View from a New Member State

Dr. Ilona Vass, Vice-President, National Office for Research and Technology, Hungary

EC: *Dr. Vass, how has joining the EU affected manufacturing industry in your country?*

IV: Manufacturing is especially important to Hungary; we have few natural resources, and depend on the 'human capital' of people producing goods and services. We have a tradition of strength in areas such as electronics, automotive parts and medical equipment, for example – but, following our transition to a market economy, we lost many of our former outlets. However, we gained considerable inward investment from multinational companies in anticipation of our EU entry. This has, in fact, slowed since we became a Member State, as other new members in our region are catching up. Some companies are now moving out because we are becoming less attractive as a low-wage economy.

The crisis has brought unemployment to around the 10% level. Even before this, Hungary was in a difficult position, with a very high state deficit. Fortunately, we were able to access EU Structural Funds, which doubled our capacity to invest in research and innovation. Moreover, our government has recognised that innovation is way out of recession, and ring-fenced those funds for business development, rather than allowing them simply to replace national funding.

Previously, our research expenditure stagnated for a long time at 1% of GDP; but in 2008 business expenditure actually exceeded the public spending, which was quite an achievement! This is in part due to an innovation fund to which companies must contribute, which I understand is unique to Hungary. The ability to invest has since been hit by the crisis, but I believe there remains some room for optimism.

EC: *Have you gained from participation in the Framework Programmes?*

IV: We had good level of representation in FP6, although more in the area of ICT than in manufacturing. Individual participations were generally quite small and more oriented towards fundamental research, with our universities tending to assume rather passive roles as suppliers.

We have been less successful so far in FP7, because the institutes continue to propose 'mosaic' projects, bundling together a whole variety of disparate elements. At present, they tend to lack the management skills needed to handle large projects. Also, while we have a solid base of fundamental research, it has so far been disconnected from industry. Now, the universities are getting better at understanding and adapting to the industrial requirements. Clearly we need to assemble more cohesive and industrially relevant proposals, and to adopt a more proactive stance in order to raise our profile.

In addition, there is a lack of entrepreneurship, and of venture capital to launch new businesses. This inhibits the translation of research results into exploitable innovations. So, with the aid of the Structural Funds and seed funds, we are encouraging the universities to launch spin-off companies – with notable success over the past couple of years. We saw 30 start-ups in 2007, and are continuing at the same annual rate. These achievements may be small on a European scale, but the movement is gathering momentum.

EC: *What steps should Hungary be taking to face the future?*

IV: Now we have to innovate by ourselves, rather than relying so much on the outside world. For this we need to improve our planning. The legacy of reliance on a centralised economy was a reluctance to plan ahead. This is improving as more of our companies acquire a shared vision of where we should be going.

We must start by setting priorities and specialising, in order to avoid continuing fragmentation in funding distribution over different areas of basic and applied research. Even if more money is available, there are not enough researchers – and these are often tempted to pursue the easier options of national initiatives.

To counter this, the state is providing money to start networks, find partners and build transnational alliances with institutes such as Fraunhofer. We must also attract new talent and, in particular, reverse the brain drain that has seen Hungarian researchers leaving to work in the USA and other parts of the EU. This will bring back the technological and management knowledge we need. We have a dedicated fund for repatriation, and it is starting to produce results.

Hungary is still very inward looking; we need to open up to the world. Language remains something of a barrier, but initiatives such as the ERA-NETs, JTIs and PPPs are opening doors.

In recent years, the number of university students has soared, although the entrance qualifications are set too low – so there is a high rate of fall-out, and little follow-through to post-graduate qualifications. In fact, there are simply too many universities for the size of the population and, because manufacturing does not have an appealing public image, they are producing people trained for 'more attractive' commercial careers (often with limited employment prospects).

We are trying to follow the German model of technical universities, and to focus funding on the best institutes. We should also try to make better use of human diversity – for example by encouraging more women into science and engineering, and by implanting a culture of lifelong learning to keep pace with technological change.

Changing mindsets will need to start with an overhaul of education at the secondary, or even earlier, level. Teaching standards must be improved, and the disparities between major cities and rural regions addressed. The establishment of 'teaching factories' on the lines described by Scania would be another way to influence opinions.

All of this could take at least 10 years to have meaningful effect. Working towards the common Manufuture goals, and sharing the effort with our partners across the European Community, will greatly enhance our prospects of success.