

Based on an analytic synthesis of more than 4,000 articles collected from December the 1st to February 28th, this special issue proposes an insight on a reasoned selection of worldwide upcoming innovation drivers. The intention is not to recommend innovation policy shifts but instead to stress where convergent efforts from

innovation 'movers and shakers' are heading for. Four areas are on top of the innovators' agenda:

- *How will banks perform as bold financiers of industrial innovation-based competition?*
- *How will the profound switch to*

the knowledge economy be translated into innovation oriented education systems?

- *How will service-driven systems develop and diffuse?*
- *How will the security motto be effectively transforming job markets?*

Key drivers

Matching stakeholders' shifts

by Pierre Biland and Alain Quévreur, March 2009

BANK CREDIT TO FUND INDUSTRIAL COMPETITION

- Innovative tax policies to support innovative investments and growth drivers
- Risk sharing and Finance industry regulation to be implemented before interbank loans easily flow
- Greener cars meeting Japanese leadership
- New customers to buy disruptive, sustainable and low cost products

KNOWLEDGE EVERYWHERE: INNOVATION ORIENTED EDUCATION SYSTEMS

- Business innovation reviews strategies and products: putting knowledge performance at the heart
- University course and programmes as a dynamic business activity
- Innovative medicine-pharmaceutical business model-health system in search of sustainability
- Food and agriculture R&D jointly reinventing themselves

SERVICE-SYSTEMS DRIVEN TECHNOLOGIES AND MARKETS

- Housing and building standards and new services
- Networking and enabling Information and Communication Technologies (ICT)
- Exploitation of energy complementarities
- Technology driven inter-sector competition

SECURITY SYSTEMS MARKETS AS JOBS PROVIDERS

- Growing demand for ICTs for security, safety and comfort such as access control, intrusion detection scanning and trace detection
- Heavy commitment of governments and armies against multi-faceted terror threats: security promoted as job provider in political campaigns

IDEAS FOR CHANGING EUROPE

A RESEARCHER'S THINKING

With R&D budgets shrinking and markets retrenching in a worldwide economic crisis, technologists will need more than lab expertise to convince their employers to keep the research funding spigots open.

Indeed, the ability to communicate well and other "soft skills" are just as important as technological expertise when it comes to selling new ideas to investors or senior management.

Scientists and researchers should focus on aligning innovative projects with company goals. It's much easier to justify budgets for speculative projects that show an obvious commercial benefit to the parent company.

A BUSINESSMAN'S INTEREST

A progressive Intellectual Properties (IP) policy is an essential component in the pursuit of the knowledge economy goal.

As Irish-based companies look to move up the value chain, it is clear that the related expertise, intellectual property, technology and knowledge economy brands should also be owned by Irish-based companies with Irish-based staff controlling the design and implementation of IP-related strategies.

Ireland will need to work hard to become an IP location of choice. We need to encourage the active management of IP by Irish businesses through an increasingly supportive tax regime, with a broad definition that will encompass all areas of IP currently available.

Panelist, University of Pennsylvania's Executive Master's in Technology Management programme

JIM RYAN, president of the Irish Taxation Institute

GRIPS Intelligence Corner

Why intangibles cannot be patented any longer under US law

• **'The Bliski and Warsaw' case at U.S. Court of Appeals for the Federal Circuit :**
 (1) B. Bliski and R. Warsaw filed a US patent application in April 1997 for a 'business method claim', which aims at hedging risks in commodities trading;
 (2) In October 2008, the court rejected the patent claims, based on the reiterated 'machine-or-transformation' test and stated that the test in State Street Bank v. Signature Financial Group should no longer be relied upon.

• **The new standard imposes that the invention must involve a machine or a physical transformation:** at least four subsequent patent denials were based on the Bliski-Warsaw precedent, throwing into question all innovations that involve more mental than physical activity. Existing patents on medical diagnostic procedures and scientific data evaluations are now at risk. At the internet age, this is certainly undermining the incentive the US patent system was supposed to provide.

POLICY SUPPORT ON THE MOVE

THE NORWEGIAN STRATEGY FOR MARINE BIOPROSPECTING

(January 2009)

WHAT MARINE BIOPROSPECTING IS

The goal-oriented, systematic search for elements, bioactive compounds or genes in marine organisms, with the intent of developing products of commercial or social value. It mainly consists of: the collection of materials in biobanks with computer-based tools for establishing the taxonomy and properties of samples; the analytical capacity to assess the durability of results; research groups with competence and infrastructure that create a knowledge framework for developing innovative products; and, last but not least, adequate structures with the business proficiency, networks, capital and companies for commercialising products and markets.

NORWAY'S POTENTIAL FOR MARINE BIOPROSPECTING

Marine innovations will play an important role in a knowledge-based Norwegian economy. Norwegian waters cover wide oceanic areas and has a rich biodiversity of 10,000 species, within a variety of sub-sea ecosystems. The Arctic environment is expected to be increasingly important in the future. The combination of extreme temperature and special light conditions has led to the evolution of organisms with unique properties and potentially valuable bioactive compounds. Nevertheless, the seeds potential as a resource is largely untapped. Bioactive compounds from marine organisms will have a wide range of applications and they are expected to bring about improvements in many areas of society, from medicine, to food and feed, to eco-friendly industrial processes. Further to prospective studies, as initial funding this year the Norwegian Government allocates 30 million Norwegian kroner (3.4 millions of Euros).

JOINT PROGRAMMING AND A DEDICATED MARINE BANK (MARBANK)

The development of the strategy is under the joint responsibility of the Ministry of Fisheries and Coastal Affairs and of the Ministry of Trade and Industry, while implementation is under the joint responsibility of the ministers of Foreign Affairs, Research and Higher Education, Trade and Industry and Fisheries and Coastal Affairs. Policy developments cover supporting organizational and funding schemes from basic research to commercialisation and internationalisation. A nationally owned marine biobank, MARBANK, firstly aims to centralise marine samples. Marbank was allocated an initial funding of half a million Euros; secondly, a specialised business development unit is associated with Marbank, managed by local and international industry experts.