

## Qualifications Frameworks and Quality Assurance in Engineering - The EUR-ACE Quality System in Portugal

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We are witnessing today a major wide movement that is shaping a new model of European development in the historical background of progress in science and technology, of societal and of political changes that mainly took place on the last quarter of the XX Century. The commitment is to develop a competitive economy based on a knowledge society, a model for growth and jobs, able to compete with other blocks of the Planet in the Global World of the XXI Century. This requires increasing mobility and transnational co-operation. Such can only be based on TRUST which is only achieved with readable national qualification frameworks and degree systems and with transparent and recognized quality assurance systems.

The Bologna Process, with all the relevant agreements concerning qualifications frameworks and quality assurance, together with the all important Directive for Recognition of Professional Qualifications, approved by the Council and by the European Parliament on September of 2005, represent two major dimensions of this concerted effort.

At sectoral level, Engineering is a relevant example of how sectoral qualifications should be defined with transnational recognition and acceptance to the point that they become the basis for a quality assurance or professional recognition system.

EUR-ACE is a European System for Engineering Accreditation, built through the cooperation of fourteen European organizations<sup>1</sup>, that aims at improving the quality of educational programmes in engineering, facilitating transnational recognition by the label marking, facilitating recognition by the competent authorities in accord with EU Directive and facilitating mutual recognition agreements. The system is based on a set of European Framework Standards that were finalized after having been widely discussed, refined and tuned, then tested and discussed again.

The project and the label were launched in 2006 with the full support of two EU Projects<sup>2</sup> and is right now, till the end of 2008, in the first implementation phase.

Ordem dos Engenheiros (OE)/ Engineers Portugal is one of the professional organizations that took part in this project and is one of the six agencies provisionally recognized to certify degrees and propose the EUR-ACE label award.

This paper discusses and presents this Portuguese System for Quality Certification developed and put in place by OE, as well as presents the main stages of the full qualification exercise from the candidacy to the final decision of the degree label award.

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<sup>1</sup> For full information, see [www.enaee.eu](http://www.enaee.eu) (active on July 2008)

<sup>2</sup> EUR-ACE Project, SOCRATES - SCM-T004Z04, 2004-3864/001-001 SO2 81 AWB-04D038304;  
EUR-ACE Implementation, SOCRATES - EAC 01/06

The system approved by OE's National Board is based on 3 basic pre-requisites and 15 requisites that find direct translation or relation with the 6 sets of outcomes that constitute the basis of the EUR-ACE Qualifications Framework.

Starting with the latter, EUR-ACE outcomes are grouped in the following six clusters: (i) Knowledge and Understanding; (ii) Engineering Analysis; (iii) Engineering Design; (iv) Investigations; (v) Engineering Practice; and (vi) transferable skills.

The 3 pre-requisites for candidacy are: (i) legitimacy of the functioning of the course - where proof of the legal situation must form part of the documentation handed in as part of the application process; (ii) adequate organisation of the application process - the application should be complete, organized for easy reading and indexed, numbering the information supplied and identifying the electronic pages where supplementary information may subsequently be obtained; and (iii) qualification awarded - from the point of view that graduation must bring added value through professional recognition of competences.

The 15 requisites for which proof and evidence must be provided are: 1 - strategy of the higher educational institution; 2 - course evolution; 3 - cooperation with other institutions; 4 - Minimum requirements; 5 - curriculum structure and pedagogic programme; 6 - pedagogic goals and tools; 7 - outcomes; 8 - teaching adequacy; 9 - involvement of the teachers in the running of the programme; 10 - admission, monitoring and evaluation of the students; 11 - evaluation of the course by students, recent graduates and employers; 12 - suitability of premises; 13 - pedagogic facilities; 14 - course monitoring; and 15 - effects of other evaluations and the quality plan.

The whole procedure takes place in well defined stages that include: (i) the Application Submission; (ii) the appointment of an Assessment Commission, obeying to strict code of conduct rules; (iii) the Visit to the Higher Education Institution, that will take place over two working days; (iv) the Update of Information of the original dossier; (v) the drafting of the Commission Evaluation Report, that will be sent to the Institution for final comments; (vi) the drafting by the Commission of a Proposal of Decision, that together with the final report is submitted to OE's National Qualifications Board (NQB); and finally (vii) the submission by this NQB to the National Board of Directors of a proposal for final decision.

The final decision is on the form of either (i) NOT ACCEPTABLE to grant the EUR-ACE Label, or (ii) ACCEPTABLE to grant the EUR-ACE Label (valid for six years), which may be given with recommendations (the general case) or restrictions (for cases in which immediate remedial action is lacking and where the carrying out of these changes is checked at a later date by the Assessment Commission).

Quality assurance in what it induces progress of institutions and promotes trust is a major instrument for cooperation, in this model of European development.

Today as in the past, Ordem dos Engenheiros/Engineers Portugal is doing its share.