

## European Experience in Engineering Education and in Accreditation

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The current systems of accreditation of engineering education in Europe have a great variety. They are mostly divided in groups of academic and of professional nature, while in certain countries there is no system at all. This observation also applies to continuing engineering education. There is also the difference between recognition and accreditation. These concepts are defined in the E4 (Enhancing Engineering Education in Europe – [www.unifi.it/tne4](http://www.unifi.it/tne4)) glossary. There two forms of acceptance of engineering programs where recognition is of academic nature and accreditation is related with professional activity. There is currently an increasing demand for accreditation of engineering programs motivated by the creation of new universities, the Bologna process and the innovation in engineering programs. The directive of the European Union Directive 89/48/EEC is a general system for the recognition of HE diplomas awarded on completion of professional education and training of at least 3 years. Despite the directives related with accreditation there were already some bi- and multi-country agreements like in the Nordic countries and the activities of European associations of professional engineers like FEANI ([www.feani.org](http://www.feani.org)) and CLAIU ([www.claiu.org](http://www.claiu.org)). FEANI awards the title of EurIng (European Engineer) for individual applicants based on the academic education in an accredited institution. It may consider further training and professional experience and the list of accredited institutions is based on the accreditation provided by each national professional association of engineers. CLAIU accredits educational programs based on mutual trust between members that are associations of professional engineers. There are reciprocal rights for the list of accredited educational institutions that is provided by members. There are accreditations a priori provided by a national authority or by a semi official authority like a Rector's conference with compulsory or voluntary rules and it is practically automatic, de jure or de facto. These exist in Austria, Denmark, Germany, Finland, Italy, Greece and Sweden. Other accreditations are a posteriori that are periodic or definitive based on a evaluation process and are done by a professional association, like in the United Kingdom, Ireland, Portugal, or by a government-appointed body, like in France, Netherlands and Belgium. In certain countries Engineering is a profession regulated by law, like in Italy, Spain, Greece and Portugal, and has a formal exam, like in Italy and Greece, or a membership of professional institute, like in the United Kingdom and Ireland. The implementation of the Bologna declaration in conjunction with the efforts of the European Commission has created some measures that contribute to the implicit recognition of many engineering programs internally and outside Europe. The European Credit Transfer System ([www.cec.eu](http://www.cec.eu)) and the Diploma Supplement are examples of the tools to improve the transparency about the engineering programs and degrees facilitating mobility, academic and professional, within and outside Europe. Another European initiative is the EUR-ACE project ([www.feani.org/eur-ace.htm](http://www.feani.org/eur-ace.htm)) that congregates all relevant Engineering educational societies and professional organizations. It is a project that intends to define the quality label for engineering programs that will be accepted for academic and professional requirements. The provisional guidelines are being tested around Europe and have been open for public discussion. The legal association that will implement these labels will be created in October 2005 having as basis ESOEPE ([www.feani.org/ESOEPE/HomePage.htm](http://www.feani.org/ESOEPE/HomePage.htm)).

