

Boosting European Manufacturing – What Will it Take? **An action plan from the European Metalworkers' Federation (EMF)**

INTRODUCTION

In Spring 2004 the EMF adopted an "Innovation Manifesto" and decided to formulate a policy paper and the present more operational Innovation Action Plan.

In the meantime, the European Commission also launched a paper with the title "An action plan to boost research and innovation" on 12th October 2005. Not only are the titles of the two papers very similar but also the content.

The EMF Action Plan contains 14 concrete actions whereas the Commission's contains 19. Despite a very big overlap between the suggested concrete actions in the two papers, there are also some differences as regards their emphasis. In the EMF Action Plan there is a major emphasis on putting the manufacturing sector on the agenda as a driving force for development but there is not the same emphasis in the Commission Action Plan.

Therefore it is clear that the EMF will have to make efforts to ensure that the manufacturing sector is a main driver of innovation.

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RESEARCH AND DEVELOPMENT

1. Ensuring financial commitment to R&D targets

Research and Development (R&D) is crucial to the future of the European economy. Up to 40 % of labour productivity-growth is generated by R&D spending. At the Barcelona Summit in 2002 the Heads of State and Government committed themselves to investing 3 % of GDP in research and development by 2010. This figure consists of 2 % private and 1 % public spending.

EU Member States, however, have made little progress towards meeting the Barcelona target. The investment level has remained virtually unchanged at 1,9% of GDP since the launch of the Lisbon strategy. In the US, by contrast, R&D spending rose from 2,5% to 2,8% during the last decade and in Japan from 2,6% to 3,1%. The newly industrialised countries in Asia are also heavily investing in R&D.

Most EU governments have set national R&D targets, but they have given little thought as to how they might achieve such goals. Concrete plans to commit and monitor Member States are necessary to reach the Barcelona objective. EMF therefore welcomes the Commission's proposal on *Integrated Guidelines for Growth and Jobs* (April 12, 2005). The proposal obliges the Member States to present one single summary document by October 15th 2005 on how their country intends to meet the Lisbon and Barcelona objectives.

The EMF affiliated organisations must work actively to ensure the commitment of national governments to comply with the R&D targets. Concrete annual investment plans outlining how governments intend to reach the Barcelona objective of spending 3 % of their total GDP on R&D in 2010 are required. The EMF and its affiliates must also actively influence the qualitative aspects of R&D, (assessing the output of RDI efforts is as important as reaching the goal of 3%-input) and emphasise the need for R&D in the industrial sector – in accordance with the EMF industrial policy and the EMF position paper on innovation policy.

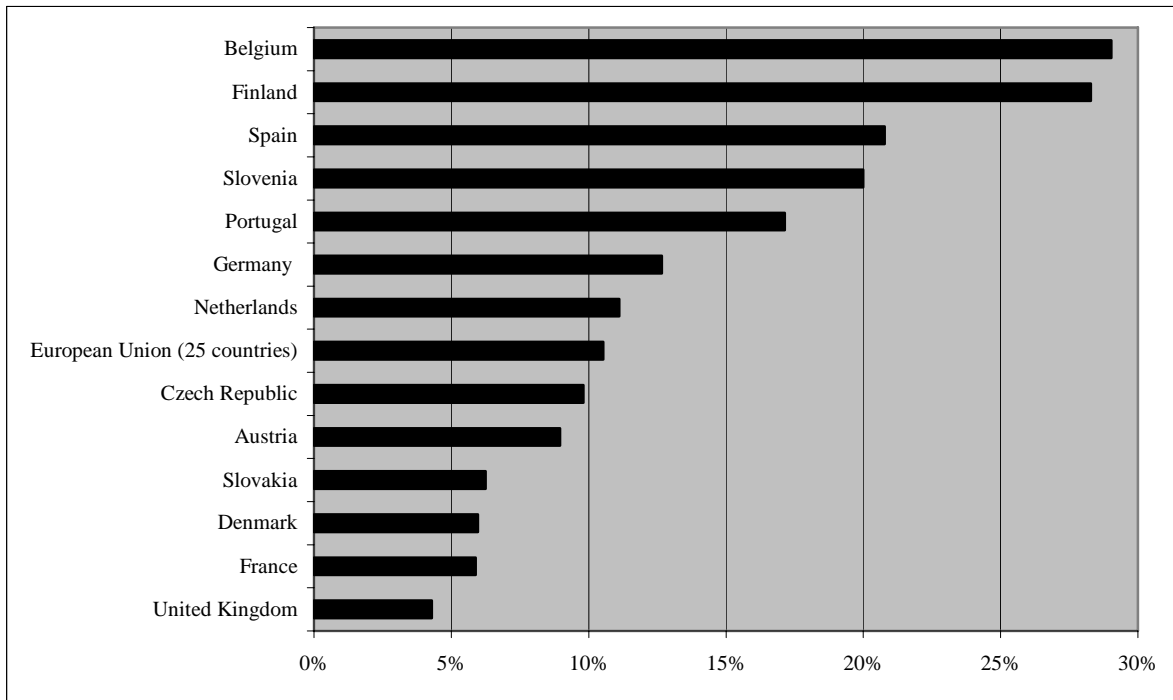
2. Promoting a knowledge-intensive European manufacturing sector

A notable characteristic of the manufacturing sector is the large number of SMEs involved – responsible for two-thirds of total employment – and their wide geographical spread, making it difficult for businesses to maintain a high level of R&D investments on their own. This emphasises the need for public R&D investments in the field of industrial production and technology.

Developing and mainstreaming new technologies are crucial for the future competitiveness of the EU manufacturing sector. At present technology-based industries create 35 % of growth in the US manufacturing sector while only 24 % of growth in the EU manufacturing sector.

The clear need for more public R&D investment to develop a knowledge-intensive manufacturing sector has not drawn the focus of the European national governments. Many Member States invest very little in R&D in the field of industrial production and technology. On average only 11 % of the Member States' R&D investments benefit the manufacturing sector.

Table 2. Public R&D investments in industrial production and technology as a percentage of total public R&D investments, 2002



Source: Eurostat. Data unavailable for all Member States.

Reinforcing European R&D investments in the manufacturing industry is the key to strengthening the sector's global competitiveness and thereby creating jobs and growth.

EMF and EMF affiliates must work actively to ensure proper R&D investments to develop a knowledge-intensive European manufacturing sector.

The EMF must seek to influence the innovation and research policy at European level by the following means:

- *Participation in Technology Platforms, Innovation Panels and in European research boards*
- *Engagement in social dialogue to lay down specific objectives on how research efforts will most effectively benefit the industry*
- *Creation of the organisational framework enabling the EMF to function as a facilitator of technology platforms within specific sectors of the industry*

EMF affiliates must assure that governments and stakeholders are continuously reminded to increase the knowledge intensity of the overall manufacturing sector in order to enhance growth and employment.

In this respect it is important to stress the non-technological aspects of innovation by:

- *developing new business models (e.g. development of service-extended products, mass customisation);*
- *promoting new forms of work organisation that make better use of the competences and creativity of staff (shopfloor innovation);*
- *developing capabilities to run complex production processes, to use existing technologies in a new way and to absorb technologies from outside the traditional knowledge-base of the company.*

3. More innovative traditional industries.

Economic growth is not only based on the creation of new sectors or new technologies but also on the internal transformations in existing sectors.

Nevertheless policies are focused too much on science-based innovation and high-tech industries in general. We often overlook the fact that a large proportion of employment in the western world is still concentrated in traditional industries and that these sectors, despite their low R&D budgets and unfavourable cost conditions are still able to compete in a globalised economy. It proves that over the years these industries have developed capabilities which make them profitable and competitive.

The EMF aims to raise awareness of the innovation capabilities of the so-called 'old' industry in order to develop a new and broad understanding of innovation policies and to promote the view that innovation does not equate to R&D activities in high-tech sectors. Therefore, the EMF will monitor to what extent and how innovation policies support traditional industries in their attempts to accumulate and permanently reproduce innovating capabilities. Most of the industrial jobs remain in the less glamorous industries. So innovation policies must be designed to include these sectors also.

4. More attention to social innovation

Innovation policies concentrate mainly on the technological aspects of innovation. However, inventions can lead to serious changes in the socio-technical paradigm (the impact of the assembly line on manufacturing organisation and on industrial relations is probably the best example of this). The introduction of inventions/innovations can have impact on social and political regulation, on behavioural rules and on operation routines. So on the one hand, it must be ensured that technological progress leads to social progress, while, on the other hand, social innovation must be stimulated in order to enhance technological innovation.

In the future, the EMF will pay much more attention to social innovation as a tool to combine social and economic progress (e.g. the campaigns of some of our national affiliates) by:

- stressing that competition cannot be the only driver for innovation and that coordination/co-operation between economic agents is as important;*
- broadening the scope of innovation policies to all aspects of societal and economic creativity;*
- stressing the role of innovation not only to enhance competitiveness but mainly to solve societal problems and to improve labour conditions;*
- developing a social model that enhances innovation.*

5. Acknowledging an industrial policy paper for the ICT sector

Information- and communication technology (ICT) is crucial to the development of knowledge based and network-organised enterprises. It thus plays an important role in meeting the Lisbon and Barcelona objectives. Today, however the EU invests much less in ICT than its main competitors.

Innovation in manufacturing is closely linked to the application of ICT. For example, it is estimated that 90 % of all future innovation in the automobile sector will be driven by ICT. Research into how ICT can contribute to innovating has proved very fertile in other fields, such as trade, services and communications. The necessity of similar research within manufacturing should be reflected in the EMF's work to develop a knowledge-intensive manufacturing sector.

The EMF's ICT working party has adopted an industrial policy paper for the ICT sector. The contents of this paper, as well as the knowledge within the working party, must be acknowledged and used actively in the EMF's work to ensure a knowledge-intensive manufacturing sector.

SOCIAL FRAMEWORK FOR INNOVATION

6. Promoting innovation via the Entrepreneurship and Innovation Programme

Innovation originates from technical developments and specialised knowledge, but also can be generated from social and organisational improvements. Often these types of improvements are not goals per se, but they help to improve the conditions for innovative thinking.

It is one thing is to be good at developing new ideas or to do groundbreaking research in pioneering fields but another is to be able to transform this into actual products and employment. Therefore workers at all skill levels can play a central role in the modern manufacturing sector.

We are not saying we do not need conventional research and development, but that closer co-operation between the highly educated and the skilled and unskilled workers in the innovation processes can potentially create a competitive edge for European manufacturing. In this respect the EU Competitiveness and Innovation framework Programme (CIP) can be a useful tool. The framework programme is part of DG Enterprise and Industry's enterprise policy and runs from 2007-2013 with a budget of EUR 4 billions.

The EMF welcomes the strengthened focus in the structural funds on knowledge and innovation in order to tackle the innovation gaps inside Europe and to help regions build up research and innovation capacity.

The EMF must draw on the CIP Entrepreneurship and Innovation Programme, the different innovation action plans and the budget lines for innovation in the structural funds in order to increase innovation in the EU manufacturing sector based on training as well as organisational and social structures. The CIP must be used as a tool to underpin development of professional skills such as the ability:

- *to use new technology;*
- *to co-operate across organisational and professional barriers;*
- *to adapt to new demands and conditions quickly;*
- *to understand customers' needs and come up with practical solutions.*

The EMF and its affiliates will participate in implementing regional innovation strategies and action plans that can contribute to strengthening the regional industrial fabric and anticipating change at the regional level.

The process-focused strengths are necessary conditions when realising innovative ideas. For that reason it is important that the innovation processes do not only take place in R&D departments. Many advantages can be gained if all employees are allowed to take part in the innovation processes., thus creating a broad basis for innovative thinking.

7. Promoting co-operation-based innovation

One central organisational factor to place innovation at company level is the degree of employee involvement in company decisions. Flat organisational structures and systematised consulting of the employees help to qualify company decisions and thereby ensure sustainable innovation. On the contrary, people tend to be pacified and unengaged when decisions are forced upon them.

The EU Directive on Information and Consultation (2002/14/EF) is an important improvement of the legal basis for employee involvement. The implementation of this

directive thus has to be followed intensely to ensure that all members are represented in work councils and that the councils have a say regarding changes at company level. If used actively, the European Works Councils can be used as facilitators for restructuring work organisation towards a more innovative nature.

The EMF will together with the European Works Councils, organise campaigns in order to promote innovation and technological progress, raise technical skills and experience which have been undervalued until now at the company level as a pro-active tool to safeguard and create jobs (seminars, workshops, training on innovation governance).

8. Acknowledging the EMF common demand for training

It is cardinal to create a training structure to underpin the strategy for innovation. The employees at all skill levels must have the competencies to manage such a development. It is important that supplementary and further training of blue- and white-collar workers in the manufacturing sector is prioritised in a strategic way.

To reach this goal, we must take responsibility for the appropriate re-education of the workforce in the manufacturing sector.

The EMF Collective Bargaining Policy Committee has adopted a common demand on the individual right to training. This demand must be reflected in the affiliated organisations' collective agreements and in a European press campaign on the necessity of training the workforce.

9. Promoting sustainability and job creation in small and medium-sized enterprises

SMEs are the backbone of the European Economy. They constitute 99 % of all European enterprises and provide around 95 million jobs. Supporting SMEs in their research and development activities is important since SMEs have proved they provide a fertile breeding ground for new ideas and innovative ways. In this connection to that, they are also the safeguard of regional development and employment.

The level of competence can be of vital importance for the innovation activity in SMEs and thereby their sustainability. A survey has shown that companies employing academic workers are 2-3 times as innovative as companies with no academic workers. A recent Danish research report points to the fact that SMEs employing their first academic worker end up on average employing 5 additional blue-collar workers.

SMEs co-operating closely with universities and research centres have a considerably larger innovation potential than other SMEs. Thus more attention and resources should be allocated to establishing such co-operation.

The EMF should work on increasing the knowledge bases of SMEs e.g. by the following:

- Firstly, the EMF affiliates must work actively to create a higher knowledge-base in SMEs by establishing national programmes to encourage SMEs to take advantage of the potential in upgrading their existing human capital and by introducing an academic workforce into production and innovation. The academics are the link to research and universities.*
- Secondly, the EMF must work actively to ensure that the EU 7th Framework Programme or the Competitiveness and Innovation framework Programme contains proper funding for institutes that provide assistance and advice to SMEs on how to use and implement technological research and production techniques.*

10. Attracting non-European specialists

A shortage of labour and scientific talent is increasingly becoming a hindrance to growth. The EU Commission estimates that Europe as a minimum will need 700,000 additional researchers in order to reach its ambitious Lisbon and Barcelona targets. Some of these

researchers will have to come from outside the EU. Therefore, increased attention and political support to improve the conditions of entry and residence for certain third-country nationals is needed.

Some countries already have adopted green cards – specific resident permits for foreign researchers and persons with skills that the country cannot provide itself. But the development of a European-wide area of competitiveness and growth requires the adoption of common rules, also addressing the issue of immigrants' right to move freely around the EU, thereby making it easier for companies to attract the specialists they need.

Countries like Canada, Singapore, USA and Australia have already taken the lead, and are working successfully on attracting a specialised workforce from Europe. The EMF cannot accept however that the EU, USA, Canada and Australia create a so-called brain drain from developing countries to developed countries. Therefore the EMF, through the international labour organisations, will actively work to put the theme on the international agenda and suggest solutions.

The EMF must discuss and adopt a policy on the difficult subject of attracting non-European specialists and developing a European Green Card system. However this system may not be abused to decrease the labour standards of Western European scientific and technical staff.

The EMF will discuss and adopt proposals that enhance the mobility of researchers inside Europe

11. Reforming European labour markets with a focus on social security

Realising the Lisbon objective of a stronger, more competitive, European economy requires modernising European labour markets. Reforming the labour market however must include a strong focus on social security and employability of the workforce, and must not result in a labour market that exploits the workforce by failing to take into account their physical and mental needs. The EMF considers that this will be counter productive.

Prerequisites for a more flexible labour market are extensive social protection and training and lifelong learning, thereby ensuring both innovation and societal cohesion. A coherent system of lifelong learning is needed in order to ensure that human resources, new knowledge and technology are continuously used in an efficient manner.

EMF affiliates must work actively to ensure that reforms in the labour market include a focus on social responsibility and that lifelong learning is integrated in overall labour market policies. The EMF will launch an internal debate on how to reconcile active labour market policies with a justified aim for workers' security and stability.

12. Securing a knowledge society by increasing the number of technical students

There are few students choosing natural sciences and technical disciplines and few female students especially. It is simply not enough to emphasise and invest in research and development if we do not have the needed foundation in terms of human resources.

At the same time the demographic changes in Europe in the coming decades make it even more urgent to increase the number of young people graduating from technical universities/institutions. A modern high-tech manufacturing sector that competes globally needs to have enough highly-skilled employees if we want to avoid dependence on foreign workforce and bottlenecks in the labour market in the future.

The EMF affiliates must work actively to promote technical training at all levels and to commit national governments to the central Lisbon goal of increasing the number of technical students by 15 % in 2010 and of increasing the number of female graduates from the technical universities / institutions. The EMF should also facilitate and engage in a qualitative discussion of technical education – both the professional content and level and its relevance to industry. In this respect an upgrade and standardisation of technical degrees all over Europe is badly needed.

13. Strengthening European entrepreneurship by providing information and guidance

Today many potential entrepreneurs remain employees because they are not offered the chance and do not have the time to consider the commercialisation of their knowledge. These people need information on how to develop a coherent and high-quality business plan to convince private investors or innovation environments of the sustainability of their ideas.

Research shows that breakaways from established companies are by far the most successful entrepreneurs. A coherent innovation policy should therefore focus on how the EMF affiliated organisations can help their members to establish their own business.

Trade unions should also contribute to the promotion of entrepreneurship with workers. Developing specialised professional skills and information on how to set up new businesses, especially for workers whose jobs are at risk, contributes to the creation of new (innovative) SMEs and new jobs. For the workers concerned, there should be the possibility of returning to their job or social security system.

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14. Internal assessment of the national governments Lisbon strategies

Committing national governments to the objectives laid down in the Lisbon agreement is of major importance when aiming at bringing innovation into the manufacturing sector. The EMF therefore welcomes the Commission's initiative on revitalising the Lisbon process. An important tool is the Commission's proposal on "Integrated Guidelines for Growth and Jobs 2005-2008". These guidelines will serve as a basis for drawing up national reform programmes, which the Member States are asked to present to the Commission by October 15th, 2005.

EMF affiliates have an individual responsibility to commit their national governments to draw up coherent national reform programmes that reflect the need for innovation in manufacturing. Knowledge on how central objectives are being met by other national governments can serve here as a source of inspiration and a central argument when lobbying the national government.

In the integrated guidelines it is of major importance for innovating manufacturing that the Member States are requested to report on the following:

- National R&D expenditure targets for 2010 and the measures to achieve these
- Improvements in innovation support services, in particular for technology transfer, the creation of innovation poles, encouragement of knowledge transfer and affordable and clearly defined intellectual property rights
- Development of new technologies and markets, in particular the commitment to set up and implement joint European technology initiatives
- Actions to promote flexibility combined with employment security through reforms in employment legislation and social policy

- Improvements and expansion of lifelong learning strategies, including incentives and cost-sharing mechanisms for enterprises
- Actions to promote a lifecycle approach to work
- Actions to adapt education and training systems in response to new competence requirements through better identification of needs and competences and anticipation of future skill requirements

The EMF Industrial Policy Committee must organise an internal assessment of the national governments' strategies to reach the Lisbon objectives listed above. This consultation should be used as a source to exchange good practices.

15. Yearly evaluation of the progress on the proposals in the present report

In order to ensure continuity of the EMF's work and affiliates towards innovating the manufacturing sector, it is necessary to install a yearly evaluation of the activities. Evaluating the activities will help the organisations to commit themselves and each other to the common goal thus making the EMF co-operation a true guardian of innovative European manufacturing.

The EMF Industrial Policy Committee must organise a yearly evaluation on the progress achieved by the EMF and affiliates with regards to the proposals listed in the present report. An evaluation report is to be presented to the EMF Executive Committee at its meeting in June.