

**Erkki KM Leppävuori, President & CEO, VTT Technical Research Centre of Finland**

**Going Global: Challenges for Knowledge-Based Economies; Opening Speech, 21.9.2006**

*Minister, Distinguished Guests, Ladies and Gentlemen!*

Before I highlight the topic of today, globalisation and its challenges to the knowledge-based economies, I would like to start with a metaphor: What has a young elementary school student in Helsinki and an experienced Italian carpenter in common, or a broker in New York Stock Exchange and an oilman on a Norwegian oil drilling platform at the North Sea?

Right, the answer is knowledge and global economy. Knowledge makes the carpenter to create beautiful Italian furniture through craftsmanship that he has embraced from his master, and knowledge gives opportunities to the Finnish student who gets education from the effective Finnish school system. Through knowledge these two can create new opportunities and productivity, even new careers. Economy, in the global scale, gives instructions for the New York Stock Exchange broker, but in the long-term it is also affecting the work of the oilman on the rig.

With this metaphor I want to highlight the presence of knowledge and its interdependence with global economy. They are affecting the life of everybody, every day.

The headline of the today is going global: the challenges for knowledge-based economies. This is much more than just a topic. Globalisation can really become a challenge for those who are not prepared to meet it. On the other hand for those who take these challenges seriously, globalisation becomes an option. In those countries and economies that possess science and technology, globalisation can be turned into real opportunity.

Let me address the conference rubric in the following way. "If we can exploit science and technology on global scale by focusing on key technologies through which we can raise tangible programmes, we can say that science and technology in the globalisation process is not only accommodating itself but taking lead in it. Technology becomes a global asset."

Knowledge and technology have the power to transform the future of mankind by changing fundamentally the traditional path of development and to create a better tomorrow for everyone. In this era of explosion of knowledge and globalisation, the creation of open and global knowledge networks can deliver an enormous value potential to the society.

Global welfare is very much dependent on two basic elements.

*Firstly*, international funding and monetary co-operation systems can increase productivity and create seeds of welfare into areas of low productivity. Increased activity for organisations like the World Bank and IMF (International Monetary Fund with its 184 member countries) can foster global monetary co-operation, facilitate global trade and promote sustainable economic growth and thus reduce poverty. Through sustainable interest rate policy in IMF's big member countries as well as its funding and recommendations for the developing countries it can lower risks of dramatic changes of global economic conjuncture. The funding policy of the World Bank and IMF can support sustainable global economy.

*Secondly*, real global co-operation on research and development can boost economy and create long-term prosperity. The Global Research Alliance is a good example on this. In its mission statement the Global Research Alliance indicates same objectives that are in the targets of knowledge-based economies in the global context. Global Research Alliance, established in 2002, represents the combined knowledge and expertise of nine of the world's leading knowledge-intensive technology organisations. This research alliance will by definition explore ways of exploiting resources of the participating members for the benefit of society at large. The programmes that have been started as a result of co-operation are focusing to knowledge transfer on global basis. These programmes are of course not comprehensive. The content of the programmes should correspond to the challenges that are emerging.

So what are those challenges? I can clearly see that not only global funding but also the whole research society is facing many new challenges in the future. The need for safety and human oriented technology is increasing.

But how can we reach these challenging goals? One of the United Nations Millennium Project's reports (Task Force on Science, Technology, and Innovation) emphasises the role of knowledge. "Investment in science and technology education needs to increase and government needs to promote business activities in science, technology, and innovation."

We all know that technological innovations have played a critical role in spurring growth in the industrial countries. However, lessons derived from these experiences have not been widely applied in developing countries, where technological change plays a marginal role in national growth strategies.

*Ladies and Gentlemen,*

New innovations drive economic systems! It is very important for developing countries to move ahead in scientific and technological development to a more advanced level. This would help them to build local innovation environment. Governments should act as facilitators and promoters. Scientific academia should increase close collaboration with industry. In any case enterprises are the engines of economic change.

We can claim that without knowledge there is no progress and knowledge creates at its best value added in networks. That's why it is important to emphasise the role of research and networking. However, research alone is not enough to ensure competitiveness. Research results must be brought to market more quickly and more efficiently. And networking is a good tool for this!

Globalisation together with internationalised business poses increasingly stiff challenges for the innovation system. Globalisation shows itself as a predisposition for more rapid change and as a stronger dependence on international economic cycles. The linkage of companies to the international economy takes place not only through new markets but also through the renewal of business models. With globalisation both production and product development are being dispersed over a wider area geographically, i.e. to places where resources and expertise are best available to companies.

In fact, the idea of economic growth based on networking, knowledge and expertise, is closely and precisely connected to this kind of change in the economic environment. The aims of networking are mainly the improvement of productivity and competitiveness, but also the opening up of new business opportunities through the combination of different competencies. However, I would like to underline the importance of networking not only in production but especially in R&D.

Knowledge, science and technology have become strategic resources for global competition and welfare. Globalisation brings increased competition to the EU, OECD countries and all knowledge-based economies. We can clearly see and it can be even demonstrated that the structure of the innovation system is critical. Large global and

multinational companies are putting not only production, but increasingly even their R&D investments into places where they can get best productivity for the input. Until now costs have been the main driver for the decisions. Today even market potential is in key position, and in the future, especially when R&D is concerned, the innovation environment, availability of top researchers, networks and facilities is becoming a major factor for the investment decision.

*Ladies and Gentlemen,*

As has been already addressed, the mission for truly knowledge-based economies is to reinforce sustainable global welfare by science, technology and innovation.

This long-term strategic mission can be realized if three actors are involved: *Firstly*, technology and R&D organisations like VTT that have in depth knowledge and broad competence to create business from technology. *Secondly*, international companies that are involved in new market potential, exploiting innovations and new technology. And *thirdly*, governments who can establish and sponsor long-term technology and welfare programmes. This triangle, I believe, will form the key model on the road to a better global future!

*Ladies and Gentlemen,*

On behalf of VTT Technical Research Centre of Finland, I wish you all innovative and rewarding two days here in Finland!