

Founded in Leuven in 1973, SEFI, the European Society for Engineering Education, is the largest network of engineering education institutions and educators in Europe. The objectives of SEFI are to contribute to the development of engineering education and of the position of the engineering professionals, to provide appropriate services and information about engineering education, to improve the communication between teachers, researchers and students, to develop the co-operation between educational engineering institutions and establishments of higher technical education and between the industry and educators, to act as an interlocutor between its members and other societies, and to promote the European dimension in higher engineering education.

SEFI serves as a European Forum to its 400 institutional members, academic staff, related associations and industry, from 42 countries. This is done through a series of activities: Annual Conferences, seminars and workshops, held on the initiative of SEFI's working groups and task forces on specific themes of engineering education. SEFI also publishes the European Journal of Engineering Education, the News@SEFI, SEFI-Guides on Engineering Education, Documents and Monographs, Proceedings of Conferences and Biennial Reports and participates in a series of international projects in the field of higher engineering education, notably in the frame of the LLP EU Programme, or in cooperation with other international bodies and associations.

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The International Society for Engineering Education, IGIP, is an organisation which promotes professionalisation and innovation in engineering education and attaches international importance to the respective efforts.

Its target is faculty, not students. IGIP was founded in 1972 in Klagenfurt. The members of IGIP come from about 70 different countries. The society is embedded in an international network of engineering educators. This network is flourishing every year at its international conference, but also in the dealings of their working groups. Within this network of IGIP all topics of engineering education are dealt with, but especially the improvement of teaching styles in technical subjects. As the qualification framework constantly changes, both teachers and students have to be prepared for the rapidly changing industrial and business world. Due to its international network IGIP can provide hints to this topic. IGIP honours the educational qualities of faculty by rewarding an International Engineering Educator Award to everyone who has gone through an additional level of education. By passing the IGIP curriculum as proposed by IGIP in any accredited institution worldwide, IGIP states that a given engineering educator with an ING-PAED IGIP title has all the competencies needed to teach at the state of the art with the best available teaching technologies.

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THE BOLOGNA PROCESS AND THE EDUCATION OF THE ENGINEERS

**A JOINT COMMUNICATION OF SEFI AND IGIP IN VIEW OF
THE 6TH MINISTERIAL CONFERENCE
LEUVEN, 28-29 APRIL 2009**

SEFI and IGIP, as well as their numerous members of the engineering education community, are highly committed to the success of the Bologna Process.

The following recommendations are based on an assessment of the achievements of the Bologna Process so far and provide an update on tasks ahead by taking into account the initial aims of the Bologna Process.

ASSESSMENT

Achievements so far

The Bologna Process has triggered the most extensive change to an educational system in terms of structure as well as number of students, lecturers, institutions and cultures affected and involved. The three cycle system has been widely accepted and implemented up to such a degree that the point of no return of the reform process has long been passed. Progress has also been made in developing common quality standards and guidelines for quality assurance.

Some of the problems faced at the moment are partially due to an aspect of the reform process that must remain preserved: the promotion of diversity as a crucial element in a culture of competition.

The signatories to the Bologna Declaration have chosen individual pathways to achieve the underlying aims accounting for the diverse cultural backgrounds. In consequence, a reduced instead of an increased mobility is observed calling for codes of practice to overcome the obstacles without losing the diversity.

RECOMMENDATIONS

The Tasks for the remaining time till 2010 and beyond

Learning outcomes, their definition, their characterisation and their measurement are the key factors to the success of the Bologna Process. Only a consistent outcome qualification oriented educational system will have the pre-requisites for a sustainable existence of an EHEA. Currently, numerous activities are under way to follow up these demands. **The ministers' conference is asked to provide adequate funding for research in education to support these pivotal activities.**

ECTS and the concept of workload must be developed further in terms of codes of conduct to help overcome existing obstacles to student mobility. Rationales as well as bandwidths rather than absolute values should provide the guiding principle for the interpretation of both. This approach guarantees the survival of individual solutions based on cultural diversity. **Co-ordinating efforts should find explicit support by the ministers.**

The professionalism necessary to perform meaningful evaluation must be amended by measures and methodologies of didactical character to cure the discovered deficiencies. **The development of such tools must be based on research. The necessary funding of this research is requested from the Ministers' conference.**

Quality should govern the implementation of the aims of the Bologna Declaration and overrule speed. Numerous countries have joined the initiative late and with highly different initial conditions. Some countries have not issued the accompanying legislation till only recently. A forced acceleration in order to make every country reach the same level of implementation by 2010 will lead to losses on quality. A master plan accounting for this situation is required by the Ministers' Conference acknowledging that the deadline of 2010 has to be adapted appropriately. **The priority for the next decade should be on ensuring effective implementation of the existing action lines, rather than introducing too many new action lines.**

Brussels, 4 April 2009

For SEFI and IGIP,

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