific profiles and/or branches) are not excluded.

Indeed, the EUR-ACE label is an “addition” to a national accreditation, and can be regarded as a quality guarantee of an accepted common basis to programmes providing an entry route to the engineering profession.

The experience of national accreditation bodies, old-established in several European countries, is fully exploited.

This approach and the essential distinction between FCD and SCD make the EUR-ACE system at the same time flexible and simple and should allow it to be spread world-wide.

Third Cycle (Doctoral) and Continuing Education are not (yet) considered.

Any Higher Education Institution throughout Europe and the world that want the EUR-ACE FC or SC Label for one or more of their engineering programmes, even if no EUR-ACE-authorized Agency exists in their country, can apply through one of the EUR-ACE Agencies, following its procedure.

Alternatively, they can contact directly the ENAEE Secretariat, that will direct them to the most convenient Agency.



For up-to-date information,
application forms, etc., visit

www.enaee.eu or www.eur-ace.eu

or contact

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