

**European Parliament Hearing on the
European Institute of Technology, 2nd May 2007, Brussels**

**How engineers can contribute towards more innovation in Europe
Text of the speech by Dr. Willi Fuchs, President of FEANI**

Ladies and gentlemen,

As the umbrella organization for national engineering associations in Europe, representing a total of 29 member states and Russia as a provisional member, FEANI speaks on behalf of more than 3.5 million European engineers. Generally, FEANI welcomes proposals which make accessible and develop Europe's innovatory potential. We strongly support the EU's endeavours to establish Europe as a leading technology location. To achieve this goal, FEANI calls for a stronger focus on application-oriented research and for improved cooperation between science and industry so as to generate more innovation. We have repeatedly stressed this need in the discussions concerning the staffing of the Seventh Research Framework Programme.

Innovation is the key to maintain Europe's technological and economic competitiveness. Innovation is the only way to meet the objectives defined in Lisbon, i.e. achieving sustained economic growth coupled with increased and secure employment. We need to find ways to improve and accelerate the process to transform faster than now scientific discoveries into successful products and services. The idea of a European Institute of Technology (EIT), which could boost the pace of innovation in Europe with excellence-oriented strategic partnerships between all three corners of the knowledge triangle — i.e. education, research and innovation — could represent a good approach to this issue. In our view, education and research are indeed the foundations which would allow a dynamic innovation to take place.

From our point of view, we consider that European initiatives — and not merely in the context of the discussions regarding the EIT — need to focus more strongly on the capacity for innovation. In our opinion, the current proposals to establish an EIT do not go far enough in this respect, since it remains unclear what added value it would represent with respect to existing instruments and programmes in this area.

The only characteristic that would set an EIT apart from existing institutions and programmes such as the newly founded European Research Council should be the focus on innovation. Successful innovations only occur within and in partnership with business. For this reason, an EIT cannot exist without business as a partner. Here, we need to concentrate our effort in particular on small and medium enterprises (SMEs). However, in order to secure the involvement and partnership of such enterprises, the EIT — or its "Knowledge and Innovation Communities" (KICs) — needs to offer specific incentives that are not available with other funding instruments.

This covers primarily:

- access to first-rate, competitively oriented research in fields that are of highest relevance to the enterprises in question;
- participation in innovation networks on a regional basis without any obligation to cooperate on a multinational level;
- involvement in the training of the next generation of scientists and in the advanced and further training of employees working in economically relevant fields in order to secure a pool of new recruits,

and

- a secured financial basis for the EIT, such that the success of their own investments remains independent of any change in political priorities.

Training and the shortage of engineers

In our opinion, there is a close correlation between training and the capacity to produce innovation. Basic and advanced training must therefore be directed towards ensuring a supply of well-trained engineers, able to successfully take on the innovation challenges facing a knowledge-based economic region. Only if we have sufficient first-rate scientists and engineers — and here the emphasis lies on engineers — will we be able to develop innovative and commercially successful products and services. Unfortunately, the discussions and papers regarding the EIT did not devote enough consideration to that problem.

Already today, we can recognize an acute shortage or foreseeable lack of engineers in many member states. This means that innovation could not be achieved without creating serious structural and economic problems. Due to the lack of properly qualified personnel, projects cannot be implemented, which results in significant losses in the creation of added value, thereby specifically endangering Europe's status as a technology location. Basic and advanced training can play a key role as counter measures to the shortage of qualified labour. This has also be recognized by many companies. Indeed, they no longer look upon advanced and further training as a 'nice to have' but rather see it as a strategic investment in retaining employees.

At present, young people show too little interest in studying scientific and technical subjects. To reverse this trend, we have to redesign not only our education system but also our research system as a whole to make it more receptive to innovation. For this, we need not only increased and more effective investment in universities but also try to ensure that the teaching and content of engineering courses becomes more attractive, so as to achieve an increase in the desire to study engineering and science.

Innovation

Europe can traditionally build upon a good research infrastructure. We are world competitive and produce excellent results in many key technologies. This is also why Europe has never had a shortage in good research. In many areas Europe leads the way in the number and quality of scientific publications and in the number of patents. Yet the problems lie in the need to further improve the exploitation of research results and other "innovation inputs" for the creation of new products and processes.

Our job is to make this excellent R&D knowledge available to the market. This presupposes that such innovations be more market-oriented than they are at present. Here, engineers can contribute by improving the necessary transfer between research and business. In this context we observe with concern that the number of newly founded companies has decreased in many EU member states over the last two years. Yet new companies are what we need in order to create new jobs and generate growth especially in high-tech sectors.

With the Seventh Research Framework Programme and the positioning of the technology platforms, the European Commission has already made a valuable contribution towards the promotion of innovation-oriented research. European engineers welcome the industry-led approach to orient R&D projects towards the achievement of medium and long-term growth by carrying out Strategic Research Agendas. The technology platforms have already contributed to generate more innovation output.

R&D investments alone are not enough to bring about a lasting improvement in the innovation climate. On the contrary, improvements in technology transfer between research establishments and universities, on the one hand, and business and industry, on the other hand, are required. Specialized personnel as well as managers with multiple qualifications are required, who can bring their specialized expertise and business management know-how to lead or set up a company. Here, universities are called upon to provide in addition to their technical knowledge and training, commercial know-how, business management and entrepreneurial skills.

As a result, it is evident that the availability of sufficient numbers of qualified personnel is a decisive factor not only for our current economic situation but also in particular for the **future viability of Europe as a business location**.

Constructive criticism of the EIT from the perspective of FEANI

If we want to benefit from the success story of the Massachusetts Institute of Technology (MIT), we should remember that MIT was not created by a political decision but it established itself in the face of a strong competition and has therefore systematically forged partnerships with business and industry.

The EIT, with its proposed triangle of research, education and innovation, must not be content with merely duplicating already existing structures on the member-state and European level. The added value of such an establishment — especially with regard to the urgently required increase in innovation in European technology previously mentioned — must be clearly recognized.

In particular regarding the funding of the EIT, we see with some concern the multitude of already existing measures to promote innovation on the EU level and competing parallel structures and accompanying financing problems. For example, in our opinion the seven-year Competitiveness and Innovation Programme (CIP), which supports measures to promote innovation in companies and industry, is insufficiently demarcated from the activities of the EIT. We see as particularly problematic the situation of competition with technology

platforms and other R&D instruments, and we fear that already existing structures will not survive the competition for funds.

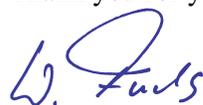
Innovation requires close cooperation between companies and research establishments. Like growth and employment, this cannot be created merely by decree. However, its development can be promoted. FEANI therefore welcomes the idea of the EIT, since such a pan-European approach generates further benefits that individual member states alone would not be in a position to provide. However, we recognize the need to avoid any duplication of activities, not only on the EU level but also with respect to programmes of education, research and innovation that are already in place in member states. The most important task of European innovation policy must be to link together existing activities of member states as well as of regions in a targeted manner and thereby support the development of highly competitive networks.

The mere creation of the EIT as an institutional body cannot fill the gaps in European innovation policy. Instead, the leading idea behind the EIT must also be transferred to national and regional structures, as this is the only way of achieving a long-term European identification. Thereby, we must also take into account that the reasons for the insufficient implementation of R&D knowledge into economic activity and jobs are not the same throughout Europe. Some Scandinavian countries such as Sweden and Finland, but also Germany and Denmark, show similar innovative strength as Japan and the U.S., whereas other countries fall further behind.

For FEANI, the integration of national and regional structures, along with the aforementioned EU activities/programmes such as the technology platforms, into the EIT concept seems a necessary and practicable solution. And you can always rely on engineers' support when it comes to practical solutions.

The success or failure of the EIT will largely depend on its demarcation from other EU activities. The key to this lies in the Governing Board setting in advance measurable performance criteria for the KICs. Indeed, contrary to fundamental research, the success of an innovation can be directly measured. At the same time, this will allow that KICs be accorded the original and necessary autonomy.

Thank you for your attention

A handwritten signature in blue ink, appearing to read 'W. Fuchs'.

Dr. Willi Fuchs