



## Knowledge Economy Network Bulletin

Issue 11, November 2011

[www.knowledge-economy.net](http://www.knowledge-economy.net)

Secretariat services provided by  
Slovenian Business & Research  
Association



KEN Chair: Boris Cizelj

KEN Vice-Chair: Thomas Friis Konst

Executive Editor:  
Bostjan Sinkovec  
[sinkovec@knowledge-economy.net](mailto:sinkovec@knowledge-economy.net)  
tel: +32 (0)2 645 19 15  
fax: +32 (0)2 645 19 17

Avenue Lloyd George 6  
1000, Brussels  
Belgium

Dear KEN Members,

The debate on how to encourage and support knowledge economy developments seems to be gaining increasing attention in many corners of the globe, involving government representatives, international organisations, academics, business leaders, and others from civil society.

These debates are addressing the very nature of knowledge society and economy, the obstacles preventing us to achieve more progress, as well as selection of policy instruments and policy mixes which are effective in achieving the desired targets. On one hand people are pointing out the complexity of knowledge economy – depending on so many factors. The most important ones being considered are:

- institutional and policy setting (prioritising and actively supporting innovation);
- quality and critical mass of human capital, and its motivation;
- traditional attitude towards innovation and societal change;
- existing infrastructure (level of technology installed and applied in the economy);
- market sophistication and openness (including competition rules and in- and out-bount foreign investment).

While most of these factors generate inputs within an economy, on the output side we have to look primarily at the capacity for creative and scientific output – manifested through knowledge-based competitiveness of an economy. This can be measured with many indicators, but let us mention only a few key ones:

- number of areas and products/services achieving world excellence;
- value added for knowledge-intensive services, and high/medium HT industries in total value added;
- relative position of a country in international brain circulation;
- global position in ownership of big bands;
- share of national academics in scientific publications;
- ownership of registered patents, licences and models;
- doctoral, master theses and number of graduates per mil. of population.

No doubt various international ratings on competitiveness, innovation, education, research, IT, branding, and entrepreneurship, have contributed to the higher attention being paid to the knowledge economy. Development of indicators by specialized agencies and international organisations has been so far successful in catching the picture on the side of inputs, as well as on the side of outputs. In





recent years the sheer abundance of published ratings have created a solid basis for comparison who is doing well, and who is lagging behind. This is true primarily for countries, while there is much less reliable data for the regions and cities. These ratings are not only useful for policy makers, but also provide inspiration to knowledge stakeholders, and last but not least provide motivation to the general public, which is important since the demand of the electorate to improve the international rating of the country generates a push on the government to perform better.

Undoubtedly this was the motive of the European Commission to compile and publish the »Innovation Union Competitiveness Report 2011«, with good analysis of progress in building »Innovation union« and excellent comparisons between member states, but also between EU, US, China, Japan and Korea.

Here are some interesting examples of changes between 2000 and 2009:

- world shares of scientific publications: EU 37.7 to 33.4%; US 31.8 to 25.9%; Japan 9.4 to 6.3%; but China jumped from 6.4 to 18.5%; India from 2.3 to 3.1%; Korea from 1.7 to 2.8%; and Brazil from 1.4 to 2.3%;
- percentage share in 10% most cited scientific publications: US 14.4 and 14.3%; EU 10.4 and 11.6%; Korea 8.1 and 8.5%; Japan 8.1 and 8.3%; while China jumped from 4.8 to 7.0%;
- cost of patent application and maintenance for SMEs per bn.€ GDP (in 2009): EU 14.2 €; Korea 5.1€; Japan 2.2€; and US only 0.4€;
- share of business enterprise researchers in total number of researches (2000-2008) in EU went down from 46% to 45%, while in US the share remained at 80%, and in Japan it advanced from 65% to 75%;

- proportion of GERD financed by business enterprises as % of GDP remained stable in EU at 1.05%, in US at 1.86%, while it advanced in China from 0.5 to 1.1%, in Japan from 2.2 to 2.69%, and in Korea from 1.6 to 2.46%;
- R&D intensity of companies by their age (established before or after 1975, intensity measured in R&D expenditure as % of net sales) reveals a dramatic difference between EU and US. This share for old companies is 2.8% for EU, and 3.6% for US, but for young companies the relationship is 4.4% versus 11.8% in favour of young US companies (while the global average is 3.3 versus 6.1%);
- public and private co-authorship in scientific publications are an indicator of business-academia collaboration – and when measured in publications per million population (2003-2008) US registered 70 such publications, in Japan 55, and in EU only 37. Also the mobility of researchers between public and private sectors, between business and academia is very low in Europe (in 2009 only 5-6% of researchers).

Actually, business-academia partnership has proven to be essential for the process of strengthening knowledge economy. And here a number of good practice has evolved in various countries, enabling KEN to identify them, promote them and disseminate relevant information on them, and finally give them the award to recognize their exceptional success. This is what the Network and its Secretariat intend to do in the future.

Dr. Boris Cizelj

Editor



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## *Knowledge Economy Developments*

News in Brief

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### **Creating employee networks that deliver open innovation**

Companies such as Procter & Gamble, Cisco Systems, Genzyme, General Electric and Intel are often credited with having attained market leadership through open innovation strategies. That is, by tapping into and exploiting technological knowledge that resided beyond their own research and development structures, these companies outmaneuvered rivals that relied largely on in-house approaches to innovation. But while other organizations try to follow the example set by these trailblazers, many are failing because they neglect to ensure that the outside ideas reach the people best equipped to exploit them.

More:

[The Article](#)

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### **Top Innovators See Innovation Through a Global Lens**

Reuters published its Top 100 Global Innovators report. Cutting through all the 'buzz' surrounding innovation, this year's report focuses in on how innovation is measured. Beyond patent filing volume, top innovators, says Reuters, are "companies that invent on a significant scale; are working on developments which are acknowledged as innovative by patent offices across the world, and by their peers; and, whose inventions are so important that they seek global protection for them."

More:

[The Article](#)

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### **The Shanghai Institutes for Biological Sciences Signs Cooperation Memorandum with University of Ottawa**

The Shanghai Institutes for Biological Sciences, Chinese Academy of Science (SIBS) and the University of Ottawa (uOttawa) signed a Memorandum of Understanding in Shanghai on November 8. Prof. WU Jiarui, vice president of SIBS, and Prof. Mona Nemer, vice president, research of uOttawa, signed the MoU as representatives from both sides.

SIBS and uOttawa agree to promote excellence through multidisciplinary and multi-institutional collaborations in order to build a partnership consistent with the strategic goals and values of both institutions. Under the partnership, means for achieving the objectives of this Memorandum include organizing symposia, developing exchange programs for staff, doctoral students and post doctoral fellows, and encouraging scientists to develop joint research projects, etc.

More

[The Web page of The Chinese Academy of Sciences](#)

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### **The Ernst & Young Entrepreneur Of The Year 2011 Award Winners from China**

Ernst & Young announced 13 Ernst & Young Entrepreneur Of The Year 2011 China (EOY 2011 China) winners. The 13 entrepreneurs were selected as category winners, drawn from a diverse range of industries, comprising emerging industries, clean technology, consumer products, industrial products, services and technology, recognizing their achievements through innovation, their drive for business growth and the positive contributions they have brought to their industry and in the com-



munity.

More:

[The Ernst & Young web page](#)

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### **Guidelines and measures of the Swiss Confederation's policy on education, research and innovation 2008–2011**

Education, research and innovation (ERI) has a high strategic importance for the Swiss Federal Council. This sector is key to social development and economic prosperity in Switzerland. Consequently it will be given greater weight in the federal budget in the coming years. Substantial budget increases are planned in the fields of research and innovation; i.e. for the Swiss National Science Foundation (SNSF) to encourage scientific research, and the Innovation Promotion Agency (CTI). The SNSF and the CTI award their funds competitively according to criteria of excellence. New initiatives for bilateral cooperation with priority partner countries outside Europe will be co-financed thanks to a significant budget increase. These funds will also be awarded competitively to the best Swiss projects and researchers (Switzerland's partner countries also operate according to the principle of reciprocity).

More:

[The Publication](#)

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### **World Intellectual Property Report 2011**

WIPO's World Intellectual Property Report 2011 focuses on the Changing Face of Innovation. It describes how ownership of intellectual property (IP) rights has become central to the strategies of innovating firms worldwide. With global demand for patents rising from 800,000 applications in the early 1980s to 1.8 million in 2009, the Report concludes that growing investments in innovation

and the globalization of economic activities are key drivers of this trend.

More:

[The Report](#)

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### **Switzerland's Supercomputing Center to Rely on GE Innovation for Uninterruptable Power Protection that Saves Energy**

Switzerland's supercomputers help researchers better understand earthquakes, cardiovascular dynamics and a host of other critical topics. In the event of a power grid disruption, GE technology will switch to battery back-up power-keeping the center up and running until power is restored. GE's new UPS system, battery storage and commissioning services also will reduce the costs and environmental impact of high performance computing. The system's efficiency will save the center nearly 800,000 kWh of electricity each year-an annual cost savings of approximately US\$80,000.

More:

[The Article](#)

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### **Innovation Canada: A Call to Action**

Innovation Canada released their Review of Federal Support to Research and Development. The report was compiled by an expert panel and features recommendations for the improvement of Canada's R&D investment, as well as a call for the simplification of the SR&ED tax credit program in Canada.

More:

[Main findings](#)

and

[The Full Report](#)



## India needs creativity, innovation to address poverty

»We have made innovations in areas such as space technology, atomic energy and automobiles. But innovation in our country has focused mostly on the needs of the rich but not adequately on solving problems of the poor. We wish to change this state of affairs,« prime Minister of India Manmohan Singh said while releasing a report of the Innovation Council of India. The country, he added, needs models for innovation to address problems in areas such as poverty alleviation, health, rural communications, agriculture, animal husbandry, green energy and so on.

More:

[The News](#)

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## Utility patenting: India's next move?

India's rating on the Global Innovation Index (GII) slipped to 62 in 2011—a sign that recent reforms in economic policy, education and intellectual property protection aren't helping boost innovation, say experts. India stood at 56 on the index in 2010 and at 45 in the year before. Key reasons for the fall, the experts point out, include a lack of transparency in policy implementation, political instability and, importantly, the absence of a connecting link in the innovation ecosystem.

More:

[The Article](#)

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## Nordic region to become expert at carbon capture and storage

NORDICCS, a Nordic user driven competence centre for realization of carbon capture and storage, has been launched at SINTEF Energy in Trondheim, Nor-

way. In total, 35 million NOK will be invested by the Nordic countries over a four year period. The main objective of NORDICCS is to boost the deployment of carbon capture and storage (CCS) in the Nordic countries by creating durable networks, boost innovation, and develop joint actions and processes to increase industry-driven innovation within CCS. The purpose is to demonstrate how this can contribute to the Nordic portfolio of climate change mitigation options and enable the Nordic countries to join forces to become pioneers in a large scale implementation of CCS.

More:

[The Article](#)

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## Companies sharing innovation experiences

Large companies shared their innovation strategies and experiences at Kellogg Innovation Network's (KIN) Fall Dialogue.

More:

[The Article](#)

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## International Roadmap for a Green Economy

On 1 November 2011 Switzerland submitted its contribution to the paper which will form the basis of negotiations at the UN Conference on Sustainable Development (UNCSD) in Rio de Janeiro in June 2012. The submission includes a proposal for the adoption of an international roadmap towards a green economy. The roadmap is to contain a political part with a shared vision, common goals and clear milestones. At an operative level, the roadmap will suggest instruments necessary for achieving the transition to a green economy, which contributes to all aspects of sustainable development. According to the Swiss submission, this will require national strategies, national data on environmental



pollution caused by production and consumption, ecologically transparent markets and trade, education, sustainable agriculture and resource-efficient and clean production techniques. We also need to move away from our dependence on fossil fuels.

More:

[The Web page with the proposal](#)

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### **Singapore pushes pro-enterprise frontier with a new integrated business licensing system**

The Ministry of Trade and Industry and the Ministry of Finance of Singapore are working with 18 Government agencies to consolidate more than 250 business licences on a common portal. The single, fully integrated system, which will come into service by end 2013, will allow agencies to have a consolidated view of businesses' licence-related interactions with the Government and help shave off administrative time, bring about greater convenience and a better customer experience to businesses.

More:

[The news](#)

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### **Wasting Talent Reduces Profit**

When organizations actively want to participate in the changing environment a question arises: why is available talent not being fully utilized? Of course employees who are classified as a "young and high potential" are important to these organizations but beyond these individuals a complete scenario is obscured: the individual talents of every single employee. Richard van der Lee, Manager Retail Clients at Rabobank Bollenstreek in the Netherlands, wrote a dissertation on this issue to wind up his MBA study.

More:

[The Article](#)

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### **Attitudes toward the public service**

The Australian Centre for Policy Development has released a report looking at the attitudes toward the public service in the country. It draws on a range of sources and examines the perspectives of community members, Australian politicians and public servants.

Attitudes toward the public service matter and important decisions are based on actual and assumed attitudes. Are there enough or too many public servants? Are public service agencies and the services they provide meeting our expectations? Do Australians feel we are adequately investing in public services?

More:

[The Article](#)

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### **Top EU firms increase investment in innovation, but lag behind global competitors**

The European Commission's 2011 "EU Industrial R&D Investment Scoreboard" shows that R&D investment by top EU companies recovered strongly in 2010, with a 6.1% rise following a 2.6% decrease in 2009. However, data for the world's top 1400 companies show EU companies as a whole lagging behind major competitors from the US and some Asian economies on R&D growth. There was a general positive trend in 2010, as global R&D investment increased by 4%, a robust up-turn after the 1.9% drop observed in 2009. The global top 50 in terms of total R&D investment includes 15 EU companies, 18 US firms and 13 from Japan. Two pharmaceutical companies occupied the top spots: Roche from Switzerland (€7.2bn) followed by Pfizer from the US (€7bn). Volkswagen (€6.3bn), in sixth



place, is the biggest EU investor in R&D, followed by Nokia (11th with €4.9bn), Daimler (13th with €4.8bn) and Sanofi-Aventis (14th with €4.4bn).

More:

[The 2011 EU Industrial R&D Investment Scoreboard](#)

and

[Web page Industrial research and Innovation](#)

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### **What is a »nanomaterial«?**

»Nanomaterials« are materials whose main constituents have a dimension of between 1 and 100 billionth of a metre, according to a recommendation adopted by the European Commission. The announcement marks a step towards clearly defining which materials need special treatment in specific legislation. The definition is based on an approach considering the size of the constituent particles of a material, rather than hazard or risk.

More:

[Recommendation on the definition of a nanomaterial](#)

and

[Web page Nanomaterials](#)

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### **EU-funded project could bring more powerful broadband connections**

An EU funded project which has developed a long-term solution to Internet traffic congestion has received a prize at Future Internet Week in Poznan, Poland. The TRILOGY, a €9.2 million project, completed in March 2011, brought together researchers and companies from Belgium, Finland, Germany, Greece, Spain, UK and the US to find methods of managing traffic so that congestion at choke points

of the network is minimised, thus resulting in better quality connections for Internet users.

More:

[The TRILOGY web page](#)

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### **General Education, Vocational Education, and Labor-Market Outcomes over the Life-Cycle**

Policy debates about the balance of vocational and general education programs focus on the school-to-work transition. But with rapid technological change, gains in youth employment from vocational education may be offset by less adaptability and thus diminished employment later in life. To test our main hypothesis that any relative labor-market advantage of vocational education decreases with age, we employ a difference-in-differences approach that compares employment rates across different ages for people with general and vocational education. Using micro data for 18 countries from the International Adult Literacy Survey, we find strong support for the existence of such a trade-off, which is most pronounced in countries emphasizing apprenticeship programs. Results are robust to accounting for ability patterns and to propensity-score matching.

More:

[The News](#)

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### **Entrepreneurship education and skills key for competitiveness and jobs**

Europe needs more entrepreneurs, more innovation and more jobs. One important aspect is to match the offer and the demand in the labor market providing the right skills and education. Entrepreneurship education is also increasingly crucial to promote more business. It is essential to educate entrepreneurs at an early stage to provide the





young generation with new creative, independent and successful entrepreneur knowledge, the EU Commission says. Many initiatives have emanated from the European Commission over the past decade.

More:

[Education & Training for Entrepreneurship](#)

[web page](#)

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### **Female mentors to help woman entrepreneurs to get started**

A new European network of mentors to promote female entrepreneurship through the sharing of know-how and experience has been launched by the European Commission. Women only account for 34.4% of the self-employed in Europe. To raise this share, successful businesswomen will assist women entrepreneurs who established a new enterprise two to four years ago. The mentors will give these new entrepreneurs concrete advice on how to run and grow their enterprises in this early, critical phase of the businesses as well as help them to develop the necessary soft skills and coach them. The network will cover 17 European countries; 170 mentors will participate in it.

More:

[The News](#)

and

[Women entrepreneurs web page](#)

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### **Tackling low achievement in mathematics and science still a challenge in Europe**

Policy-makers need to do more to help schools tackle low achievement in mathematics and science, according to two reports presented by the

European Commission. The report on mathematics education reveals that only five European countries (England, Italy, the Netherlands, Ireland and Norway) have set national targets to boost achievement levels, although a majority of EU Member States provide general guidelines to address pupils' difficulties in this area. The report on science shows that no Member States have specific national support policies for low achievers, although five countries (Bulgaria, Germany, Spain, France and Poland) have launched programmes to tackle low achievement in general. The reports conclude that although much has been achieved in updating mathematics and science curricula, support for the teachers responsible for implementing the changes is still lacking.

More:

[The report Mathematics Education in Europe: Common Challenges and National Policies](#)

and

[The report Science Education in Europe: National Policies, Practices and Research](#)

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### **International agreed rules to speed up introduction of electric vehicles**

The introduction of electrical cars will get a further boost with an international agreement promoted by the European Union, the United States and Japan in Geneva (Switzerland). The partners agreed to closely cooperate on convergence of regulatory obligations related to electric vehicles in the global context.

More:

[The News](#)

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## **The European Commission has announced this year's winners of the European Eco-Management and Audit Scheme Awards**

The six winning organisations not only showed excellence in respecting and safeguarding the environment, but also in applying innovative solutions to involve different stakeholders, the EU Commission says. This year's winners, selected from among 36 entries, are: Belvas Organic Chocolate (Belgium), ebswien hauptkläranlage (Austria), Eurobank EFG Bank (Greece), Fritz-Erler-Schule Pforzheim (Germany), Kneissler Brünieretechnik (Germany) and the Municipality of Ravenna (Italy).

More:

[The News](#)

and

[The EMAS Awards website](#)

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## **S. Korea to Invest \$31 Billion by 2020 in Green-Energy Technology**

South Korea plans to spend 35.5 trillion won (\$31 billion) by 2020 to develop technology for renewable and nuclear energy and carbon emissions reduction. The investment is part of the nation's road map to grab a 10 percent share of the world's clean-energy market and have one of the world's top five energy industries by 2020, the Ministry of Knowledge Economy said.

More:

[The News](#)

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## **Directions in Copyright Reform in Australia**

The Copyright Council Expert Group presented its views on reform and makes broad recommendations for reform in the following areas: Non-com-

mercial transformative use of copyright works, Internet intermediary liability, Orphan works and Registration of copyright works.

More:

[The Copyright Council Expert Group paper](#)

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## **Canadian teens ambivalent about gender equality**

Canadian teenagers may talk the talk on gender equality but they also harbour some markedly stereotypical views of appropriate roles and behaviours for men and women. That's one conclusion drawn from a report that surveyed 1,000 young Canadians, as well as nearly 4,000 teens from India, Rwanda and the United Kingdom.

More:

[The Report](#)

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## **Ministers want to limit number of research funding instruments**

The Council of Ministers, which represents member states in the EU, demands a limit to the introduction of new research funding instruments to avoid duplication in funding programmes. In a statement responding to a European Commission consultation on "Partnering in Research and Innovation", published on 27 September, the Council also says it wants to be consulted before the European Commission sets up new research funding instruments.

More:

[The News](#)

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## Universities boast record operating surpluses

Australia's 39 universities reported record operating surpluses in 2010, the government has announced. According to a finance report published on 13 November, the total surplus for 2010 stood at AU\$1.95 billion, an increase of 8.1 per cent since 2009. But according to the National Tertiary Education Union, the surplus figures do not provide an accurate picture since they do not reflect the full extent of universities' capital expenditure, such as spending on property and equipment.

More:

[The News](#)

and

[The Report](#)

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## Technology institutes open campaign to form university

Dublin's three institutes of technology have launched a campaign for redesignation as the Technological University of Dublin. The proposal has received a muted response from the government and in part runs counter to a study delivered last year that advised no more universities were required. Dublin Institute of Technology, Institute of Technology Blanchardstown and Institute of Technology Tallaght signed a memorandum of understanding on 25 October to establish the Technological University of Dublin Alliance. This body has begun lobbying government for redesignation as the country's first technological university.

More:

[The News](#)

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## Boost for early career researchers: Postdoctoral Fellowships announced

The University of Sydney has given early career researchers a boost with its latest round of Postdoctoral Research Fellowships. 12 academics have been awarded Fellowships, which allow outstanding researchers within 1-6 years of the award of their PhD to undertake research in any Department or School of the University. An initiative of the Deputy Vice-Chancellor (Research), the Postdoctoral Research Fellowship scheme awards Fellows with a starting salary of \$84,000 a year, plus a research support grant of \$25,000.

More:

[The News](#)

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## Norway – an international leader in many areas of earth science

The quality of Norwegian earth sciences research is generally good, and Norwegian research groups are international leaders in several fields. It is strategically important in a national context to maintain these strengths. This is the conclusion of a committee of international experts commissioned by the Research Council of Norway to evaluate Norwegian earth sciences research. The earth sciences encompass a number of subject fields that study aspects of the planet Earth, including the atmosphere.

More:

[Web page with the Report](#)

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## Joint Brazilian-Swedish Research Collaboration

The aim of the Joint Brazilian-Swedish Research Collaboration Programme is to increase the competitiveness of universities and other higher education institutions by developing and establishing international partnerships. The programme supports projects of high scientific quality which are clearly contributing to the activities of participating educational establishments. Projects may last for up to four years, conditional upon the acceptance of an interim report after two years.

More:

[The News](#)

## A new collaboration to support the start-up of life sciences and health technologies companies

The Biotechnology Business Incubator in Québec (CQIB) and Univalor have signed an agreement to further development of Québec companies in life sciences and health technologies. As part of the event Capital Innovation, the two organizations made official their long-time collaboration by signing the partnership agreement. The selected companies to come out of this project will have the opportunity to establish a business relationship with the CQIB and will take advantage of an intensive support in the start-up process, consulting services and various sources of funding.

More:

[The News](#)

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## Recently published documents

To access any of the following publications, simply click on the title or cover page of the publication. Additional November 2011 publications can be found on [the KEN website](#).

### [EU climate policies without an international framework](#)



### [THE GLOBAL INNOVATION 1000: Why Culture Is Key](#)



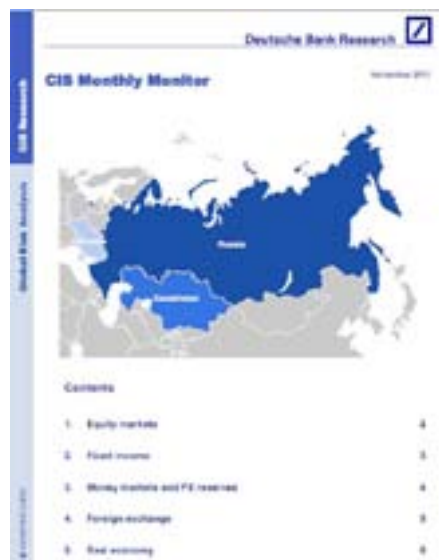
### [Next Generation Innovation Policy: The future of EU innovation policy to support market growth](#)



### [The EU, Still Seeking Legitimacy](#)



### [CIS Monthly Monitor, November 2011](#)



### [The Macroeconomic and Financial Landscape in the Aftermath of the 2007 Crisis: New Challenges and Perspectives](#)





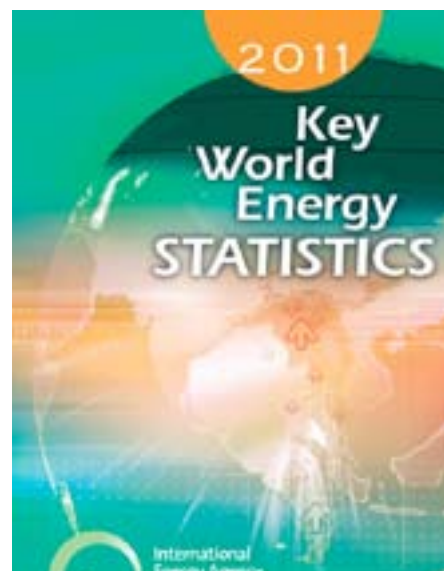
### The Demand for Safe Assets in Emerging Economies and Global Imbalances



### Promoting Infrastructure Development in Brazil



### Key World Energy Statistics 2011



### Oil and Gas Emergency Policy - Norway 2011 update



### Operational Risk Management and Business Continuity Planning for Modern State Treasuries



### Business Innovation and Strategy: A Canadian Perspective





### Who wins and who loses in the contest for talent? Some descriptive evidence from OECD countries



### Australian Innovation System Report 2011



### Innovation With Impact: Financing 21st Century Development



### Israel – Bash or Emulate? Lessons in Development Performance Through Adversity



### 2011 Venture Capital Report



### Local Industrial Structures and Female Entrepreneurship in India





## Articles on Key Topics

### **Vojvodina European Office inaugurated on the 10th of October in Brussels.**

*Predrag Novikov, Director of the Vojvodina European Affairs Fund*

Regional cooperation has certainly become an instrument of economic policy of the provincial administration in recent years. Vojvodina has a significant number of partners throughout the European continent, from Friuli-Venezia Giulia, Emilia-Romagna, Umbria, Styria to Baden-Württemberg, Slovenia, the regions of Slovakia, Sweden, Denmark, France and elsewhere. The European Affairs Fund, which is in charge of European policy in Vojvodina, has been a member of a number of European institutions: the British Royal Institute of International Affairs, Chatham House; the Austrian Institute of European Regions (IRE) from Salzburg; the French Institute of International Relations (IFRI); Friends of Europe from Brussels; Knowledge Economy Network (KEN) and others. Thus, it practically becomes evident that Vojvodina has been present both in EU institutions and Brussels, as well as in key European capitals for years. Therefore, the very start of Vojvodina representatives' work in Brussels is an essential continuation of Vojvodina's European regional policy.

We have persistently, systematically and methodi-

cally built the position we have today for many years and I can say with certainty that Vojvodina has a network of regional partnerships. Our goal has been to present Vojvodina as a stable, reliable and predictable partner, says Predrag Novikov, Head of Vojvodina European Office in Brussels.

The Vojvodina European Office was presented to over 250 European partners at the grand opening ceremony held on 10th October 2011.

On the basis of partnership cooperation agreements signed with Universities, Matica Srpska and other provincial institutions, Vojvodina European Office could become important link to strengthen partnership with other European regions, too. For the start, it is expected that office in Brussels will be host of the Danube Rectors' Conference meetings as well. It is expected that development agencies, chambers of commerce and investment promotion agencies will also recognize their interest in European agenda.

Six years ago, before the opening of the then Office for European Affairs (now European Affairs Fund), Vojvodina had a single digit number of European projects on an annual basis. Yet, with the efforts of the whole province, that number is a three-digit one now. In a similar way, Vojvodina presence in Brussels will expect to contribute to the fact that







the above mentioned number of projects will be exceeded both in quality and quantity. The granting of EU candidate country status could likewise be a significant milestone, especially for those whose activities encompass, to a great extent, projects on regional development and cooperation, rural development, support to local authorities and cross-border issues.

Further information [www.vojvodinahouse.eu](http://www.vojvodinahouse.eu).

Vojvodina is an autonomous province of Serbia, with Novi Sad as capital. Its population of almost 2 million has a multi-cultural identity: there are more than 26 ethnic groups, with six official languages (Serbian, Hungarian, Slovak, Romanian, Croatian, Pannonian Rusyn). It covers an area of 21,506 km<sup>2</sup>. Thanks to highly productive soil and advanced agriculture, Vojvodina has been the bread basket of former Yugoslavia. It has the highest GDP p.c. in Serbia. There are over 20,000 companies, mostly private, and – besides food processing - the ICT sector has been growing rapidly and has taken significant role in Vojvodina's economic development.



## *Upcoming events*

Below you will find a selection of the most pertinent events taking place in the coming months. For more events, please visit [our online interactive calendar](#).

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### **November 2011**

#### **Universities Association for Lifelong Learning's Networks Conference**

Date: 23 - 24 November 2011

Venue: London, UK

[Further Information](#)

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#### **INTERREG IVC 'Good Practice Fair 2011'**

Date: 24 November 2011

Venue: Krakow, Poland

[Further information](#)

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#### **Delivering an Integrated Industrial Policy for the Globalisation Era**

Date: 24 November 2011

Venue: Brussels, Belgium

[Further information](#)

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#### **SciTech Europe 2011: Advancing Research, Innovation & Collaboration**

Date: 24 November 2011

Venue: Brussels, Belgium

[Further information](#)

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#### **EUREKA Academy - Interdisciplinary Research and Innovation Collaboration in the Food Sector**

Date: 24 November 2011

Venue: Brussels, Belgium

[Further information](#)

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#### **Innov'embre: Partnering event Research / Business**

Date: 24 November 2011

Venue: Lille, France

[Further information](#)

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#### **Regional and Urban Economics: Inequality and Regional Growth and Cohesion**

Date: 24 – 25 November 2011

Venue: Barcelona, Spain

[Further Information](#)

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#### **APISA 5 - Regional Integration in Asia and Europe**

Date: 24 – 25 November 2011

Venue: Taichung, Taiwan

[Further Information](#)



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## **Creativity & Innovation for Challenging Times**

Date: 25 November 2011

Venue: Tamil Nadu, India

[Further Information](#)

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## **2011 Barcelona Workshop on Regional and Urban Economics: Inequality and Regional Growth and Cohesion**

Date: 24 – 25 November 2011

Venue: Barcelona, Spain

[Further Information](#)

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## **Regional Studies Association One Day Winter Conference**

Date: 25 November 2011

Venue: London, United Kingdom

[Further information](#)

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## **European Venture Summit 2011**

Date: 28 November 2011

Venue: Dusseldorf, Germany

[Further Information](#)

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## **ECOLINK+ Annual Partnering Event**

Date: 28 November 2011

Venue: Dusseldorf, Germany

Further information

## **Middle East Banking Innovation Summit**

Date: 28 - 29 November 2011

Venue: Dubai, United Arab Emirates

[Further Information](#)

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## **Regional Policy Dialogue: Energy Network**

Date: 28 – 29 November 2011

Venue: Miami, United States

[Further information](#)

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## **Strategic Energy Technology Plan Conference 2011**

Date: 28 – 29 November 2011

Venue: Warsaw, Poland

[Further information](#)

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## **International Conference on Innovation and Sustainable Engineering**

Date: 28 - 30 November 2011

Venue: Venice, Italy

[Further Information](#)

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## **2nd International Conference on the Network of The Future**

Date: 28 – 30 November 2011

Venue: Paris, France

[Further Information](#)



## **Celtic-Plus Proposers' and Networking Day**

Date: 29 November 2011

Venue: Madrid, Spain

[Further information](#)

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## **The 3rd International Conference on e-Learning (ICel2011)**

Date: 29 - 30 November 2011

Venue: Bandung, Indonesia

[Further Information](#)

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## **Looking behind the metaphors: How to build stairways to excellence in EU regions?**

Date: 29 November 2011

Venue: Brussels, Belgium

[Further information](#)

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## **European Microelectronics Summit: "SemiConductor for Smart Cities"**

Date: 29 November 2011

Venue: Paris, France

[Further information](#)

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## **Implementing Geological Disposal of Radioactive Waste Technology Platform**

Date: 29 November 2011

Venue: Helsinki, Finland

[Further information](#)

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## **Opening up knowledge in agricultural innovation for development.**

Date: 29 November – 1 December 2011

Venue: Brasilia, Brazil

[Further information](#)

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## **Regional Perspective: EU Strategy for the Baltic Sea Region**

Date: 30 November 2011

Venue: Brussels, Belgium

[Further information](#)

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## **EFI 2011 - European Forum for Innovation 2011**

Date: 30 November 2011

Venue: Rome, Italy

[Further information](#)

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## **December 2011**

### **EU-DRIVERS: European Drivers for a Regional Innovation Platform**

Date: 1 December 2011

Venue: Brussels, Belgium

[Further information](#)

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### **EU research & innovation policy - Unlocking the potential of SMEs**

Date: 1 December 2011

Venue: Brussels, Belgium

[Further information](#)

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## **Australasian Business Ethics Network (ABEN) Conference**

Date: 2 – 3 December 2011

Venue: Auckland, New Zealand

[Further information](#)

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## **Australasian Society for Computers in Learning in Tertiary Education**

Date: 4 - 7 December 2011

Venue: Hobart, Tasmania, Australia

[Further Information](#)

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## **15th Asia and the Pacific Regional Meeting**

Date: 4 – 7 December 2011

Venue: Kyoto, Japan

[Further Information](#)

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## **ICT Tools for Governance and Policy Modeling Sandpit**

Date: 4 to 9 December 2011

Venue: Rotorua, New Zealand

[Further information](#)

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## **Corporate Social Responsibility**

Date: 5 December 2011

Venue: Auckland, New Zealand

[Further Information](#)

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## **IC2011 - Innovation Convention 2011**

Date: 5 – 6 December 2011

Venue: Brussels, Belgium

[Further information](#)

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## **Bionetics 2011: Bio-Inspired Models of Network, Information and Computing Systems**

Date: 5 – 6 December 2011

Venue: York, United Kingdom

[Further information](#)

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## **Financing Innovation**

Date: 6 December 2011

Venue: Palo Alto, California

[Further Information](#)

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## **24 Hrs of Entrepreneurship**

& Innovation in Chile 2011

Date: 6 – 7 December 2011

Venue: Santiago, Chile

[Further information](#)

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## **ICIRA 2011: International Conference on Intelligent Robotics and Applications**

Date: 6 – 8 December, 2011

Venue: Aachen, Germany

[Further information](#)

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## **EARTO Innovation Prize – 2011**

Date: 7 December 2011

Venue: Brussels, Belgium

[Further Information](#)

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## **2nd International Conference on Networks, Learning and Entrepreneurship**

Date: 7 - 8 December 2011

Venue: Waterford, Ireland

[Further Information](#)

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## **Meeting of the Assembly of European Regions' working group on energy and climate change**

Date: 8 December 2011

Venue: Montpellier, Languedoc-Roussillon, France

[Further information](#)

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## **The European Union and the Politicization of Europe**

Date: 8 – 10 December 2011

Venue: Vienna, Austria

[Further Information](#)

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## **The Economics, Finance and International Business Research Conference, Miami**

Date: 8 - 10 December 2011

Venue: Miami, Florida, United States

[Further Information](#)

## **Entrepreneurship and New Venture Creation**

Date: 8 - 10 December 2011

Venue: Bangalore, India

[Further Information](#)

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## **Neighbourhoods NW Regional Policy Forum: Collaborative Working - Community Organisers**

Date: 12 December 2011

Venue: Manchester, United Kingdom

[Further information](#)

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## **Governing in partnership - United to build a stronger Europe**

Date: 12 December 2011

Venue: Brussels, Belgium

[Further information](#)

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## **Workshop for Women in Machine Learning**

Date: 12 December 2011

Venue: Granada, Spain

[Further information](#)

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## **EU research and innovation: What role for regions and cities after 2013?**

Date: 12 – 13 December 2011

Venue: Brussels, Belgium

[Further information](#)



## **2011 International Conference on CSR in Sub-Saharan Africa**

Date: 12 – 14 December 2011

Venue: Lagos, Nigeria

[Further Information](#)

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## **2nd Annual International Conference on Computer Science Education: Innovation & Technology**

Date: 12 - 13 December 2011

Venue: Singapore, Singapore

[Further Information](#)

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## **World Business and Economics Research Conference**

Date: 12 – 13 December 2011

Venue: Auckland, New Zealand

[Further Information](#)

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## **CGC 2011: International Conference on Cloud and Green Computing 2011**

Date: 12 – 14 December 2011

Venue: Sydney, Australia

[Further information](#)

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## **EU research and innovation: What role for regions and cities after 2013?**

Date: 13 December 2011

Venue: Brussels, Belgium

[Further information](#)

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## **International Conference on Advanced Computing, Networking and Security**

Date: 16 - 18 December 2011

Venue: Karnataka, India

[Further Information](#)

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## **eHealth & Equity in the Global Health Communities**

Date: 15 December 2011

Venue: Brussels, Belgium

[Further information](#)

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## **2nd Entrepreneurship & Management International Conference (EMIC 2011)**

Date: 17 - 19 December 2011

Venue: Kangar, Perlis, Malaysia

[Further Information](#)

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## **International Conference on Knowledge Management and Knowledge Economy**

Date: 25 – 26 December 2011

Venue: Bangkok, Thailand

[Further Information](#)

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## **International Conference on Management, Business Ethics and Economics**

Date: 28 – 29 December 2011

Venue: Lahore, Pakistan

[Further Information](#)

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## **Global Academy of Business & Economic Research**

Date: 28 – 30 December 2011

Venue: Chennai, India

[Further Information](#)

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## **January 2012**

### **The 2012 International Conference on Asia Pacific Business Innovation and Technology Management**

Date: 13 - 15 January 2011

Venue: Pattaya, Thailand

[Further information](#)

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### **Entrepreneurship: Changing the Present, Creating the Future**

Date: 13 – 16 January, 2011

Venue: South Carolina, United States

[Further Information](#)

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## **OCP9: Old World Conference in Phonology**

Date: 18 – 21 January 2012

Venue: Berlin, Germany

[Further information](#)

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### **Social attitudes toward fostering entrepreneurship and innovation demand**

Date: 19 January 2012

Venue: Brussels, Belgium

[Further information](#)

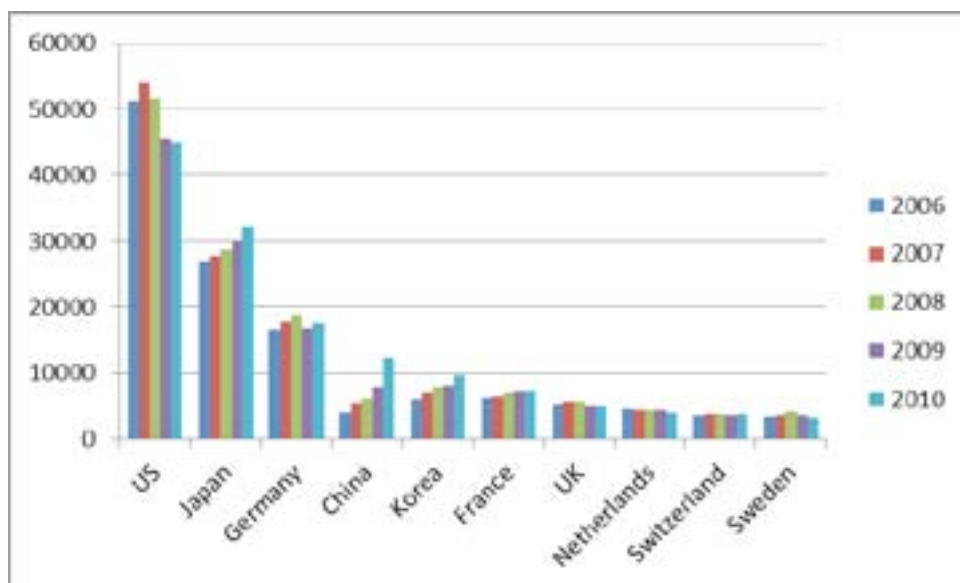
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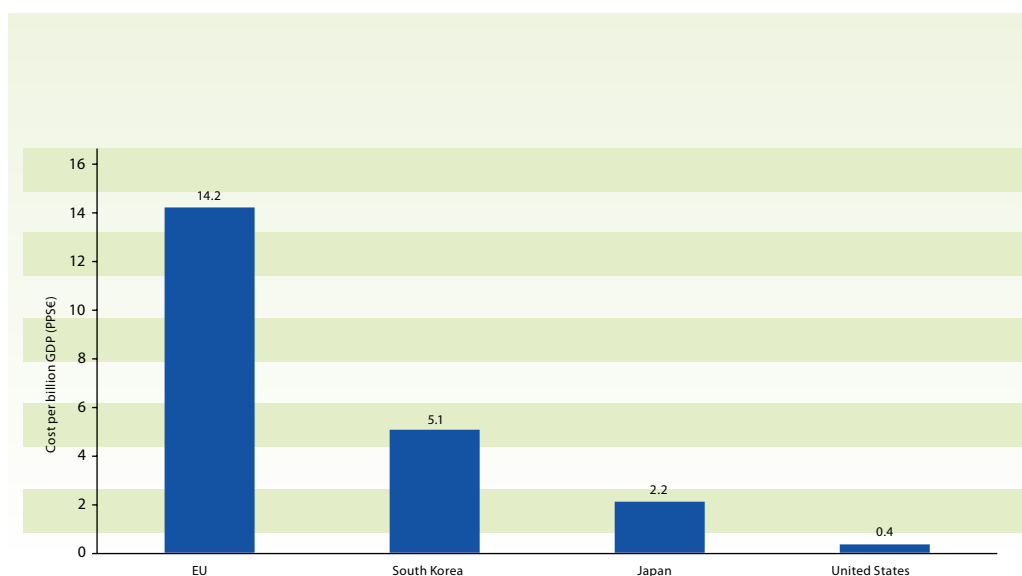
## Relevant indicators, statistics and graphs

### Top ten countries filing foreign patents through PCT



Source: [Intellectual Property: China in the Global Economy – Myth and Reality](#)

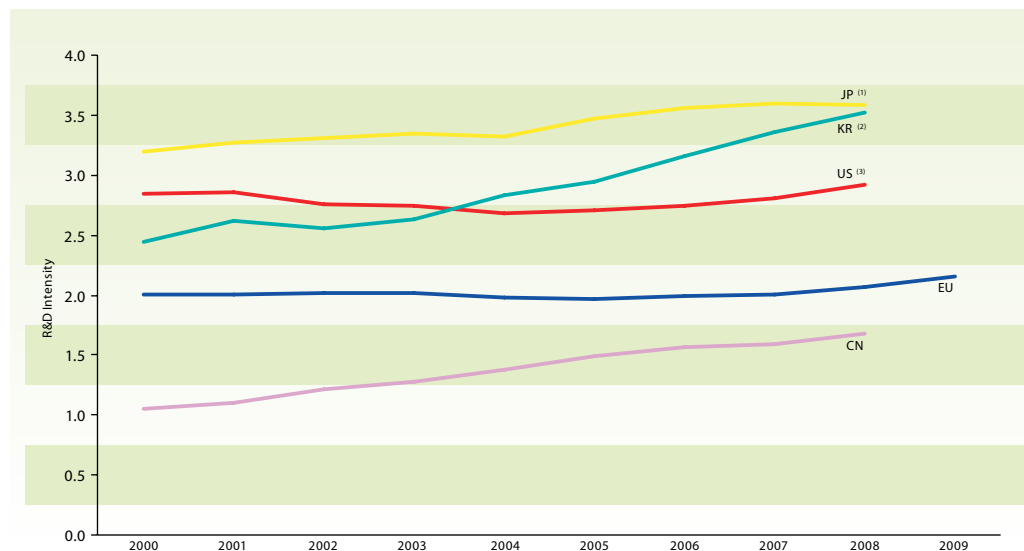
### The cost in 2009 of patent application and maintenance for SMEs, per billion GDP



Source: [Innovation Union Competitiveness Report 2011](#)



## Evolution of R&D Intensity, 2000-2009



Source: [Innovation Union Competitiveness Report 2011](#)

## Average Annual Growth Rate of Male/Female SMEs in Selected Countries (percentage from latest year-Mastercard, 2010)

	Female	Male
Indonesia (2007)	8.1%	-0.27%
Malaysia (2008)	9.7%	7.43%
Philippines (2007)	2.5%	N.A
Singapore (2009)	4.2%	N.A
Thailand (2008)	2.3%	.31%
Vietnam (2004)	42.5%	40.93%

Source: [Strengthening Access to Finance for Women-Owned SMEs in Developing Countries](#)

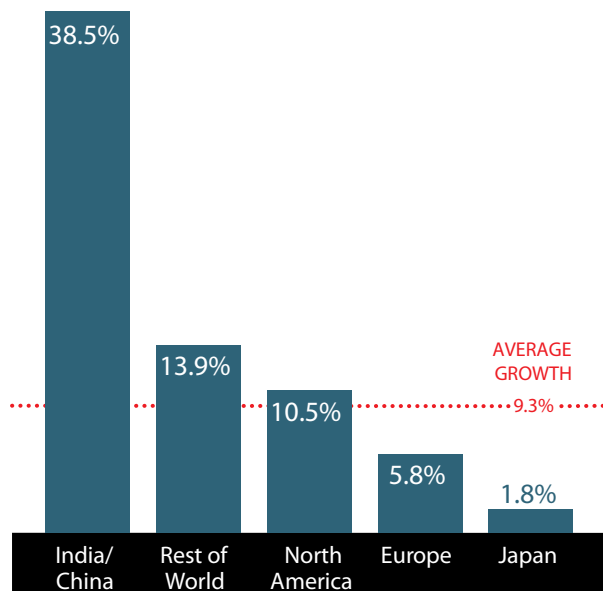


## The Innovation Top 10

Roche Holding claimed the number one spot among the top 10 spenders for the second year running, and, for the first time, four of the top five slots were held by pharmaceutical firms.

Rank	Company	R&D Spending			Headquarters Location	Industry
		2010, \$US Millions	Change from 2009	As a % of Sales		
1	Roche Holding	\$9,646	1.5%	21.1%	Europe	Healthcare
2	Pfizer	\$9,413	20.0%	13.9%	North America	Healthcare
3	Novartis	\$9,070	21.4%	17.9%	Europe	Healthcare
4	Microsoft	\$8,714	-3.3%	14.0%	North America	Software and Internet
5	Merck	\$8,591	53.0%	18.7%	North America	Healthcare
6	Toyota	\$8,546	0.7%	3.9%	Asia	Auto
7	Samsung	\$7,873	23.2%	5.9%	Asia	Computing and Electronics
8	Nokia	\$7,778	-0.8%	13.8%	Europe	Computing and Electronics
9	General Motors	\$6,962	16.0%	5.1%	North America	Auto
10	Johnson & Johnson	\$6,844	-2.0%	11.1%	North America	Healthcare

Source: [The Global Innovation 1000: Why Culture is Key](#)



### Change in R&D Spending by Region, 2009-2010

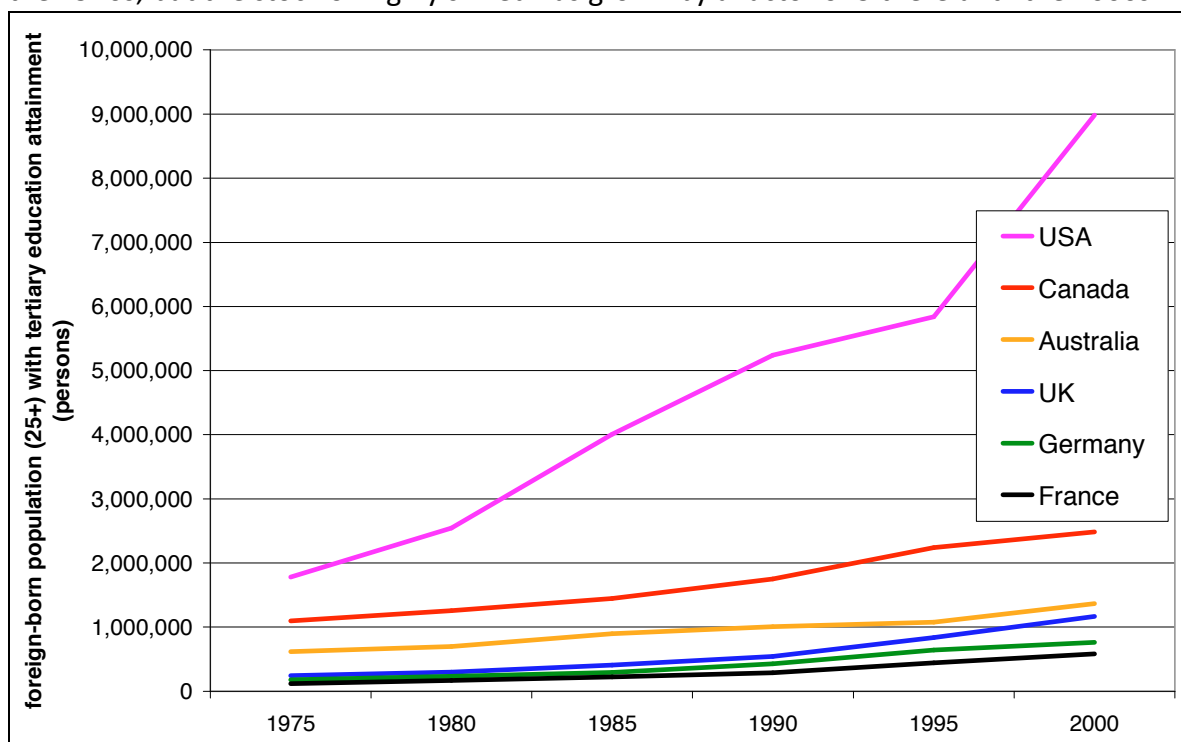
China and India, although they account for a small share of total R&D spending, had by far the fastest growth rate.

Source: [The Global Innovation 1000: Why Culture is Key](#)



## Foreign-born population with tertiary education attainment in selected destination countries

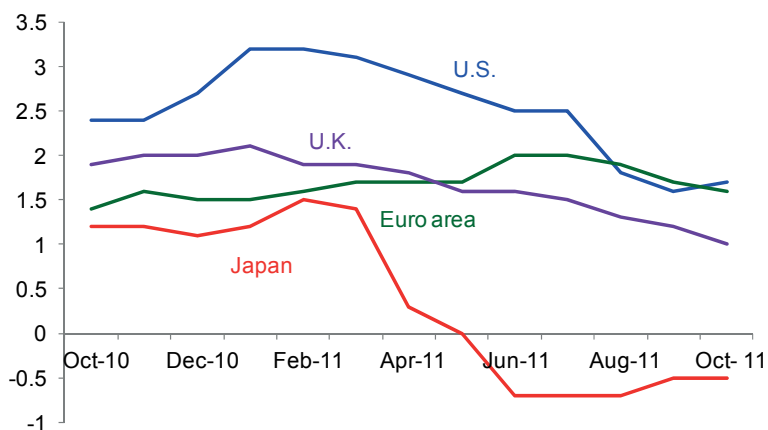
The data set compiled by Defoort (2009) allows analysing the long-term trends in highly skilled migration for selected OECD countries. Note that these countries cover more than 85 per cent of the highly skilled immigrant population in the OECD.<sup>2</sup> As Figure 1 shows, the stock of highly skilled immigrants has increased by a factor of 5 in the US, from 1.8 million in 1975 to 9 million in 2000, while in the other traditional immigration countries (Canada, Australia) the increase has been only relatively moderate, as the stock of highly skilled immigrants has grown there only by a factor of 2. The European destinations played only a negligible role in the 1970s, but the stock of highly skilled has grown by a factor of 5 there until the 2000s.



Source: [Who wins and who loses in the contest for talent? Some descriptive evidence from OECD countries](#)

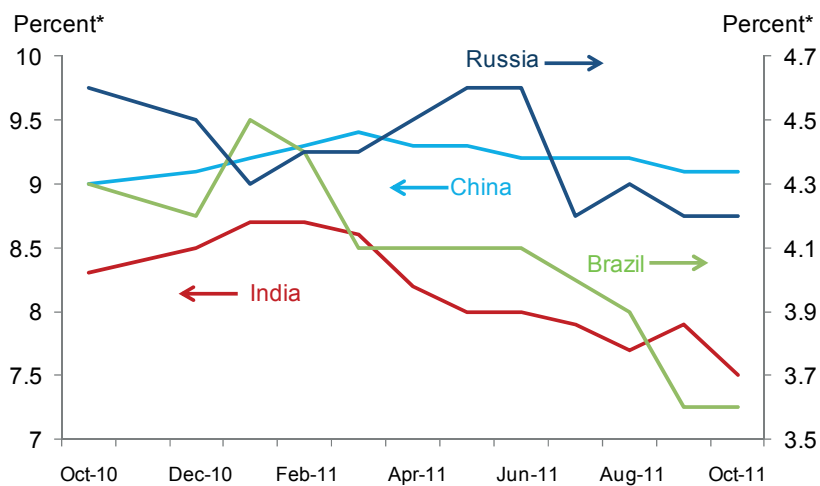
## Real GDP Growth Forecasts Predict Advanced Economies Will Slow

Source: [The Global Outlook is Weakening](#)





## Real GDP Growth Prospects Down in Emerging Economies



Source: [The Global Outlook is Weakening](#)



## *Annex: Building an Innovation Nation*

By André Andonian, Christoph Loos and Luiz Pires

[Full text is available here](#)

The global recession is commanding most of the attention of business executives and government leaders. But they should not lose sight of innovation: managers know that the future of their businesses depend on it, and government leaders understand that the long-term growth prospects of cities and nations are tied to it. Even—perhaps especially—in times of economic turbulence, innovation remains the most important differentiator separating economic winners from also-rans.

McKinsey has partnered with the World Economic Forum to create an “Innovation Heat Map,” by identifying factors that are common to successful innovation hubs. As part of this effort, we have examined the evolution of hundreds of such clusters around the world and analyzed over 700 variables, including those driving innovation (business environment, government and regulation, human capital, infrastructure, and local demand) along with proxies for innovation output (for example, economic value added, journal publications, patent applications) to identify trends among the success stories. In the process, we have found patterns that suggest the critical ingredients required to grow, nurture, and sustain innovation hubs. At the same time, we have compiled thousands of data points that may be used to identify bottlenecks and benchmark the performance of cities, regions, and countries by measuring how they are evolving.

### **Creating a cluster: Of fundamentals and focus**

Our analysis identified a set of fundamentals that are needed to establish a minimum infrastructure base. Criteria such as the quality of the physical infrastructure (for example, electrical, transportation, and telecommunications) and governance indicators (for instance, rule of law and government

stability) are essential for a location to “earn the right to play.” Meeting this minimal threshold is an important prerequisite. Further improvements to this base, interestingly, are associated with only incremental growth in innovation capacity.

Once a base is established, innovation hubs must then develop a specific sector focus. Our analysis of the world’s most successful clusters shows that they have first established themselves as world-class players in an emerging specialty before expanding. This focus allows locations to concentrate limited resources, such as labor and capital, on developing competence and credibility. When successful, the result of these first two steps is the emergence of what we call an “innovation hot spring”: a small and fast-growing hub that relies on a small number of companies to establish itself as a relevant world player in a narrow sector.

Our analysis indicates that these early innovation hubs have historically followed one of three primary paths.

- Heroic bets: large, government-led, targeted investment efforts that focus on a specific promising sector and provide substantial initial support in the form of subsidies, tax holidays, and direct investments, to name a few. While this has been an attractive option for many locations, it has historically been a challenging path: governments are often ill equipped to identify the right sectors, to define nondistorting incentive structures, and to ensure an effective path out of the initial support phase.
- Irresistible deals: regions that are able to attract established companies (often foreign players) who want to capitalize on a significant local advantage, such as low cost of



qualified labor or access to large local markets. When done effectively, the location can build on this base to add greater value over time, moving, for example, from manufacturing to basic engineering to design and innovation. To be successful, regions need to create mechanisms that encourage the effective transfer of knowledge to the local ecosystem, as well as tools and processes to raise the skills of the local labor pool.

- Knowledge oases: locations with a critical mass of highly specialized talent (for instance, a large research university or government R&D lab). These hubs capitalize on breakthrough technical advances for commercial success. This path is less frequently successful, however. It requires that locations attract the capital and entrepreneurial skills needed to bridge the chasm between idea creation and commercialization.

While innovation clusters may grow quickly in the short term, only a small proportion of these promising hot springs stand the test of time. Most hit a ceiling of limited resources that severely constrains their growth.

### **Nurturing the cluster: Securing the talent base**

Our work has shown that critical drivers of innovation vary from sector to sector. The local regulatory environment, for example, is a critical determinant for some sectors; for others, the availability of venture capital or the presence of a demanding local customer base are key. However, the single common factor that drives—or, indeed, constrains—innovation across all sectors is the availability of a well-qualified and specialized talent pool. While a hub's initial success can often be fueled by relying primarily on local talent, the importance of attracting, developing, and retaining a vibrant base of world-class talent increases as clusters mature and grow in complexity.

While the need for talent is the same all over the

world, different locations are currently facing very different challenges. Japan and Western Europe must overcome a severe demographic challenge—their fast-aging populations and growing number of retirees need to be replaced or their labor efficiency further enhanced. North America is struggling with the challenge of replacing a large number of highly specialized immigrants who are now choosing to stay or return home. Emerging Asian economies, while able to draw from a very large demographic pool, need to train a larger proportion of their population to reach world-class levels. They also must increase the attractiveness of their hubs to better compete for top global talent. While simply meeting basic infrastructure needs is sufficient to sustain initial growth, a region must establish itself as an attractive destination for global talent in order to establish itself as an innovation hub.

### **Sustaining the cluster: Sowing the seeds of reinvention**

While focus is critical for emerging innovation hubs, as they mature, they need to broaden their portfolios of businesses and sectors. This diversification is vital to the long-term survival of an innovation hub—it allows the hub to survive the unavoidable downturns that affect specific sectors and provides the impetus for continuous reinvention. New innovators typically emerge in adjacent industries, or as hubs attract nonlocal players that want to capitalize on the local infrastructure and available talent. Our data indicate that, depending on the strategy, mature innovation clusters will evolve toward one of the following categories:

- Dynamic oceans: large and vibrant innovation ecosystems with continuous creation and destruction of new businesses. Leading innovators and primary sectors change organically as the hub frequently reinvents itself through significant breakthrough innovations.
- Silent lakes: slow-growing innovation ecosystems backed by a narrow range of very large established companies that operate



in a handful of sectors. These clusters are frequently the source of a steady stream of “evolutionary” innovations and step-wise improvements.

- Shrinking pools: innovation hubs that are unable to broaden their areas of activity or increase their lists of innovators and so find themselves slowly migrating down the value chain, as their narrow sector becomes less innovation driven and increasingly commoditized.

The data-driven methodology of the Innovation Heat Map sheds new light on the innovation process and allows for an objective diagnosis of both innovation output and local bottlenecks. Going forward, we look to built upon this approach to evaluate conventional wisdom about the drivers of innovative environments and thus bring new perspectives to this vitally important topic.