

ØINNOVATION IN ACTIONØ

Innovation and Innovation management are higher priorities for Europe than Research

The necessity of innovation to maintain and even improve European countries' positions in the world economic situation is beyond doubt. The EC has long been working to promote and support innovation across many strategies, programmes and projects supported by structural funds, soft loans, etc.

All large companies and some SMEs are conscious of the importance of innovation as a competitive edge, but not all activities in a country nor all functions in a company seem to be so heavily involved.

The strategy developed so far in innovation, both at European and Member State level, with a medium- to long-term perspective, is unfortunately not enough!

Innovation is today a 'fashionable' term but, in a globalised and competitive context, it is crucial for the future of the Europe

The Oslo Manual defines and fully develops the meaning of "innovation" (used by both OCDE and Eurostat) and the main types that can be classified, so there is no need to dwell here on the concept behind innovation.

It should be pointed out that innovation is not to be confused with invention or research and that innovation exists, or must exist, in every department of a company (or a public institution) and not only in Research and Development. Innovation may concern a product (an old as well as a new product) or a service, a process (to develop, produce, distribute or sell a product or service), a marketing method or an organisational method (in business, distribution, external relations or finance). Innovation is not a specific job. Innovations can be proposed by anyone and are not the exclusive domain of one particular department like R&D or even Management.

The two main drivers of innovation should be:

- Universities: researcher actors par excellence and
- Business sectors for investing in innovation and improving management thereof.

The action of these two drivers should promote:

- A sustained value creation in innovative activity
- A quality education supported by a provision under continuous review (complemented by training activities in the universities as well as in companies) and
- Internalisation of the need to address R&D as well as innovation with a systematic approach

A recent survey made in France about engineers' behaviour and feelings about innovation in their company or institution brought up several interesting points:

- Innovation strategy exists and is known in large companies but seldom in SMEs.
- In general, innovative works are organised into projects. In small companies, when it exists, it is usually much more informal.
- Innovation is supported by a general consensus in all areas but there is a large difference in practice, with only 30% of engineers identifying an atmosphere conducive to innovation in their work environment.
- All engineers, whatever their functions, answered that innovation is an important part of their activity. But these engineers also mentioned that innovation is limited by several obstacles, of which the following are highlighted:
 - Short-term priority for companies when innovation often requires some time.
 - Innovation often requires investment and involves a certain financial risk.
 - Negative reactions inside companies to novelty, such as: "we have never done this before," or "this will not work."
 - Employees, in particular engineers, have their normal job to perform and they lack time to elaborate new ideas and to develop innovative projects.
 - More generally an unfavourable atmosphere to give rise to innovation.

Of course, it is assumed that innovation is clearly a multidisciplinary field in which interdisciplinary teams often work, but the fact remains that this activity is crucial in the culture and the behaviour of the engineers for their specific training in the mastery of technology (in the wider sense of the term) and its implementation. No engineer can say that innovation is not part of his work, whatever that may be.

Considering that engineers are key elements of innovation, in all its aspects, FEANI has to ask: are engineers correctly prepared to innovate and to lead innovation in their sector? Are engineers correctly managed in this function (including freedom and control) in large as well as in small companies?

First, better training, initial training and life-long learning to allow engineers to innovate, thus improving the support and management of innovation, both in business and in institutions.

Second, we have to boost the innovative spirit of European engineers by all means, including benchmarking within and between different economy sectors.

Third, we have to promote examples of innovative engineers and of innovative companies (large and more importantly small businesses).

Fourth, in comparisons of universities, as in the new University ranking project, more attention should be given to innovations as well as start-ups emerging from their training, than to the number of Nobel prizes.

Programmes and funding arrangements exist, which have been developed by the European Commission through various financial instruments, such as the Competitiveness and Innovation Framework Programme (CIP), the 7th Framework Programme for Research and Technological Development (FP7) and the European Structural Funds' Operational programmes.

There are many services available, such as the support services for innovators (enterprises, start-ups, research institutes, etc.) and the services provided by the EEN (Enterprise Europe Network), which include the IPR Helpdesk, the Business Innovation Centres (BIC), the European e-Business Support Network (eBSN) for SMEs, the self-assessment Innovation Management tool, the Business Plan Development Tool and Europe INNOVA.

(For more information on these programmes and services, see the annex.)

To improve innovation in Europe we may mention several important factors.

- Development of programmes and funding for promoting innovation, from public administrations, both at the European Commission and the EEMM.
- Strengthening the transfer of research results into commercial applications.
- Extending cooperation between universities/research institutions and companies.
- Implementation of numerous R&D and innovation programmes by companies (mostly large), specialised institutions and research centres.
- Motivation and support (R&D funds) for more cooperation between several different companies, with universities/research institutions integrated in the cooperation process during the pre-competition phase.
- Real professionals: the engineers, with their innate inclination for innovation, which led them to become engineers, and with the corresponding relevant technical and academic training for innovation, whichever branches, specialties and levels they may be in.
- Support for interdisciplinary cooperation - not only within the different engineering disciplines but also with other disciplines (socio-economic aspects).
- Simplifying the conditions for venture capital and business angles.
- Supporting standardisation activities during the design process of applications/products (especially support for SMEs).
- Improving management's knowledge of EU funding, and reducing bureaucracy in applying for funds.
- A European organization, FEANI, which represents through its members, the national associations, about four million engineers in all branches and levels in Europe. FEANI is willing and prepared to participate in all types of actions.

The purpose of this Position Paper is therefore:

- to declare the fundamental value of innovation for nearly four million engineers represented by FEANI, working directly in innovation or helping other professionals get involved in innovation.
- to position FEANI as the support of the European Commission and its institutions to improve the development of innovation, adding significant value to technological progress, improving competitiveness and ultimately facilitating the growth of the European economy.
- to ask the European Commission and its appropriate DGs for new actions, a few of which are mentioned here:
 - Encouraging the inclusion of innovation in the curriculum and practices of universities and engineering schools, through works and projects (not only R&D)
 - Encouraging innovation in all areas of production, services and management and even administration.
- to follow up, both at EC level as well as within the scope of the EEMM, the implementation of European policies in innovation, monitoring, updating and optimising the priorities for Europe, as well as analysing the effectiveness of necessary financial instruments and the actual results of innovation.

Conclusions:

FEANI considers that innovation is a key factor in technological development as well as in socio-economic welfare, and even more so in a crisis like the one in which we currently find ourselves. European and national support programmes and financial instruments are obviously very valuable and necessary, but they are not sufficient. They are totally inefficient if we do not have the right people to innovate and to manage innovation. We should instil the value of innovation in the minds of young pupils, students and professionals who are, ultimately, those who will go on to run companies and institutions. The value of innovation must especially be assumed by engineers as the professionals with more adequate preparation.

Managing innovation includes integrating other fundamental values in its objectives, such as customer satisfaction (which starts with the design of the product or service and not in the marketing department!), sustainable development and environmental protection, or energy saving.

It is clear that, through their innate qualities, their training and their responsibilities, engineers are in the best position to have a key role in innovation. In representing them, FEANI is therefore, by its very nature, a key element in helping them to fulfil this role.

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Annex: Programmes and services available

The following programmes and activities deserve special mention:

- a) The "Entrepreneurship and Innovation Programmeö (EIP). EIP, one of the specific Programmes under the CIP, seeks to support innovation in SMEs, focusing on:
 - Access to finance for SMEs through "CIP Financial Instruments"
 - Business services: the "Enterprise Europe Network" which offers Business and Innovation service centres all around the U.S. and beyond, and provides enterprises with a range of quality and free-of-charge services to help make them more competitive.
 - Support for improving innovation policy: Transnational Supports networking of different actors in the innovation process and innovative companies, including initiatives benchmarking and exchange of best practice.
 - Eco-innovation pilot and market replication projects for the testing, in real conditions, of innovative products, processes and services that are not fully marketed due to risks that are aimed at reducing environmental impacts, preventing pollution, or achieving a more efficient use of natural resources.
- b) The Information and Communication Technologies Policy Support Programme (ICT PSP) aims more broadly at stimulating the uptake of innovative ICT based services and the Exploitation of digital content across Europe by citizens, businesses and governments, in particular SMEs.
- c) The Intelligent Energy Europe Programme (IEE), with about p 730 million of funds available between 2007 and 2013, will help deliver on the ambitious climate change and energy targets that the EU fixed in September. The programme supports concrete projects, initiative and best practices via annual calls for proposals.
- d) Innovation Cooperation (PRO INNO Europe) AIMS, which is an initiative to become the focal point for innovation policy analysis, learning and development in Europe, with the view to learning from the best and contributing to the development of new and better policies in innovation in Europe.

This initiative brings together public actors responsible for innovation, with a view to fostering transnational cooperation on support for innovation through various instruments. Launched in 2006, PRO INNO Europe has supported closer cooperation between these policymakers for innovation at various levels.