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# Going Global: the Challenges for Knowledge-Based Economies

September 21-22 2006, Marina Congress Centre, Helsinki, Finland

Official event of the Finnish Presidency of EU Council (2<sup>nd</sup> semester 2006). Conference organised by VTT Technology Studies within '*The International Innovation Policy Network Six Countries Programme*' (6CP), under the auspices of The Ministry of Trade and Industry of Finland, co-financed by the European Commission. Attendance on invitational basis.

## Background and scope

Worldwide, countries, societies and economies are being profoundly affected by globalisation and by the dynamics of knowledge and innovation. On the one hand, the traditional resource-and-technology-based economy is progressively mutating into a knowledge-driven paradigm, where knowledge profoundly shapes both productiveness and competitiveness. On the other hand, our contemporary world is all the more a seamless entity, with distances and boundaries fading to the point of becoming less and less relevant. Globally traded products and services; global flows of data and information, also eased up by the Internet and ICTs; international mobility of capitals and investments; highly mobile human beings; global problems of poverty; global environmental concerns and actions; worldwide security issues; digital divide; international political and organizational activities and agreements. All these are just but to name a few aspects of our 'going global'<sup>1</sup> knowledge-based economy.

In such a globalised context, knowledge flows easily across boundaries, with (trans-national) Science and Technology cooperation becoming a key feature of modern innovation processes. These dynamics profoundly shape the invention, application, and diffusion of new technologies in a knowledge-based global paradigm that offers opportunities while posing serious threats, no matter which development phase countries are undergoing. Hence, fundamental welfare-related issues need careful (re)consideration, given that wider horizons also mean new/greater challenges. Companies broadening the breadth and ray of their businesses and R&D activities; mobile scientists; and large economies, like China and India, steadily growing and imposing themselves on the world scene are all elements that are progressively and profoundly affecting the global competition settings.

In this knowledge-based intertwined world both Science and Technology (S&T) play a fundamental role, as they may improve local, regional, national and global welfare by offering solutions to (old and new) needs and problems. Envisaging these potentials, Europe is increasingly relying on the creation and exploitation of knowledge, which is held as the key competitiveness asset at the root of S&T.

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<sup>1</sup> Going global, or equivalently, globalization can be defined, for example, as "the intensification or worldwide relations which link distant localities in such a way that local happenings are shaped by events occurring miles away and vice versa" (Giddens 1990; Archibugi and Iammarino, 1999).

However, the new global dynamics of the knowledge-based economy call for new economic and societal frameworks. Innovation policies are no exception in this respect. Knowledge-based economies like the United States, the Pacific Rim countries, led by Japan, and the European Union, experiencing the current competitive pressure, feel the need to reshape their overall strategies and S&T policies. This is all the more certain for EU member countries, which are faced by the challenge of Europe willing to become, by 2010, the most competitive knowledge-based economy in the world. Such a target becomes even more ambitious in the light of the current macroeconomic framework. Regardless of past and present economic performance, the global-and-knowledge-based paradigm calls for synergic actions from all actors, if sustainable long term growth paths are to be pursued. To this end, all countries, whether big or small, need to follow the most suitable strategies, as no player can afford to stay out of the game. In fact, the dynamics of the overall competitive framework also deeply affects the small open economies that go global. For instance, Finland's recovery from its early 1990s depression and its becoming a highly rated worldwide competitive economy are considered an example of the successful implementation of well-conceived knowledge-based and hi-tech-oriented strategies. Such a winning past experience, however, poses new and even more demanding challenges for the future. The question arises of how to renew the Finnish innovation system in order to preserve, if not enhance, its global competitiveness.

### **Focus of the Conference and Main Objectives**

The focus of the Helsinki conference is on the challenges that globalisation poses to the knowledge-based economies. The conference will encompass various theoretical, empirical and pragmatic interrelated aspects of globalisation and their effects on S&T and the innovation systems, economy, society and development. In line with the Helsinki process, launched in 2004, this conference will also address the issue of how to conjugate industry's needs with a responsible and active role of governments. Such a necessity arises as, so far, the globalisation process has mainly been driven by the economic actors and their strategies, implemented in order to fulfil the interests of their stakeholders. In such a strive to combine the (sometimes diametrically opposed) desiderata of all the players involved, markets often fail to meet the needs of those who are not able to shape the globalisation process. This is true for companies – especially SMEs – that lack, for instance, technological capabilities or managerial expertise, as well as for individuals and societies at large. Poverty, social exclusion, security threats, environmental concerns, and brain drain are just a few clear symptoms of the systemic failures determined, also although not exclusively, by globalisation.

If going global undermines the pillars upon which economies have traditionally relied, it also opens up new opportunities for development and growth. Knowledge-based economies hold a privileged position in terms of reaping the benefits of globalisation, but should also be prepared to share its costs and behave responsibly. An economy that is truly knowledge-based should, as the concept itself implies, be able to take into account the economic, societal and environmental sustainability aspects of development. In particular, knowledge-based innovation systems need to constantly

and mutually reinforce the within-the-system synergies and interactions, while remaining outward looking and constantly (but strategically) opening up. This 'overture', which is not straightforward, implies the necessity to carefully analyse the status quo and forecast the diverse global scenarios that might arise. However, the future has its roots in both the present and past. Therefore, if we hold knowledge to be cumulative, then the role of education is fundamental in ensuring the competitiveness on the knowledge-based global scenario. Furthermore, heterogeneous past and present characteristics and development trajectories make the application of 'standard' innovation and technological-change models unsuitable, as "one size does not fit all". The kaleidoscopic variety of worldwide contexts therefore calls for a variety of approaches and actions, if global welfare is to be maximised.

The Helsinki conference will make its move by asking (1) why and where high-tech and 'traditional sector' companies inside and outside Europe go global? It will then explore (2) the impact of globalisation on S&T and innovation and, more broadly, the consequences of globalisation over the socio-economic context at the local, regional, national, and supranational level. Attention will be paid to the current global dynamics of R&D and innovation, as well as to the associated needs and shortcomings, and to those mechanisms that are able to foster/hinder the process (e.g. mobility of researchers, financial resources, Intellectual Property Rights, etc.). The conference will then (3) investigate how going global might change the way technology and innovation policies are made and if, and to what extent, current and prospective global dynamics call for new types of governance, in particular for horizontal policies. Such a need arises if different policy domains have to converge towards a common strategic objective. Finally, in a special session, the conference will (4) address the sustainability aspects of going global, i.e. how to better share the social, economical and ecological benefits and responsibilities arising from globalisation, technological change, and innovations. The analysis will cover the sustainability issue at different levels, e.g. exploring sector-specific themes, with particular attention devoted to hi-tech industries; the impact at various geographical levels (regional, national, etc.), etc.

Aiming at tackling the most important challenges that globalisation poses to the knowledge-based economies, the Helsinki conference will carefully analyse the European context, also and especially with respect to its ambitious Barcelona and Lisbon targets. Furthermore, attention will be devoted to the various policy initiatives put in place by small open economies that 'go global', such as the Finnish global economy program. The conference will also explore best practices and the needs for (actual and prospective) horizontal innovation policy measures, crossing traditional administrative borders and organizations.

The Helsinki conference will primarily focus on exploring the following interrelated themes:

### **1. Why and where do companies inside and outside Europe go global?**

Patterns and experiences of going global: high-tech and 'traditional sector' industries' incentives, determinants, strategies, and contexts. SMEs and

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multinationals: similarities and differences in their globalisation paths. Implications for S&T policies.

**2. Going global: its technological and socio-economic impact at the local, regional, national and supranational level.**

How globalisation shapes the scientific, technological, economic, and societal patterns.

**3. How going global changes technology and innovation policy-making: are new types of governance needed?**

Past, current and future challenges and needs, also and especially in the context of an enlarged and still enlarging Europe. Complementarities and overlaps: the implications for national and international S&T policies.

**Special Session**

**Making 'going global' sustainable: sharing benefits and responsibilities.**

Global technological change and innovation phenomena. Sustainability and globalisation: the perspective of both developed and developing countries and their implications for S&T policies. Environmental, ethical and welfare concerns and possible solutions. Effects of S&T on social cohesion and inclusion. Environmental and socio-ethical corporate responsibility. Education and S&T policy: complementarities, effects, needs and shortcomings.

**Audience to be invited**

National, European and international representatives, experts and practitioners from enterprise communities, policy planning and making organizations, and several academic and research communities (also NGOs) represent the target audience of this conference. The conference will constitute a forum for a mutually beneficial discussion concerning the current and future trends of globalisation, for the representatives of both developed and developing countries.

**Organizational responsibilities**

The conference is organized, under the auspices of The Ministry of Trade and Industry of Finland, by VTT Technology Studies<sup>2</sup>, within the Six Countries Programme (6CP)<sup>3</sup>. The event is also co-financed by the European Commission.

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<sup>2</sup> VTT Technology Studies is a unit of VTT, The Technical Research Centre of Finland. See <http://www.vtt.fi/ttr/indexe.htm>

<sup>3</sup> The 6CP is an international network of experts, policy makers and practitioners, engaged in research and policy making on technological change and innovation. See <http://www.6cp.net/>

### **Advisory expert group**

The Ministry of Trade and Industry has invited the below expert group to provide advisory guidance for the conference content and organization:

- Mr Sakari Immonen, Chief Counsellor, Ministry of Trade and Industry (chair)
- Dr Antti Hautamäki, Executive Director, Sitra
- Dr Sakari Karjalainen, Director, Department of Education and Science Policy/ Science Division, Ministry of Education
- Mr Antti Mustranta, Counsellor, International Affairs, VTT Technical Research Centre of Finland
- Mr Pekka Pesonen, Senior Technology Advisor, National Technology Agency Tekes
- Ms Ritva Taurio, Senior Science Advisor, The Academy of Finland
- Dr Pekka Ylä-Anttila, Managing Director, Etlatiето Oy
- Mr Paul Zeeuwts, IWT Director and '6CP' Chairman