

# CLAIU's opinion on the Sorbonne/Bologna Declaration

Approved by CLAIU General Assembly, Den Haag, September 29th 2000

CLAIU represents the professional engineering associations in the European Union with a long-cycle engineering education (5 years of university education with scientific content). CLAIU can speak as one voice for the types of engineering education it represents, i.e. those which are regarded as comparable and reflect a similar academic level. One of CLAIU's major issues is the unabating effort to safeguard the high quality of the formations it represents. The increasing complexity of our society and the important role of technology will also increase the need for highly trained individuals.

CLAIU underlines the importance of political initiatives in Europe such as the Sorbonne and more recently the Bologna declaration on the European Higher Education Area, signed by the Ministers of Education of 29 European countries on June 18-19, 1999. CLAIU has discussed the items expressed in the Bologna declaration and wishes to present the following commentary note which can be helpful in the discussions towards the creation of a European Area of higher education.

## **CLAIU's COMMENTS ON THE BOLOGNA DECLARATION**

CLAIU welcomes the ideas expressed in the Bologna declaration which are aimed at increasing the mutual exchangeability of qualifications within Europe on the basis of greater transparency in the education degrees.

CLAIU has acquired a profound knowledge of the problems concerning academic and professional engineering recognition within the European Union. It has developed many tools to advance the mobility of engineers in the European Union; mobility in Europe "without borders" is not yet self-evident. One of these tools was the creation of the CLAIU Register in 1995. The CLAIU Register gives a comparative presentation of the engineering education system and professional organisation of each CLAIU member country. This Register helps to facilitate the visibility of the academic educational level and to promote the mutual recognition abroad of the represented engineers. CLAIU can support the Bologna declaration subject to the following comments.

### 1. Two engineering profiles

1. CLAIU ascertains that all over Europe there are two different engineering education lines, i.e.

- \* a longer, more scientifically oriented formation, and
- \* a shorter more practically oriented formation.

These types of study result in two kinds of engineering profiles, viz. the conceptual

engineer and the practical engineer, who are both well accepted by the labour market. CLAIU expresses the need to maintain the orientation of these two engineering profiles.

2. CLAIU does not deem it possible for the education of the conceptual engineer with a scientifically oriented profile, to create a study package of 3 years which is immediately ready for the labour market. Thus the end of the first 3 years of study for the conceptual engineer can only result in an intermediate study phase, not an actual economically viable degree.

## 2. Higher education titles for engineers

CLAIU sees the adaptation of the existing education titles for engineers in terms of the Bologna declaration as follows:

1. A) "Bachelor of Engineering", which indicates the study of the practically oriented engineer with a study of 3, 3,5 or 4 years.

B) "Master of Science in Engineering", which indicates the study of the theoretically and conceptually oriented engineer with a study of 5 years

2. The academic term of "Sciences" within a university background indicates that the study has a fundamental mathematical and highly scientific basis. Consequently, the addition of "Science" to a Bachelor or Master degree can only apply to those types of study which are characterised by a "Sciences" content.

3. A) The "Bachelor of Science in Engineering" is a university intermediate phase of the conceptual engineering profile which only grants study mobility in the host country or abroad. It is not an independent, economically viable "final" degree

B) The "Master of Science in Engineering" is the degree which indicates the formation of the conceptual engineer.

C) The "Master of Engineering" is not available now but could offer to the Bachelor of Engineering further study opportunity (1 - 2 years) in a particular technological field.

4. The current existing bridge programmes will clear the path of a Bachelor in Engineering degree towards a Master of Science in Engineering degree.

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**Additional opinion CLAIU on quality assurance and accreditation in the Bologna Process**

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See the CLAIU opinion on the Sorbonne/Bologna declaration, approved 29<sup>th</sup> September 2000.

CLAIU strongly shares the opinion of the European Ministers of Education concerning the needs of a transparent system of easily readable and comparable degrees sustained through e.g. a Diploma Supplement. CLAIU states also that legal implementation in the respective European countries should consider special conditions for the engineering education because this is strongly connected with the engineering profession.

The harmonisation of the structure of higher education also includes the promotion of European cooperation in quality assurance.

CLAIU therefore welcomes the initiative of the European Commission which has launched ENQA, a European network, to create a greater European dimension with regard to the national quality assurance policies.

However, confusion must be avoided between quality assurance and accreditation.

The implementation of the Bachelor / Master structure as a concrete consequence of the Bologna process runs parallel with the establishment of accreditation procedures. We observe that in large European countries, as regards engineering education, some bodies are already involved with accreditation such as the Engineering Council (UK), Commission des Titres d'Ingénieurs (France), Akkreditierungsagentur (Germany).

In these accreditation bodies, besides government and educational institutions, also professional organisations are involved.

CLAIU strongly advises that other countries, which are not very familiar with “accreditation”, should follow a similar accreditation organisation structure.

According to CLAIU, the involvement of the professional bodies in the accreditation process is very important to maintain the link between engineering education and professional practice. We refer in this respect to the European Directives on regulated professions based on recognition of diplomas. We refer also to the European

Commission (see report 1994) which has underlined the need to have a broader interaction between the academic and the professional recognition of diplomas.

As already stated in the note of 29<sup>th</sup> September 2000, CLAIU underlines furthermore that the engineering education is subdivided into two categories (profiles) and that therefore different accreditation criteria are needed for each of these engineering profiles.