Australian Government
Department of Industry

Innovation Policy Report

December 2013

Table of Contents

Australian Developments

2013 Australian Innovation System Report

The 2013 Australian Innovation System report, the fourth in a series of Australian Government reports on the Australian innovation system, focuses on Australian innovation and engagement with Asia. The core message is that the rise of Asia presents many opportunities for Australia beyond the resources sector. Seizing these opportunities will require an economy that is flexible, resilient and embraces market diversification. To achieve this, the comparative advantage of Australia's proximity to Asia needs to be complemented with its competitive advantages in innovation and better knowledge of Asian markets.

Highlighting the key role of innovation in long term productivity growth, the report finds that compared to businesses that do not innovate, innovative Australian businesses are 78 per cent more likely to report increases in productivity over the previous year. Productivity growth is significantly higher if businesses engage in collaborative innovation.

The report also finds that in 2011-12, Australia reached its highest level of business innovation (with 46.6 per cent of businesses innovation-active), and that in 2010-11 Australia's Gross Expenditure on Research & Development reached a historical high of $30.8 billion (2.20 per cent of GDP) ranking 11th among OECD economies.

The report presents more than 200 innovation related indicators, including 90 international comparisons, to provide a comprehensive picture of Australia's innovation position in the world. This year the report also includes an online compendium of trends and statistics for each sector of the Australian economy. The report also includes a series of feature articles where independent business experts and academics discuss different aspects of the Australian innovation system.

Innovation: The New Imperative

A survey of 2400 Australian business professionals from all sections of industry and government conducted by the University of Melbourne and the Australian Institute of Management, found that firms with proven innovation performance are three times more likely to have higher revenue growth, profitability and productivity.

The survey and its results have been released in the report Innovation: The New Imperative.

The report notes that organisations tend to perform better when management embraces a structured, planned 'whole of organisation' approach to innovation including when:

- Innovation is prioritised in the business strategy;
- There is willingness to take calculated risks; and
- There are clearly articulated employee capabilities relevant to innovation.

The report suggests that poor leadership is the main reason organisations fail to innovate. Respondents to the survey further considered lengthy development times and risk averse work culture as major obstacles to innovation within an organisation.

Australian Academy of Technological Sciences and Engineering Position Paper

The Australian Academy of Technological Sciences and Engineering (ATSE) released its position paper, Translating research into economic benefits for Australia: Rethinking linkages, in October 2013.

Drawing from discussions at a recent ATSE and Australian Council of Learned Academies workshop, the paper notes that while technology-based Small-to-Medium Enterprise (SMEs) play a vital role in the Australian economy, major gaps exist in the funding mechanisms available to support high-growth potential SMEs to engage in collaboration. The paper suggests that new approaches suited to SMEs are required, such as voucher programmes and targeted procurement schemes.

2013 Brisbane Innovation Scorecard

The 2013 Brisbane Innovation Scorecard was released on 21 November 2013. The Scorecard surveyed 330 Brisbane businesses, measuring innovation and reporting on its affect on their growth, productivity, and the region's overall economic performance. The scorecard is now in its fourth year and is the only city-based annual innovation benchmarking tool.

The 2013 scorecard notes that:

- Over a third of businesses reported significant innovations in the past three years;
- Businesses using multiple forms of innovation perform better; and
- The main reason for innovation was to differentiate products and services from competitors.

Australian Government R&D Tax Incentive

On 14 November 2013, the Australian Government introduced the Tax Laws Amendment (Research and Development) Bill 2013, to give effect to the Research and Development (R&D) Tax Incentive better targeting measure. The legislation restricts access to the R&D Tax Incentive to entities with aggregated assessable incomes of less than $20 billion. After passing the House of Representatives, the Senate referred the Bill to the Senate Economics Legislation Committee for inquiry and report.

Department of Industry Memorandum of Understanding with Switzerland

Australia has signed a Memorandum of Understanding for cooperation with Switzerland in the fields of science, research and innovation. The new Memorandum provides a formal government level framework for strengthening science, research and innovation collaboration between Australia and Switzerland, supporting knowledge exchange, and promoting collaboration opportunities.

Connecting Australian European Science and Innovation Excellence

Connecting Australian European Science and Innovation Excellence (CAESIE), a bilateral partnership programme between the European Union and Australia, has celebrated its first year of operations. CAESIE establishes partnerships between Small-to-Medium Enterprise (SMEs) and researchers in Europe and Australia.

Through a Priming Grants programme, CAESIE provides support for initial meetings between Australian and European researchers and SMEs (including travel for meetings focussed on forming relationships, and/or assistance with applying for major research and development funds to further the partnership). The Stage One Priming Grants, which closed on 11 November 2013, received 47 eligible applications. Funding outcomes were announced in November 2013. Partnerships will be monitored to identify Australian-European cooperation barriers and best practices, as well as science and innovation outcomes.

The CAESIE website has been established as a key information source and will include learnings from the project. CAESIE has also established a network of Australian National Contact Points to assist CAESIE clients in meeting European researchers or SMEs.

Partners in the CAESIE project held a joint meeting in Canberra on 16 October 2013. The meeting provided an opportunity for European partners

to brief Australian research agencies and government representatives on future cooperation opportunities with Europe, including under the newly launched Horizon 2020, Europe's science and innovation funding programme due to commence in 2014.

Australia-India Strategic Research Fund

The Australia-India Strategic Research Fund (AISRF) has been an important mechanism for encouraging the development of research–industry linkages between the two countries. The linkages have been supported through the provision of funding for collaborative research projects. Under previous rounds of the AISRF's Indo–Australian Science and Technology Fund and Indo–Australian Biotechnology Fund, up to $100 000 in additional funding was available to Australian applicants if their project included an industry partner or end-user — 14 such projects have been supported.

Round 8 of the Indo–Australian Biotechnology Fund, expected to open in early 2014, will place a greater emphasis on commercialised outcomes based on the achievements of previously funded projects. Support will be provided for collaborative research projects that build on previous projects as they move from proof of concept to validation and end-use stages.

The Grand Challenge Fund component of the AISRF placed major emphasis on research–industry linkages. This component was designed to support joint projects that addressed an issue of significance to both countries and applicants were required to demonstrate that their research would be utilised by an end-user for either commercial benefit or public good. Two rounds of the Grand Challenge Fund have been held, with a total of seven projects supported in the areas of energy, health, and food and water security.

An evaluation of the AISRF found it highly effective in building stronger research and innovation ties with Asia, with a significant number of grant recipients reporting new prototypes, licences or patents.

Tasmanian Government Innovation and Investment Fund

The Tasmanian Government Innovation and Investment Fund forms part of the Tasmanian Government's response to regional employment challenges. The grant programme is aligned with Tasmania's Economic Development Plan, specifically its focus on making the most of Tasmania's competitive advantages in priority sectors.

The objective of the Fund is to assist Tasmanian businesses (or groups of eligible businesses) to invest in innovative projects that will significantly improve their sustainability, performance, growth and productivity. The

intention is to generate new investment and create sustainable high quality, skilled jobs that help diversify and strengthen Tasmania's regional economies.

Many of the companies that have received grants are creating jobs in regional communities affected by the downturn in the forest industry.

The programme provides one-off project-based grants, at least matched by successful applicants, of up to $250 000 per project. Two rounds have been completed.

- In Round One, 10 applicants were successful in receiving grant funding, which totalled $1.8 million, leveraging a further $5.9 million of private investment. These projects are expected to create 122 jobs in the first 12 months and will have a significant effect on retaining existing employment in these businesses.

- In Round Two, 25 applicants received a total of $3.5 million, which will leverage a further $15.2 million of private investment. These projects are expected to create 262 jobs in their first 24 months.

- In Round Three, 22 applicants received a total of $3.1 million, which will generate around $16.2 million of investment and create approximately 350 jobs in their first 24 months. Outcomes are available online.

CRCs showcase the technologies of tomorrow

Members of Parliament had a hands-on experience with leading-edge technologies, products and services developed by 34 Cooperative Research Centres (CRC) on 9 December 2013 at the CRC Showcase held at Parliament House.

The Showcase was opened by Minister for Industry, the Hon Ian Macfarlane, and was attended by parliamentarians, representatives from the CRCs and their industry partners, the CRC Association, and the CRC Committee.

AusIndustry held the CRC Showcase to demonstrate the impact of the CRC Programme, which supports research collaborations between researchers, industry, government and the community. The Showcase also launched two initiatives - KnowHow, a new publication produced by the CRC Association which highlights the innovations and work of the CRCs and the association's Early Researcher Showcase Competition.

Bushfire and Natural Hazards Cooperative Research Centre launched

Australian Parliament House, a water bombing helicopter and fire vehicles were the backdrop for the official launch of the new Bushfire and Natural Hazards Cooperative Research Centre on 10 December 2013. The new CRC

will expand research on bushfires and incorporate other natural hazards such as floods, earthquakes, cyclones and tsunamis.

Business Innovation Group Brisbane

A new Brisbane network which aims to provide opportunities to learn about how big business and government work and to increase awareness of their operations and expectations was launched in November 2013.

Business Innovation Group Brisbane provides an opportunity to present, discuss, debate and learn models, methods, techniques and tools that have been successfully leveraged from their commonly used business size or type to other business sizes. The group offers a mix of panel discussions, informal discussions and presentations and networking opportunities.

Local Northern Territory businesses to form new Innovation Association

A group of local Northern Territory businesses are considering creating the Territory's first innovation association next year with the support of the Department of Business.

The idea of creating an association to drive business innovation across the Northern Territory was raised during a two-day innovation Masterclass, held by the Committee for Economic Development of Australia on 25-26 November 2013 in Darwin.

The Workshop focused on innovative entrepreneurs turning ideas into value for their businesses. It provided lots of practical advice, including case studies and presentations from local businesses, with its mix of theory and case studies being a success.

While planning of the innovation association is still in the early stages, it is envisaged that members will meet regularly to discuss and share ideas around business innovation in the Northern Territory. The Northern Territory Department of Business intends to work closely with local businesses to help establish the association.

Crouch Innovation Centre

Work has commenced on the creation of a new centre for innovation at the University of New South Wales. The Crouch Innovation Centre, due to open in April 2015, is expected to provide world-class facilities. The centre is designed to position Sydney as a major centre for innovation in the Asia Pacific region.

New Food Initiatives in Victoria

3000acres and the Open Food Network are recent winners of the VicHealth Seed Challenge, a Victorian Government competition offering $100 000 in funding for the best solutions to improving the access of fresh fruit and vegetables to Victorians and promote healthy eating. The Australian Centre for Social Innovation will help deliver the programmes.

3000acres by planisphere will provide an online platform to connect people with unused urban, suburban and rural spaces for food gardens in Melbourne. The vision of 3000acres is that every resident will be within walking distance of a garden and have access to the environmental and health benefits that come with it.

The Open Food Wed Foundation is building free and open software that will reduce the administrative costs for food enterprises to sell and distribute their produce. The plan is to build an online food marketplace which will trade and co-ordinate the movement of food, making it easier for growers and consumers to connect. The Open Food Wed Foundation has long term goals for global collaboration with established partners in the United Kingdom, Europe and United States.

Leaf Energy Turns Leaves into Energy

Leaves are often the most common organic matter on Earth and turning them into bioenergy is the goal for the company Leaf Energy. The cellulose in leaves, other plants and waste biomass is abundantly available and it is a renewable resource that can deliver carbon saving of 80 per cent on standard fuels.

Leaf Energy is commercialising the Glycerol Bio-Refinery Process, a pre-technology that enables waste plant matter to be converted into the higher value products of biofuels, bioplastics and green chemicals. The immediate potential of this pre-treatment technology can be seen when applying it to sugar cane bagasse to produce ethanol for automotive fuel and the E10 market.

Importantly, the glycerol that is being used is cheap, biodegradable and recyclable. Thus, Glycerol Bio-Refinery Process is low cost and has the advantages of needing less energy and fewer enzymes, reduced loss of sugars and operates at lower temperature and pressure.

This technology, developed with Syngenta and the Queensland University of Technology, has been proven in the laboratory and at pilot scale. External validation, a feasibility study and engagement with potential end-users including sugar mill owners, ethanol plant builders and users of ethanol are now underway.

Turning CO2 Emissions into Green Bricks

Chemical company Orica, the Commonwealth and New South Wales Government are funding the establishment of a world-first CO2 mineral carbonation research pilot plant at the University of Newcastle to trial the technology. Mineral carbonation mimics and accelerates the Earth's own natural carbon sink mechanism by combining CO2 with low grade minerals to create inert carbonates, which are similar to common baking soda.

The CO2 capture research project will be undertaken that could turn CO2 from emissions into solid brick-like carbonate for future safe disposal or use in green building materials. This offers the potential of a permanent and safe solution for carbon abatement.

International Developments

Africa

Fourth Ghana Policy Fair

The Government of Ghana held the Fourth Ghana Policy Fair on 16 October 2013. The theme of the 2013 Fair was 'Partnership and Innovation for Development'. The Fairs provide an opportunity for citizens to learn about policies, programmes, projects and activities of government, and allow the public and private sector to exhibit their policies, projects and activities.

Innovation Prize for Africa

The 2014 Innovation Prize for Africa (IPA) awardees will be announced by mid-March 2014. The IPA honours and encourages innovative achievements that contribute toward developing new products, increasing efficiency or saving costs in Africa. Specifically, the award targets technological breakthroughs in such areas as manufacturing and service industry, health and well-being, agriculture and agribusiness, environment, energy, water and ICTs. The IPA aims to:

- Mobilise leaders from all sectors to fuel African innovation;
- Promote innovation across Africa in key sectors through the competition;
- Promote science, technology and engineering as a rewarding career path among African youth; and
- Encourage entrepreneurs, innovators, funding bodies and business development service providers to exchange ideas and explore innovative business opportunities.

IPA 2014 consists of three prizes:

- USD 100 000 for the winner with the best innovation based on marketability, originality, scalability, social impact, utility/technical aspect and clear business potentials;
- USD 25 000 for the runner-up with the best commercial/business potential; and
- USD 25 000 for the Special Prize for Social Innovation with the highest social impact in the community/country.

"Africa has experienced one of the fastest economic growths in recent history - 6 per cent on average. Innovation has and will continue to play a vital role in

this growth, and with this in mind, the IPA is continuing its work to identify innovators who are contributing to Africa's sustainable development and creating solutions to the continent's everyday challenges ," said Pauline Mujawamariya, IPA Programme Director.

Asia

World Innovation Forum Kuala Lumpur 2013

The World Innovation Forum Kuala Lumpur was held in November 2013. The forum was a platform for high-level stakeholders to share experiences, and discussion of issues and strategies for inclusive innovations.

India Hosts Third Global Innovation Roundtable

India hosted the Third Global Innovation Roundtable in New Delhi from 18 to 19 November 2013. Australia was represented by the Australian High Commission. Australia gave an overview of its approaches to three issues - infrastructure to support innovation (the National Broadband Network), improving industry-research linkages and social innovation.

The Roundtable provided participants with the opportunity to engage in dialogue around innovation policy and learn and share about their different country experiences. The next roundtable may be broadened to include participation from the business and academic communities.

India's National Innovation Council Releases its Report to the People

India's National Innovation Council released the third Report to the People at the Global Innovation Roundtable, held in New Delhi from 18 to 19 November 2013. The Council's report states that India is developing rapidly, but that it has unmet needs in health, education, agriculture and energy. These unmet needs require innovative solutions and India is adopting an 'inclusive innovation' approach to meeting these needs better in the future.

The National Innovation Council was established by the Indian Prime Minister in 2010. The purpose of the Council is to innovate to produce affordable and qualitative solutions to address the needs of the bottom of the economic pyramid. In 2012-13 it progressed several initiatives including:

- The India Inclusive Innovation Fund (IIIF) was established. The IIIF is a venture capital fund that has received the equivalent of nearly A$90 million in public investment from Indian and international sources. It is hoped that the fund will eventually reach A$900 million when private investment is leveraged.

- A pilot program of establishing seven industry innovation clusters was completed. The pilot is now being evaluated and the results will be evaluated and will be considered alongside longer term plans to establish 500 innovation clusters across India.

- Plans for providing broadband to 250 000 of India's approximately 265 000 local council zones (Panchayats) have been further developed.

- 1000 National Innovation Scholarships will be launched in 2014. The scholarships will be available to children aged between 12 and 17 who are developing a new innovation. Selected children will receive a cash prize, special classes to develop entrepreneurial skills and assistance in obtaining intellectual property protection for successful innovations.

- India has established a 'meta-University' that brings together content from multiple universities that has a similar focus and provides this as course material to new students. Three others are planned in other Indian cities.

- Five Design Innovation Centres were established to teach design thinking to professionals and graduates. There are plans to establish a further 15 Centres over the next three years.

Pakistan: Regional Consultative Workshop on National Innovation System & Intellectual Property

A regional consultative workshop on National Innovation System and Intellectual Property was held in Pakistan from 7-9 October 2013. Hosted by the Commission on Science and Technology for Sustainable Development in the South, the workshop brought together academics, policy planners and PhD students for a three day workshop. The workshop's aim was to develop the capability of participants from the Organisation of Islamic Cooperation Member States (Asian Region) to understand and possibly develop national innovation system policies.

The 2014 Taiwan-Australia Higher Education Forum

In 2014, the Taiwanese Ministry of Education and the National Taiwan University of Science and Technology will host Taiwanese and Australian research and industry delegates for a two day forum on International Research Linkage and Industrial Cooperation-Green Technology, Climate Change, Energy and Environmental Science. The forum is currently expected to be held in early May 2014 and will include industry and university visits as well as panel discussions on the main themes. The aims of the forum include sharing of experience in research-industry collaboration on sustainable futures, enhancing bilateral research, industry and research-industry networks in these areas, and exploring opportunities for new bilateral activities related

to the themes. The Australian Departments of Education and Industry will jointly assist the Taiwanese hosts in the management of the forum.

Europe

40th anniversary of the European Patent Convention

The European Patent Convention celebrated its 40th anniversary in October 2013. The Convention, which was signed by 16 countries, established a legal framework for the transnational grant of patents in Europe. The Convention formed the European Patent Organisation, which consists of two bodies — the European Patent Office and the Administrative Council.

Belgium: 2014 Innovation Convention

The European Commission's Innovation Convention will be held in Belgium from 10-11 March 2014. The Convention will provide an opportunity to:

- Engage in and contribute to the innovation debate with business leaders, top researchers and high-level policy makers;
- Network and share experiences with peers; and
- Gain inspiration from world-renowned speakers and innovation showcases.

COSME: € 2.3 billion to foster the competitiveness of SMEs

In November 2013, the European Parliament adopted the Programme for the Competitiveness of Small and Medium-sized Enterprises (COSME). The programme has a seven year budget of €2.3 billion and will provide a guarantee facility for loans to Small-to-Medium Enterprises (SMEs) of up to €150 000. The programme is expected to assist 330 000 European Union firms.

COSME aims at strengthening the competitiveness and sustainability of the European Union's enterprises, at encouraging an entrepreneurial culture and promoting the creation and growth of SME, through improving:

- Access to finance for SMEs;
- Access to markets, inside the Union but also at global level;
- Framework conditions for businesses; and
- Entrepreneurship and entrepreneurial culture.

European Commission and OECD launch website for universities to measure entrepreneurial impact

The European Commission and OECD have launched a new online self-assessment tool, HEInnovate, for universities to measure how entrepreneurial they are.

The tool allows institutions to assess their performance in seven areas: leadership and governance, organisational capacity, teaching and learning, pathways for entrepreneurs, university-business exchange, the internationalised institution, and impact measurement.

HEInnovate is not a benchmarking or ranking tool and all results and data remain the property of the user.

Ireland's R&D Tax Credit scheme review

In October 2013, the Irish Government published a review of Ireland's Research & Development (R&D) tax credit scheme. The aim of the review was to ensure that the scheme, which commenced in 2004, remained a leading international scheme and represented value for money.

The review indicated that the scheme has been successful from the perspective of both domestic and international companies, with the number of companies accessing the credit increasing from less than 75 in 2004 to almost 1500 in 2011. While the annual cost of the scheme was estimated to have risen from €71 million to approximately €261 million over the same period, business expenditure on R&D also increased from €1.2 billion to €1.86 billion.

The Irish Government notes that key recommendations of the review will be implemented, specifically those relating to the outsourcing of R&D, qualifying expenditure in relation to the base year and the key employee provision.

Malta Council for Science and Technology

The Malta Council for Science and Technology recently launched a Commercialisation Voucher Programme and released a draft National Research and Innovation Strategy 2020 for public consultation.

The aim of the Commercialisation Voucher Programme is to provide financial support for the development and commercialisation of both technological and non-technological ideas, focussing on four priority areas of Energy and Environment, Information and Communications Technology, Value-added Manufacturing, and Health and Biotechnology.

The draft National Research and Innovation Strategy 2020 was published for public consultation in September 2013. It was authored by the Malta Council for Science and Technology following an extensive consultation exercise

involving academia, private enterprise, the public sector and social partners.

Nesta releases an Innovation Plan for Europe

Nesta, together with the Lisbon Council, have released a seven-point plan for making Europe the best place in the world to innovate.

'Plan I for Europe' calls for policymakers to embrace a broader vision of innovation, based not only on expanding research and development, but also on encouraging service and social innovation and embracing the power of digital technologies.

'Plan I for Europe' sets out seven recommendations that could be implemented by EU policymakers to improve the environment for innovation in Europe, including:

- Creating a single market where digital businesses and technology savvy entrepreneurs can thrive;
- Making public innovation funding bold, experimental and open to all;
- Investing in the infrastructure of the 21st century (including superfast broadband and smart grids);
- Educating a technology-savvy workforce;
- Embracing social innovation;
- Making innovation open for EU citizens and the world; and
- Reforming European institutions so they better support innovation.

'Plan I for Europe' builds on Nesta's previous publication 'Plan I', which made a number of recommendations to help bolster innovation in the United Kingdom specifically.

Northern Ireland Innovation Strategy 2013-2025

The Northern Ireland Department of Enterprise, Trade and Investment recently conducted a public consultation on its draft Innovation Strategy for Northern Ireland. The draft strategy identifies key actions to support Northern Ireland companies to become more innovative. The strategy identifies actions under four themes – knowledge generation, knowledge exchange, knowledge exploitation and cultural change.

UK: China's absorptive state

Nesta released its report China's absorptive state: innovation and research in China in October 2013. The report analyses the policies, prospects and dilemmas for Chinese research and innovation over the next decade. The

report finds that the United Kingdom (UK) has overtaken Japan to become one of China's most prolific research co-author after the United States.

The report makes recommendations on how the UK can engage and collaborate with the Chinese system.

Key findings of the report include:

- China is an absorptive state, increasingly adept at attracting and profiting from global knowledge and networks;
- Accelerating the shift to a more innovative economy remains a core priority of China's new leadership, yet equally important is a new focus on quality, efficiency and evaluation;
- China's research base continues to grow at an unprecedented rate, but has not yet been matched by similar leaps in quality; and
- Over the last five years, an expanding tier of Chinese multinationals have become visible in global rankings of firm–level innovation.

UK plans investment in eight technologies of the future

The United Kingdom (UK) Science and Universities Minister announced a £186 million package of investment in the eight great technologies of the future that will accelerate high-tech progress from the lab to the marketplace. Eight technologies have been identified as areas which, with the right investment, have the potential to make the greatest contribution to a high-tech UK industrial revolution. The eight great technologies are:

- Big data and energy-efficient computing;
- Satellites and commercial applications of space;
- Robotics and autonomous systems;
- Synthetic biology;
- Regenerative medicine;
- Agri-science;
- Advanced materials and nanotechnology; and
- Energy and its storage.

The package was announced during the Minister's Mountbatten Memorial Lecture, in which he outlined how the UK would tackle challenges such as climate change, energy storage, food production and population growth.

The package of investment includes a £70 million investment in Agri-Tech Catalyst, designed to assist new agricultural technologies bridge the gap between the lab and the marketplace. It also includes a £34 million investment in a new data research network and four administrative data research centres.

Western Balkans Joint Strategy for Innovation-Based Economic Growth

In October 2013, the Western Balkans Regional Research and Development Strategy for Innovation was adopted by the Ministers of Science from the region. The strategy, supported by the World Bank, the Regional Cooperation Council and the European Commission, will serve as a framework for a collective effort to recommend policy and institutional reforms.

North America

US: New policy agenda for the Commerce Department

The United States (US) Department of Commerce has launched a new policy agenda, focused on US trade and investment, innovation and data. Included in the policy is an emphasis on public-private partnerships that allow businesses and communities to make better use of government data. Promoting innovation is a core priority of the Department of Commerce's agenda which comprises of three key innovation components – manufacturing, skills, and the digital economy.

US: Centre for Public Policy Innovation's Internet of Everything Report

The Centre for Public Policy Innovation, a United States not-for-profit educational think tank, has released a report focussing on the economic, societal, and environmental potential of the Internet of Everything (IoE). The IoE is defined as the bringing together of people, process, data, and things to make network connections which is viewed as more relevant and more important than ever before.

The report suggests that the IoE represents the cutting edge of the next global wave of innovation. The report suggests that the IoE will impact a variety of sectors including healthcare, manufacturing and education, and could save industry as much as $150 billion annually through greater efficiency.

High-tech R&D proposals for NASA SBIR & STTR

High-tech Research & Development proposals to enable future space exploration while seeding commercial products and services are being sought from US small business for NASA's Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programmes.

SBIR is a competitive programme that encourages small business to explore their technological potential and provides the incentive to profit from its commercialisation. STTR is a competitive programme that reserves a specific percentage of federal R&D funding for awards to small business and non-profit research institution partners.

Results of past NASA SBIR and STTR programmes have led to a number of benefits for modern air traffic control systems, earth and sun observing spacecraft and the International Space Station.

National Science Foundation reports a decline in university R&D

The United States National Science Foundation has reported that spending on higher education Research & Development (R&D) fell by 1 per cent in the fiscal year (FY) 2012, which is the first constant-dollar decline since FY 1974. According to recent survey results, university spending on R&D in all fields totalled US$65.8 billion in FY 2012.

The survey found that R&D in the field of life sciences declined slightly, while engineering, bioengineering and biomedical saw growth during FY 2012. The survey also noted that the top 30 institutions (out of 907 surveyed) in terms of R&D expenditures in all fields accounted for 40 per cent of total academic R&D spending.

University Start-Ups: Critical for Improving Technology Transfer

Recent analysis shows that university technology transfer has typically been dominated by a business model of licensing university patents to the highest bidder. However, a new and smarter model is being increasingly adopted, whereby universities nurture their own start-ups and make their patents available to them.

Brookings Centre for Technology Innovation recommends that the United States government can help foster an adequate environment for entrepreneurship by:

1. Expanding funding for the Small Business Technology Transfer program designating funds specifically for university start-ups;
2. Authorising a patent use exemption for non-profit research organisations for the purpose of exclusive experimental use; and
3. Creating an equity rule for the distribution of funds among universities.

2013 Canadian Science Policy Conference

The 2013 Canadian Science Policy Conference has concluded. The

Conference, which has run for five years, attracts stakeholders from across the country and around the world to discuss emerging policy issues in science and innovation. The theme the 2013 conference was incubating innovation and ingenuity. During a keynote address at the event, the Canadian Minister of State (Science and Technology) highlighted record levels of investment in the knowledge economy and stressed the importance of collaboration among public, private and academic sectors in policy-making. The Minister noted that Canada ranks fourth in the world in absolute terms for total investment in science and technology.

South America

Argentina: National Programme of Technology and Social Innovation

Argentina's National Programme of Technology and Social Innovation was announced in November 2013. The programme focuses on the creation and use of technology to promote social inclusion and integrates two existing programmes:

- Programme of Demands from Social Actors which aims to promote linkages between the supply of science, technology and innovation and the social and productive needs and demands; the programme focuses on the four themes of disabilities, family agriculture, social habitat and social economy; and
- Programme of Associative Design which promotes the use of design to attend improvements in productive processes or products.

Chile: LAB4+ Innovation and Entrepreneurship Forum

LAB4+, the first Innovation and Entrepreneurship Forum of the Pacific Alliance, was held in Santiago, Chile, from 4-6 December 2013.

LAB4+ aimed to promote innovation and entrepreneurship within the Pacific Alliance´s member countries.

The Forum's main goals were to:

- Establish a common research development and innovation agenda;
- Foster collaboration within the innovation ecosystem of the four member countries;
- Foster relations between the entrepreneurial world and Latin American venture capital; and

- Share innovation and entrepreneurship promotion experiences in both public and private sectors.

Global

2013 Top 100 Global Innovators report

Thomson Reuters released the annual Top 100 Global Innovators report in October 2013, listing the top 100 companies in terms of their R&D investment.

The report measures innovation based on patents, measuring volume, success, reach and influence of a company's patent portfolio. Companies that had filed at least 100 patents over the past three years were only considered for this ranking.

The three highest ranked countries were the USA (45 companies), Japan (28 companies) and France (12 companies). These results were similar to the 2012 rankings. The semiconductor & electronic components sector was the most prevalent industry on the list (23 per cent), followed by computer hardware (11 per cent).

€100 000 Valeo Innovation Challenge

Valeo, an independent industrial group which focuses much of their research and development programmes on technologies that reduce automotive vehicle CO2 emissions has invited student engineers from around the world to form groups to enter €100 000 Valeo Innovation Challenge. The goal of the Valeo Innovation Challenge is to design equipment that between now and 2030 will help make the car more intelligent and intuitive.

Twenty teams will be shortlisted and asked to create a model in the format of their choice such as physical mock up and application. Each shortlisted team will receive €5000 to put their idea into practice and to build a functioning demonstrator. From the shortlisted teams, three finalist teams will be chosen to present their projects to Valeo Innovation Challenge jury at the 2014 Paris Motor Show, with the winning team receiving €100 000 prize.

OECD Science & Technology Indicators Statistics Website launched

OECD innovation indicators, metadata and analytical reports can now be accessed in a single space via a new website launched in November 2013. The OECD's Innovation statistics website includes information on the Oslo Manual concepts and definitions, metadata covering innovation surveys for the period around 2006-08 and links to related OECD reports and activities. The site also contains selected innovation indicators included in the

2013 Science, Technology and Industry Scoreboard.

OECD Policies for Seed and Early Finance

The OECD released its report Policies for Seed and Early Finance in October 2013. The paper highlights the findings from a 2012 research project which investigated the role of public support to promote seed and early stage financing, with a focus on the supply side, regulatory challenges and demand side actions.

The OECD report highlights growing support for financial instruments (such as grants, loans and tax incentives) for seed and early stage firms across OECD member countries. It is noted that this increased support can be linked to the recent financial crisis and the growing concern about young firms' access to finance.

OECD: Science, Technology and Industry Scoreboard 2013

The OECD Science, Technology and Industry Scoreboard 2013 was released in October 2013. The Scoreboard aims to provide information to help governments compare economies of similar size or structure, and help them to design more effective and efficient policies and monitor progress towards their desired goals.

The Scorecard features six thematic chapters, which focus on areas of key policy interest:

- Building knowledge;
- Connecting to knowledge;
- Targeting new growth areas;
- Unleashing innovation in firms;
- Competing in the knowledge economy; and
- Participating in the global economy.

Firm-level data shows that across all countries, young firms are more dynamic than older firms and the performance of R&D differed greatly across economies and sectors.

OECD: Supporting Investment in Knowledge Capital, Investment and Innovation

The OECD has undertaken research on intangible assets, also known as knowledge-based capital (KBC) and released findings and recommendations

in the report Supporting Investment in Knowledge Capital, Investment and Innovation.

The report argues that while innovation is a key to business success, where innovation comes from is changing. It notes that firms are now looking beyond R&D to drive innovation, towards a wider range of intangible assets, such as data, software and patents - non-physical assets which make up KBC.

The report aims to provide evidence of the economic value of KBC, and to help meet the policy challenges it raises in a range of areas such as innovation, taxation and intellectual property.

Key findings of the report include:

- Business investment in KBC helps boost growth and productivity, with studies for the European Union and the United States showing business investment in KBC contributing 20 per cent to 34 per cent of average labour productivity growth;
- KBC is transforming what makes firms competitive;
- Countries that invest more in KBC are also more effective in reallocating resources to innovative firms; and
- Overall tax relief for Research & Development (R&D), when factoring in cross border tax planning by Multinational Enterprises, could well be greater than governments foresaw when their R&D tax incentives were designed.

OECD: Maximising the benefits of R&D tax incentives for innovation

Based on its report Supporting Investment in Knowledge Capital, Investment and Innovation, the OECD has launched a website on measuring R&D tax incentives. The website provides the latest indicators on R&D tax incentives featured in the OECD Science, Technology and Industry Scoreboard 2013.

A policy brief Maximising the benefits of R&D tax incentives for innovation has also been released, which highlights analysis on the economic consequences of R&D tax incentives to help governments design more effective and efficient policy packages to foster innovation and exploit new sources of growth.

This brief notes that the number of countries providing indirect support for business spending on R&D through tax incentives is rising, with many governments also increasing the generosity of these incentives in recent years. However it is also noted that this may create an uneven playing field that leaves new sources of growth idle.

WIPO Report On Global Branding, Trademarks

The World Intellectual Property Organization released a new report, Brands: Reputation and Image in the Global Marketplace in November 2013. The report notes how branding behaviour and trademark use have evolved in recent history and how they differ across countries. It also explores how branding affects market competition and innovation, noting that companies which invest heavily in branding are also often highly innovative.