

Overcoming new challenges by breaking old boundaries: creative paths for ICT policies in Europe

Joint statement of European research organisations

iMinds conference, Ghent (B), May 12th 2009 <http://events.ibbt.be/iminds>

2009 is an important year for ICT innovation policies in the EU. It is the European year for Creativity and Innovation, which aims to raise awareness of the importance of creativity and innovation for personal, social and economic development. It is also the year when the EU ICT strategy, i2010, is going to be revised and re-launched under a new Commission in 2010. This statement summarizes the contributions at the policy session of the iMinds conference, and it aims at giving a positive input into the debate on the new European ICT innovation strategy.

Information and Communication Technologies are a fundamental factor of competitiveness and cohesion in Europe. The ICT market is growing 4% a year, the sector represents 4,5% of European GDP and ICT contributes to more than 40% of productivity growth. **ICT underpins much of today's product and process innovation across all economic sectors.** As the recent EC communication points out, "Today, to compete on a global scale, Europe has to continuously reinforce a solid knowledge base in ICT, shape ICT developments and make the best use of ICT innovations at the earliest stage"¹.

Accordingly, promoting a solid base of ICT research and innovation has long been a priority area of public funding, at the European, national and regional level. ICT is one of the top research areas in terms of government funding, and of growing importance: in Europe, annual commitments to EU-level ICT collaborative R&D under FP7 will increase from €1.1bn in 2010 to €1.7bn in 2013.

However, existing effort in promoting ICT research and innovation in Europe does not fully translate in marketable products, bringing social and economic benefits. This is due to several **interrelated challenges**:

- European ICT research programme have so far mainly focussed on **technological aspects**. Yet research shows that 70% to 80% of new product and service development that fails does so not for lack of advanced

¹ EC, 2009, A Strategy for ICT R&D and Innovation in Europe: Raising the Game. Brussels, 13.03.2009 COM(2009)116

technology but because of a **failure to understand real users' needs**². The ICT industry is evolving from product to service-centred, requiring a multidisciplinary and holistic approach to innovation, yet research on design, user needs and business models are not yet recognized as key areas of ICT research³;

- The **highly structured, long-term planned and sometimes silos-based approach** to research funding, while valid in some capital-intensive research fields, is at odds with the dynamic, interdisciplinary and serendipitous nature of the innovation process in ICT applications. In this field, it is difficult to deliver innovative results through a multiannual research project planned years in advance;
- Research results are not turned into marketable products also because of the **weak entrepreneurial climate** in Europe. Collaboration between universities and business is far from fluent and natural; there is a persisting risk-averse culture where researchers who become entrepreneurs are the exception rather than the rule. New companies face difficulties in raising capital in the pre-seed phase, before they become attractive for commercial venture capital. Yet research and innovation policies are too often kept separate by artificial procedures and government structures;
- Traditional research programmes often **struggle to engage the most dynamic actors** of the research community and to attract the really innovative companies. For example, in the case of the 6th EU Research Framework Programme, "there are major barriers to involving the most innovative and growth-oriented SMEs."⁴ The involvement only of "the usual suspects" is a persistent risk for research funding, as innovation flourishes from cross-fertilisation and contribution of new actors.

These challenges point out that the determining variables for successful ICT innovation policy do not lie in the domains and areas to be funded (the what), but in the nature of the mechanisms in place (the how). These challenges expose the need for a **more holistic approach to ICT innovation**.

There are highly welcome signs in this sense at the EU level. For example, the Communication on ICT research strategy and innovation⁵, the launch of the European Institute of Technology⁶, the promotion of the European Year of

² Eric von Hippel, 2007, "An Emerging Hotbed of User-Centered Innovation", Harvard Business Review 2007.

³ For an analysis of the relationship between ICT and Creative Industries see the CReATE research report: www.lets-create.eu/fileadmin/create/downloads/BGP ICT and Creative Industries 2008.pdf

⁴ Aho et al., 2008, Information Society Research and Innovation: Delivering results with sustained impact. Evaluation of the effectiveness of Information Society Research in the 6th Framework Programme 2003-2006. Brussels May 2008

⁵ EC, 2009, A Strategy for ICT R&D and Innovation in Europe: Raising the Game. Brussels, 13.03.2009 COM(2009)116

⁶ <http://eit.europa.eu>

Creativity and Innovation⁷, and the working document on the role of design for user-driven innovation⁸ are all significant developments.

Yet, especially in these times of crisis, the systemic nature of the present challenges calls for radical steps in ICT innovation policies. The research organisations meeting at the iMinds conference, Ghent 12th May 2009, propose **a set of common values and practices** for a holistic approach to ICT innovation, breaking the traditional boundaries between technological and artistic disciplines, between products and services, between research and innovation policies, and between academia, business and users.

- **Art, creativity and design** are key components of ICT research policy, complementing technological research. The collaboration between artists, designer and technologist opens new ways to create high-concept products and services for the world market, fostering innovative solutions at the interface of creativity and technology in areas such as media, design, culture, architecture and engineering. This profitable hybridisation between art, design and ICT is widely recognized by the innovation actors on the ground, as the increasing number of events and conferences on this topic shows⁹. Yet this bottom-up attention is not sufficiently reflected in the context of traditional research funding;
- As users are increasingly important in the innovation process, **design thinking drives user-centred innovation**. Design is a key source of innovation in ICT if embedded from the very early stages of development, as shown by cases such as the Nintendo Wii and the Apple iPhone. Across industries, design-oriented companies are more innovative, more profitable and grow faster. Design helps to better cater to the needs of the user, increasing market acceptance, and it creates new market opportunities by surpassing the pure need for functionality towards superior service experience, avoiding the threat of commoditization. ICT innovation policies cannot overlook the role of design: it is revelatory that the same countries and agencies that invest in user-centred innovation have strong design policies, focus on service innovation and recognise the importance of the creative industries;¹⁰
- **Boundaries between research and innovation policies** are fading. Effective research should be accompanied by supporting measures to facilitate the translation into successful products and services. It is vital to **involve the users** (both end-users and ICT-using companies) **at an early stage** of research and development, in order to integrate users insight and feedback, detect problems early, assess usability, likeability and business models in a real-life situation. Furthermore, these measures should not stop at research phase, but **cover the whole innovation cycle** to encourage entrepreneurial culture and business start-up, through awareness raising, training, incubation and pre-seed investment. It also requires a tighter and

⁷ <http://www.create2009.europa.eu>

⁸ EC, 2009. "Design as a driver of user-centred innovation". Brussels, 7.04.2009 SEC (2009) 501

⁹ <http://www.futuresonic.com/>, <http://dorkbot.org/>, <http://www.technarte.org/en/>, <http://enter4.org/>

¹⁰ EC, 2009. "Design as a driver of user-centred innovation". Brussels, 7.04.2009 SEC (2009) 501

more open collaboration between different actors, from academia, business, government and consumers/citizens. Innovative performance depends on their relationships and on the quality of the overall system;

- Innovation policy has to be **simpler, more flexible and adaptable**, in line with rapidly evolving markets. Different policy tools have to be used alongside project funding, such as prize-based incentives and public procurement of innovative solutions. New approaches should be continuously explored to involve the most innovative players and to reach out to the wider community of innovators.

The research organisations participating to the iMinds policy session express their intention of reinforcing their collaboration on these topics, in order to raise awareness amongst the wider research community, and to explore the implementation of joint measures in line with the proposed approach.

Ghent, 12th May 2009

IBBT (BE), www.ibbt.be

MFG Baden-Württemberg (DE) www.mfg-innovation.eu

CSP – Innovazione nelle ICT (I) www.csp.it

EICI - European Interest Group on Creativity and Innovation (EU)
www.creativity-innovation.eu

NESTA - National Endowment for Science, Technology and the Arts (UK)
www.nesta.org.uk

TKK Dipoli, Helsinki University of Technology (FI) www.dipoli.tkk.fi