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## Iceland

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## ICELAND

Iceland has diversified into knowledge services over the last decade to complement its resource-based sectors, particularly fishing and aluminium production. The past years have also seen rapid growth in tourism. The 2008 financial crisis severely affected the economy and the STI sector is still in the recovery process. The new policy for Science and Technology (2014-16), which coincides with the inauguration of the new government, focuses on human resources and recruitment, co-operation and efficiency, growth and value creation, and impact and follow-up. An action plan based on the policy has been issued.

**Hot issue 1: Improving overall human resources, skills and capacity building.** By OECD standards, Iceland's 15-year-olds have relatively poor results in science and graduation rates at doctoral level in science and engineering are relatively low (Panel 1<sup>v, w</sup>). The new policy for S&T emphasises doctoral education and funding for young researchers, as well as increasing the number of science and engineering graduates. The Icelandic Research Fund for Graduate Students merged with the Icelandic Research Fund in 2013 and their financial capacity to support doctoral education and post-doctoral training was increased. The GERT initiative (Enhancing Education in the Natural Sciences and Technology) started in 2012 as a public-private partnership involving the central government, local authorities and industry federations to interest young people in the field. A White Paper on Reforms in Education will be issued in the summer of 2014 and will recommend restructuring education to shorten the time towards higher education.

**Hot issue 2: Improving the return and impact of science.** Technology transfer is supported upstream by strong industry-science linkages through research grants and contracts (Panel 1<sup>o</sup>), but universities and PRIs do not patent their research results. Iceland gives high policy priority to increasing co-operation between HEIs, PRIs and companies to enhance the efficiency of the system and the quality of its output.

**Hot issue 3: Encouraging innovation in firms and supporting entrepreneurship and SMEs.** Although BERD decreased from 1.42% of GDP in 2009 to 1.38% in 2011, Iceland remains at the OECD median in terms of business R&D intensity and tech-

nological and non-technological output (Panel 1<sup>d, f, g</sup>). Most business R&D activities are concentrated in knowledge-intensive services and high-technology manufacturing. Competitive grants and tax incentives are the most important instruments in the policy mix for business R&D and R&D-driven innovation (Panel 2). The tax incentive scheme provides a 20% reimbursement of companies' R&D costs through a tax rebate. Recently introduced, the total of the tax incentive scheme doubled from USD 4 million (ISK 540 million) to USD 8 million (ISK 1.1 billion) between 2011 and 2014.

**Hot issue 4: Strengthening public R&D capacity and infrastructures.** Iceland has a strong science base. The ratio of public R&D expenditure to GDP and academic publications in high-impact journals are at the top of the OECD area (Panel 1<sup>a, c</sup>). However, universities and PRIs have suffered severe and ongoing budgetary cuts since the onset of the crisis. Research expenditures at universities and PRIs dropped from 1.39% of GDP in 2009 to 1.06% in 2011. The new STI policy aims to increase the share of competitive funding in total STI funding from the current 20% to 27% by 2016 and to increase the use of performance indicators in allocating block funds. In addition to the existing tax incentive scheme, new schemes for investors in SMEs are being developed. University funding as a share of GDP is to reach the Nordic average by 2020. For research infrastructures, the Infrastructure Fund was established in 2013. It builds on and extends the role of the former Equipment Fund. A Working Group for Research Infrastructures will be established under the Science and Technology Policy Council in 2014 with the aim of updating the roadmap for infrastructures.

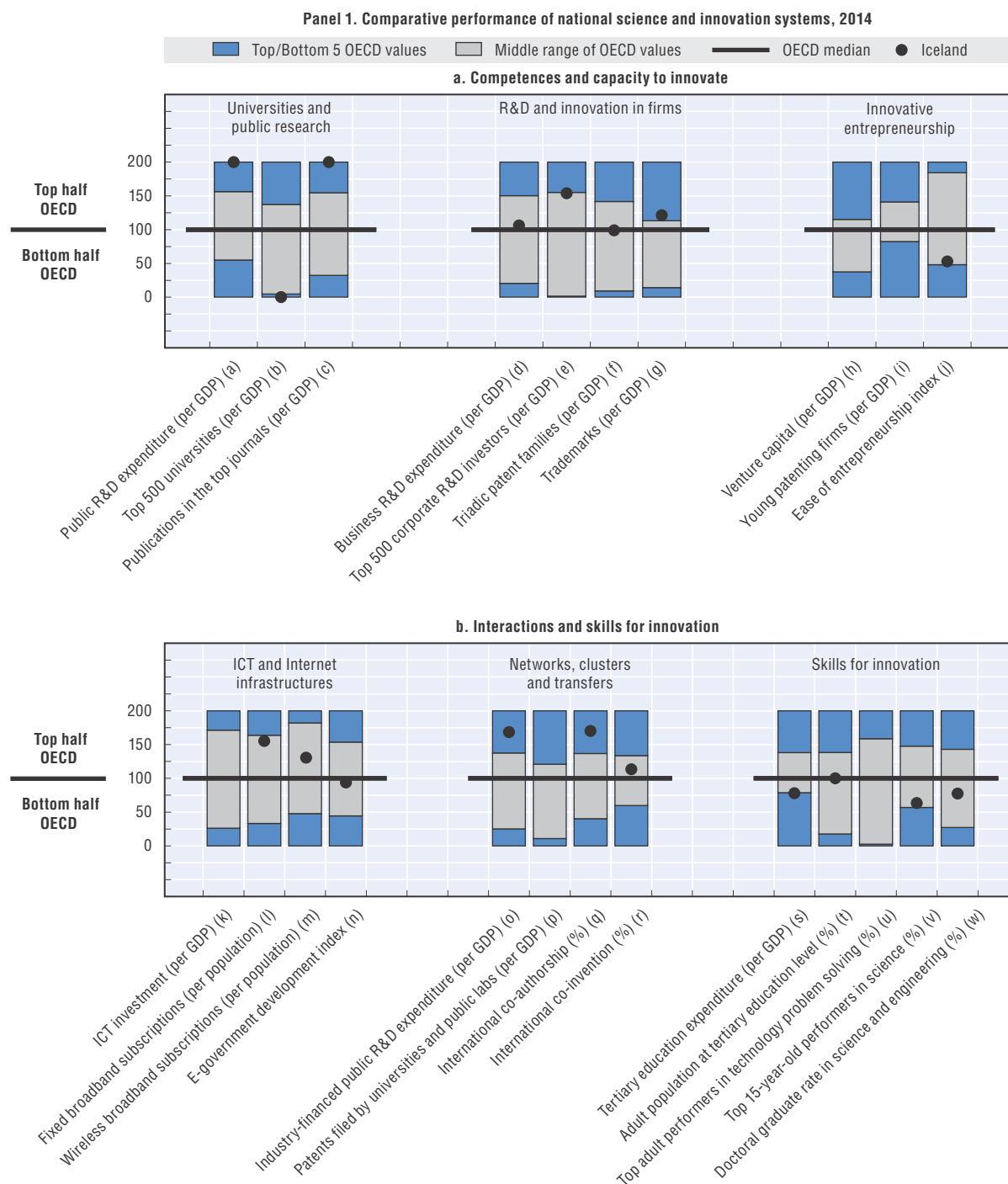
### Highlights of the Icelandic STI system

**STI policy governance:** Evaluation and monitoring of performance are key features of the new framework for S&T policy. Iceland seeks to improve the evaluation of science and innovation by developing a comprehensive system for monitoring science and innovation results, and improving industry statistics related to research, exports, value creation and innovation. An international evaluation of the STI system is being performed and results are expected by the autumn of 2014.

### Key figures, 2013

Economic and environmental performance	ISL	OECD	Gross domestic expenditure on R&D	ISL	OECD
<b>Labour productivity</b>			<b>GERD</b>		
GDP per hour worked, USD PPP, 2013	43.4	47.7	Million USD PPP, 2011	318	1 107 398
(annual growth rate, 2008-13)	(+0.6)	(+0.8)	As a % of total OECD, 2011	0.0	100
<b>Green productivity</b>			<b>GERD intensity and growth</b>		
GDP per unit of CO <sub>2</sub> emitted, USD, 2011	5.9	3.0	As a % of GDP, 2011	2.61	2.40
(annual growth rate, 2007-11)	(+4.3)	(+1.8)	(annual growth rate, 2007-11)	(-2.5)	(+2.0)
<b>Green demand</b>			<b>GERD publicly financed</b>		
NNI per unit of CO <sub>2</sub> emitted, USD, 2011	n.a.	3.0	As a % of GDP, 2011	1.08	0.77
(annual growth rate, 2007-11)	n.a.	(+1.6)	(annual growth rate, 2007-11)	(-0.9)	(+2.8)

Figure 9.19. Science and innovation in Iceland



Note: Normalised index of performance relative to the median values in the OECD area (Index median = 100).

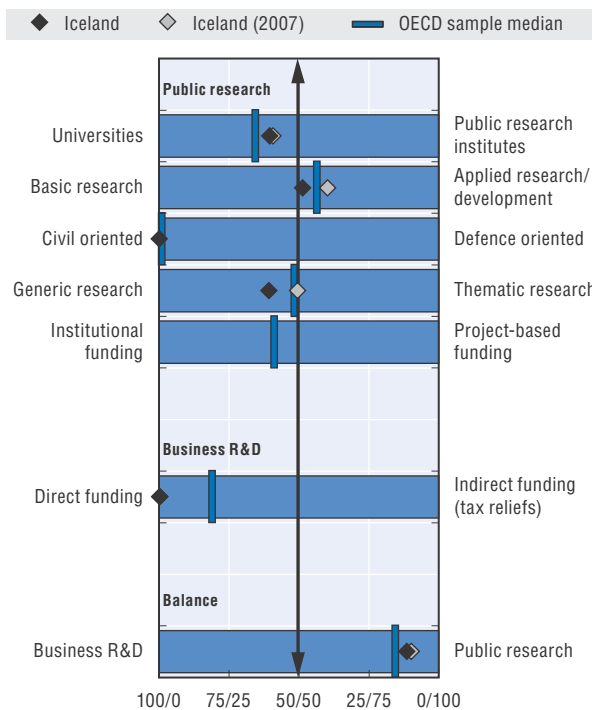
**New challenges:** In spite of the sharp economic slowdown, Iceland's green productivity increased almost twice as fast as in the OECD as a whole over 2007-11. It aims to become a leading international green economy focused on clean natural environments, sustainable use of energy, and education about sustainability. The Green Economy initiative was implemented in 2012. It makes the public sector a role model for the green economy. The concept of sustainable development has been integrated in the statutory missions of public institutions and green procurement practices are encouraged, with an objective of green national tenders of 50% of all public procurement tenders by 2015 and 80% by 2020. Economic incentives are provided through the Green Competitive Fund, the Green Venture Capital Fund, and Incentives for Initial Investment in Iceland by foreign investors.

**Innovative entrepreneurship:** Iceland offers a regulatory and administrative environment that is less conducive to entrepreneurship than the OECD median (Panel 1<sup>j</sup>). Red tape and entry barriers in the network and transport sectors impede product market competition. In addition firms' access to capital and debt funding has been hampered by major reforms of the financial sector to reduce risk of default, by the extensive fiscal consolidation to reduce public debt, and by the capital controls set in place as a result of the severe flight of capital during the crisis. Policy attention has recently been paid to strengthening equity funding and improving the environment for an effective stock market for growing companies. A working group was established in 2013 to consider tax incentives for individuals who purchase stocks in small growing companies. Public support for innovation is generally generic in nature, and there are few targeted instruments, e.g. centres for start-ups.

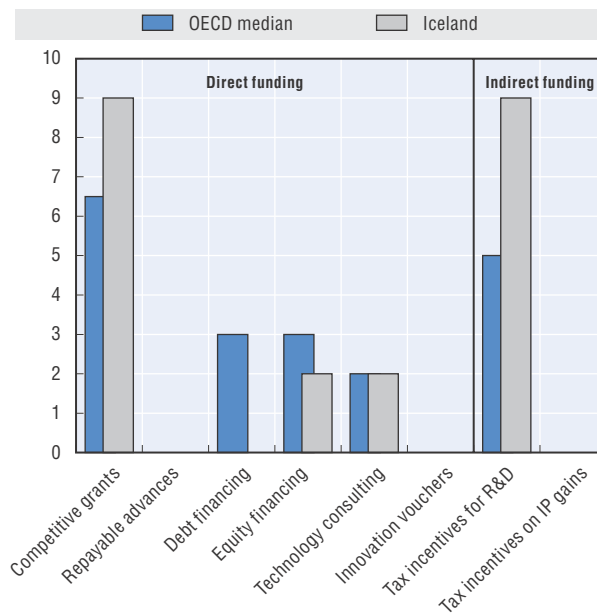
**Clusters and smart specialisation:** The public procurement scheme, Better service for less, was established in 2011 in co-operation with industry for a three-year period with an annual budget of USD 4.5 million (ISK 600 million). The project focuses on health, education, and energy and environmental issues. Clusters have become an important part of Iceland's policy. A notable example is the maritime cluster. There are on-going discussions to set up an aluminium cluster.

**Globalisation:** Owing to its small size and remote location, Iceland lacks world-class universities that attract talent and knowledge assets (Panel 1<sup>b</sup>). However, the University of Iceland is on the Times Higher Education World University Ranking, as one of the world's top 300 universities, and the number of large corporate R&D investors is high relative to its GDP (Panel 1<sup>e</sup>). ICT infrastructures are well developed and Iceland is strongly integrated in global academic networks; 69% of its scientific articles are produced with foreign co-authors (Panel 1<sup>b, m, q</sup>). The business sector is less well integrated as shown by co-patenting data (Panel 1<sup>f</sup>), but still above the OECD median. In addition, while Iceland previously received significant international S&T investments, foreign R&D funding dropped in the wake of the crisis from 12.1% to 5.4% of BERD between 2009 and 2011, but remained at 8-9% of public R&D expenditure. Iceland has announced better support for applications for external funding, both nationally and internationally, and for enhanced Icelandic participation in foreign programmes. Support will also be provided to firms seeking markets abroad. In the longer term, Iceland's competitiveness for highly skilled labour as well as increased international collaboration on research infrastructures is considered a likely policy issue.

**Panel 2. Allocation of public funds to R&D, by sector, type and mode of funding, 2012**




**Panel 3. Most relevant instruments of public funding of business R&D, 2014**



Note: Policy information comes from country responses to the OECD STI Outlook policy questionnaire 2014. Iceland's response is available in the OECD STI Outlook Policy Database, edition 2014 at <http://qdd.oecd.org/Table.aspx?Query=2A685F33-225F-4379-8825-42BE3649F63D>.

Source: See reader's guide and methodological annex.

StatLink  <http://dx.doi.org/10.1787/888933152194>

## STI country profiles reader's guide

The country profiles (CPs) in the 2014 *OECD STI Outlook* (STIO) are designed to provide a concise overview of science, technology and innovation (STI) policy and performance in OECD members and selected non-OECD economies. Each country profile is based on information gathered from the country's response to the OECD STIO policy questionnaires 2012 and 2014, as well as various additional OECD and non-OECD sources.

Headings in the country profiles are linked to the STIO policy profiles, which examine the main global STI policy trends across countries. Issues featuring in both the policy and country profiles are: i) innovation policy governance; ii) new sources of growth; iii) new challenges; iv) universities and public research; v) innovation in firms; vi) innovative entrepreneurship; vii) technology transfer and commercialisation; viii) clusters and smart specialisation; ix) globalisation; and x) skills for innovation.

The table of key figures presents indicators on the country's economic performance (labour productivity), environmental performance (green productivity and demand), the size of its R&D system as measured by gross domestic expenditure on R&D (GERD), the degree of public commitment to S&T as measured by the share of GERD that is publicly financed, and the changes in these indicators over the past five years. In the text, all amounts are given both in USD in purchasing power parities (PPP) of the relevant year (if available) and in national currencies.

Panel 1 contains a double figure that sheds light on the strengths and weaknesses of the country's STI performance. It uses indicators on the country's national innovation system and performance with respect to: universities and public research, business R&D and innovation, innovative entrepreneurship, information and communication technology (ICT) and Internet infrastructure, networks, clusters and transfers, and skills for innovation. The dot for each indicator positions the country relative to the OECD median and to the top and bottom five OECD countries. Non-OECD countries are also compared to the OECD benchmarks, and may fall out of the range indicated in the figure (e.g. below the lowest OECD country). All indicators are normalised (by GDP and population cohorts) to take account of the size of the economy and the relevant population cohorts, and are presented as indices (OECD median = 100) for benchmarking purposes.

Panel 2 shows the structural composition of business expenditure on R&D (BERD) in terms of performance of the main industry sectors, firm size and firms' national affiliation. It reflects the country's industry structure and its business innovation efforts. Panel 3 presents the country's revealed technological advantage (RTA), as measured by international patent applications filed under the Patent Cooperation Treaty (PCT) in three key technology fields (bio- and nano-technology, ICTs, and environment-related technologies). It also shows the number of patents filed by universities and public research institutions in these fields.

Panel 4 gives an overview of the country's policy mix for public R&D, i.e. the orientation and funding modes of public research. It also illustrates changes in the policy mix for R&D over the past five years. Finally, Panel 5, a new feature in STIO 2014, reflects the balance and relative importance of various government measures to support business R&D and innovation. It is based on the country's self-assessment in its reply to the OECD STIO 2014 policy questionnaire.

Further details on the methodology, data sources and descriptions of indicators used in the country profile are provided in Annex 9.A. Data, metadata as well as the original sources and databases of the indicators used in the STIO 2014 are accessible at the statistical portal IPP.Stat (cut-off date: 8 July 2014).

### Abbreviations used in the country profiles

BERD:	Business expenditure on research and development
EU:	European Union
FDI:	Foreign direct investment
GDP:	Gross domestic product
GERD:	Gross expenditure on research and development
HEIs:	Higher education institutions
IPRs:	Intellectual property rights
MNEs:	Multinational enterprises
PRIs:	Public research institutes
R&D:	Research and development
S&E:	Science and engineering
SSS:	Smart specialisation strategy (also known as 3S)
STI:	Science, technology and innovation
S&T:	Science and technology
3S:	See SSS
STEM:	Science, technology, engineering and mathematics
USD:	United States dollars (converted using the purchasing power parities of the relevant year)
VC:	Venture capital



## Synthetic table

**Table 9.1. Comparative performance of national science and innovation systems, 2014**

Country relative position: in the top 5 OECD or above (★), in the middle range on par or above OECD median (▲), in the middle range below OECD median (△) and in the bottom 5 OECD or below (○)

		Competences and capacity to innovate									
		Universities and public research			R&D and innovation in firms				Innovative entrepreneurship		
		Public R&D expenditure (per GDP)	Top 500 universities (per GDP)	Publications in the top-quartile journals (per GDP)	Business R&D expenditure (per GDP)	Top 500 corporate R&D investors (per GDP)	Triadic patent families (per GDP)	Trademarks (per GDP)	Venture capital (per GDP)	Young patenting firms (per GDP)	Ease of entrepreneurship index
		PUB_XGDP	UNI500_GDP	PUB25_GDP	BE_XGDP	CORPRD500_GDP	PTRIAD_GDP	TRDMRK_GDP	VC_XGDP	PTYG_GDP	EASE_I
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Argentina	ARG	△	△	○	○	○	○	○			
Australia	AUS	▲	▲	▲	▲	△	△	▲	△		▲
Austria	AUT	▲	★	▲	▲	▲	▲	△	△	★	▲
Belgium	BEL	△	▲	▲	▲	△	▲	△	▲	△	△
Brazil	BRA		△	○		△	○	○			△
Canada	CAN	▲	▲	▲	△	△	▲	★	★	○	▲
Chile	CHL	○	△	○	○	○	○	△			△
China	CHN	△	△	○	▲	△	△	○			○
Colombia	COL	○	○	○	○						
Costa Rica	CRI	○	○	○	○	○					
Czech Republic	CZE	▲	△	△	△	△	△	△	○		△
Denmark	DNK	★	▲	★	▲	★	▲	▲	▲		▲
Estonia	EST	▲		▲	▲	○	△	△	▲		▲
Finland	FIN	★	★	▲	★	★	★	▲	★	★	▲
France	FRA	▲	△	△	▲	▲	▲	▲	▲	△	▲
Germany	DEU	★	▲	△	▲	▲	★	▲	▲	★	▲
Greece	GRC	○	△	△	○	△	○	○	○		△
Hungary	HUN	○	△	△	△	△	△	○	△		△
Iceland	ISL	★	○	★	▲	▲	△	★			△
India	IND	△	○	○	○	○	△	○			○
Indonesia	IDN		○	○	○		○	○			△
Ireland	IRL	△	▲	▲	△	▲	▲	▲	★	○	△
Israel	ISR	△	★	▲	★	▲	▲	▲	★		○
Italy	ITA	△	△	△	△	△	△	△	○	▲	★
Japan	JPN	▲	△	○	★	▲	★	△	△	○	▲
Korea	KOR	▲	△	△	★	▲	▲	▲	▲		△
Latvia	LVA	△	○	○	○		△				
Lithuania	LTU	△	○	○	○		△				
Luxembourg	LUX	○	○	△	△	★	▲	★	△		△
Malaysia	MYS	△	△	○	△	△					
Mexico	MEX	○	○	○	○	○	○	△			○
Netherlands	NLD	▲	▲	★	▲	▲	▲	▲	▲	▲	★
New Zealand	NZL	△	★	▲	△	△	△	★	△		★
Norway	NOR	▲	▲	△	△	▲	△	△	△	▲	△
Poland	POL	△	△	△	○	○	△	○	○		○
Portugal	PRT	△	▲	▲	△	△	△	△	△		▲
Russian Federation	RUS	△	○	○	△	△	○	○	△		△
Slovak Republic	SVK	△	○	○	○	○	○	○			★
Slovenia	SVN	△	▲	▲	▲	△	△	△	△		△
South Africa	ZAF	○	△	○	△	△	△	△	△		○
Spain	ESP	△	△	△	△	△	△	△	○	○	○
Sweden	SWE	★	★	★	★	★	★	▲	▲	★	△
Switzerland	CHE	▲	▲	★	▲	★	★	★	▲	★	▲
Turkey	TUR	△	○	○	△	△	○	○			○
United Kingdom	GBR	△	▲	▲	△	▲	▲	▲	▲	△	▲
United States	USA	▲	△	△	▲	▲	▲	▲	★	○	★
EU28	EU28	▲	▲	★	▲	△	▲	△	▲	▲	

Table 9.1. **Comparative performance of national science and innovation systems, 2014 (cont.)**

Country relative position: in the top 5 OECD or above (★), in the middle range on par or above OECD median (▲), in the middle range below OECD median (△) and in the bottom 5 OECD or below (○)

		Interactions and skills for innovation												
		ICT and Internet infrastructures				Networks, clusters and transfers				Skills for innovation				
		ICT investment (per GDP)	Fixed broadband subscribers (per population)	Wireless broadband subscribers (per population)	E-government readiness index	Industry financed public R&D expenditure (per GDP)	Patents filed by universities and public labs (per GDP)	International co-authorship (%)	International co-invention (%)	Tertiary education expenditure (per GDP)	Adult population at tertiary education level (%)	Top adult performers in technology problem solving (%)	Top 15 year-old performers in science (%)	Doctoral graduate rate in science and engineering (%)
		ICTINV_XGDP	FBBAND_HAB	WBBAND_HAB	EGOV_I	PUB_BEF_XGDP	PATPRI_XGDP	INTCOA_XSA	COPAT_XPCT	TER_XGDP	ADTERPOP_XT	TOPAD_PST_XAD	TOP15_SCI_XT	PHDR_SCIENG_XCOH
		(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)	(u)	(v)	(w)
Argentina	ARG	○	○	○	○	○		△	★	▲	○		○	○
Australia	AUS	▲	△	★	▲	▲	▲	△	△	▲	▲	▲	★	▲
Austria	AUT	▲	△	▲	△	▲	△	★	▲	△	△	△	△	▲
Belgium	BEL	▲	▲	△	△	▲	▲	★	★	△	▲		▲	▲
Brazil	BRA		○	△	○		△	○	△	○	○		○	○
Canada	CAN	△	▲	△	▲	▲	▲	△	▲	★	★	▲	▲	▲
Chile	CHL		○	○	△	○	△	▲	△	★	○		○	○
China	CHN		○	○	○	▲	△	○	○		○			○
Colombia	COL		○	○	△			▲	△	★	△		○	
Costa Rica	CRI		○	○	○			★	★		△		○	
Czech Republic	CZE	△	△	△	○	△	△	△	▲	△	△	△	△	△
Denmark	DNK	★	★	★	★	△	★	▲	▲	▲	△	★	△	▲
Estonia	EST		△	▲	△	△		▲	★	▲	▲	○	★	△
Finland	FIN	△	▲	★	▲	★	▲	▲	△	★	▲	★	★	★
France	FRA	△	★	△	▲	△	★	▲	△	▲	△		▲	▲
Germany	DEU	△	▲	△	▲	★	▲	△	△	△	△	▲	▲	★
Greece	GRC	○	△	△	△	△	○	△	▲	▲	△		○	△
Hungary	HUN		△	○	△	▲	○	▲	▲	○	△		△	○
Iceland	ISL		▲	▲	△	★		★	▲	○	▲		△	△
India	IND		○	○	○		△	○	▲	○				
Indonesia	IDN		○	○	○			▲	★	○	○		○	○
Ireland	IRL	○	△	▲	△	○	★	▲	▲	▲	▲	○	▲	▲
Israel	ISR		△	△	▲	▲	★	△	△	▲	★		△	▲
Italy	ITA	△	△	△	△	○	△	△	○	○	○		△	△
Japan	JPN	★	▲	▲	▲	△	▲	○	○	▲	★	▲	★	△
Korea	KOR	▲	★	★	★	▲	★	○	○	★	★	○	▲	△
Latvia	LVA		△	△	△	▲		△	★	▲	△		○	△
Lithuania	LTU		△	○	△	★		△	△		▲		△	
Luxembourg	LUX	○	▲	▲	▲	△	△	★	★	○	▲		▲	
Malaysia	MYS		○	○	△			△	△	★	○		○	
Mexico	MEX	○	○	○	○	○	○	△	▲	△	○		○	○
Netherlands	NLD	▲	★	▲	★	★	▲	▲	△	▲	△	★	▲	△
New Zealand	NZL	★	▲	▲	▲	★	△	▲	△	▲	▲		★	▲
Norway	NOR		▲	▲	▲	▲	△	▲	△	▲	▲	★	△	▲
Poland	POL		○	▲	○	△	△	○	★	△	△	○	▲	○
Portugal	PRT	▲	△	○	△	○	○	△	▲	△	○		○	△
Russian Federation	RUS		○	△	△	★	○	○	△	△	★		○	○
Slovak Republic	SVK	○	○	△	○	△		△	▲	○	△	○	△	▲
Slovenia	SVN	△	△	△	△	▲	△	△	△	△	△		▲	▲
South Africa	ZAF		○	○	○	△	△	△	△	○	○			○
Spain	ESP	△	△	△	△	▲	▲	△	△	△	△		△	△
Sweden	SWE	★	▲	★	▲	▲	○	▲	△	▲	▲	★	△	★
Switzerland	CHE	★	★	△	▲		▲	★	★	△	▲		▲	★
Turkey	TUR		○	○	○	▲	○	○	○	△	○		○	○
United Kingdom	GBR	▲	▲	▲	★	△	▲	△	▲	△	▲		▲	★
United States	USA	▲	▲	▲	★	△	▲	○	○	★	★	△	△	△
EU28	EU28	△	▲	▲		△	▲	▲	▲		△		△	▲

Note: Non-OECD countries are also compared to OECD countries and may therefore be out of range (e.g. lower than the lowest OECD country). They appear in this table with top five and bottom five OECD values

Israel: "The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law."

Source: See references and methodological annex of the OECD STI Outlook 2014 country profiles.

## References

### General references

- European Commission (EC) (2013), *Monitoring Industrial Research: the 2013 EU Industrial R&D Investment Scoreboard*, European Commission, Luxembourg, <http://iri.jrc.ec.europa.eu/scoreboard13.html>.
- International Energy Agency (IEA) (2013), *CO<sub>2</sub> Emissions from Fuel Consumption*, OECD Publishing, Paris, [http://dx.doi.org/10.1787/co2\\_fuel-2013-en](http://dx.doi.org/10.1787/co2_fuel-2013-en).
- Flanagan, K., E. Uyarra and M. Laranja (2010), "The policy mix for innovation: rethinking innovation policy in a multilevel, multi-actor context", *Munich Personal RePEc Archive (MPRA)* No. 23567, July 2010.
- OECD (2010a), *OECD Science, Technology and Industry Outlook 2010*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264083479-en>.
- OECD (2010b), "Monitoring innovation and policies: developing indicators for analysing the innovation policy mix", internal working document of the Directorate for Science, Technology and Industry (DSTI), OECD, Paris.
- OECD (2010c), *Measuring Innovation: A New Perspective*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264059474-en>.
- OECD (2010d), *SMEs, Entrepreneurship and Innovation*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264080355-en>.
- OECD (2011), *Towards Green Growth: Monitoring Progress: OECD Indicators*, OECD Green Growth Studies, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264111356-en>.
- OECD (2012), *OECD Internet Economy Outlook 2012*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264086463-en>.
- OECD (2013a), *OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth*, OECD Publishing, Paris, [http://dx.doi.org/10.1787/sti\\_scoreboard-2013-en](http://dx.doi.org/10.1787/sti_scoreboard-2013-en).
- OECD (2013b), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264204256-en>.
- OECD (2014a), *OECD Economic Surveys*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/16097513>.
- OECD (2014b), *National Accounts at a Glance 2014*, OECD Publishing, Paris, [http://dx.doi.org/10.1787/na\\_glance-2014-en](http://dx.doi.org/10.1787/na_glance-2014-en).
- OECD (2014c), *Education at a Glance 2014: OECD Indicators*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/eag-2014-en>.
- OECD (2014d), *Entrepreneurship at a Glance 2014*, OECD Publishing, Paris, [http://dx.doi.org/10.1787/entrepreneur\\_aag-2014-en](http://dx.doi.org/10.1787/entrepreneur_aag-2014-en).
- OECD (2014e), *Measuring the Digital Economy: A New Perspective*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264221796-en>.
- Van Steen, J. (2012), "Modes of public funding of R&D: Towards internationally comparable indicators", *OECD Science, Technology and Industry Working Papers*, No. 2012/4, OECD Publishing, Paris, <http://dx.doi.org/10.1787/5k98ssns1gzs-en>.

### Databases and data sources

- Academic Ranking of World Universities (ARWU) (2013), "Shanghai ranking" 2003-13, [www.shanghairanking.com](http://www.shanghairanking.com).
- Bureau Van Dijk (2011), *ORBIS Database*, Bureau Van Dijk Electronic Publishing.
- Elsevier B.V. (2014), *Elsevier Research Intelligence*, [www.elsevier.com/online-tools/research-intelligence/products-and-services/scival](http://www.elsevier.com/online-tools/research-intelligence/products-and-services/scival) (data retrieved online on 31 January 2014).
- Eurostat (2014), *Education and Training (ETR) Databases*, June, <http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database>.
- Graham, S. et al. (2013), "The USPTO trademark case files dataset: Descriptions, lessons, and insights", *SSRN Working Paper*, <http://ssrn.com/abstract=2188621>.
- International Energy Agency (IEA) (2013), *IEA CO<sub>2</sub> Emissions from Fuel Combustion Statistics*, <http://dx.doi.org/10.1787/co2-data-en>.

- International Monetary Fund (IMF) (2014), *World Economic Outlook (WEO) Database*, April, [www.imf.org/external/pubs/ft/weo/2014/01/weodata/index.aspx](http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/index.aspx).
- International Telecommunication Union (ITU) (2013), *World Telecommunication/ICT Indicators 2013*, [www.itu.int/pub/D-IND-WTID.OL](http://www.itu.int/pub/D-IND-WTID.OL).
- National Science Foundation (NSF) (2014), “Academic research and development”, in *Science and Engineering Indicators 2014*, [www.nsf.gov/statistics/seind14/index.cfm](http://www.nsf.gov/statistics/seind14/index.cfm).
- OECD (2012), *STructural ANalysis (STAN) Database*, November, [www.oecd.org/sti/stan](http://www.oecd.org/sti/stan).
- OECD (2013), *Activity of Multinational Enterprises (AMNE) Database*, October, [www.oecd.org/industry/ind/amne.htm](http://www.oecd.org/industry/ind/amne.htm).
- OECD (2013), *Green Growth Indicators Database*, [www.oecd.org/greengrowth/greengrowthindicators.htm](http://www.oecd.org/greengrowth/greengrowthindicators.htm).
- OECD (2013), “Modes of public funding of R&D: Interim results from the second round of data collection on GBAORD”, internal working document of the Working Party of National Experts on Science and Technology Indicators (NESTI), OECD, Paris.
- OECD (2013), *OECD/NESTI data collection on R&D tax incentives*, April, [www.oecd.org/sti/rd-tax-stats.htm](http://www.oecd.org/sti/rd-tax-stats.htm).
- OECD (2013), “PISA: Programme for International Student Assessment”, *OECD Education Statistics*, December, [www.pisa.oecd.org](http://www.pisa.oecd.org) and <http://dx.doi.org/10.1787/data-00365-en>.
- OECD (2014), *Entrepreneurship Financing Database*.
- OECD (2014), *Main Science and Technology Indicators (MSTI) Database*, June, [www.oecd.org/sti/msti](http://www.oecd.org/sti/msti).
- OECD (2014), *OECD ANBERD Database*, March, [www.oecd.org/sti/anberd](http://www.oecd.org/sti/anberd).
- OECD (2014), *OECD Broadband Portal*, June, [www.oecd.org/sti/broadband/oecdbroadbandportal.htm](http://www.oecd.org/sti/broadband/oecdbroadbandportal.htm).
- OECD (2014), *OECD Education Statistics*, June, <http://dx.doi.org/10.1787/edu-db-data-en>.
- OECD (2014), *OECD Educational Attainment Database*, June.
- OECD (2014), *OECD National Accounts Statistics*, April, <http://dx.doi.org/10.1787/naag-data-en>.
- OECD (2014), *OECD Product Market Regulation Database*, March, [www.oecd.org/economy/pmr](http://www.oecd.org/economy/pmr).
- OECD (2014), *OECD Productivity Database*, May, [www.oecd.org/std/productivity-stats](http://www.oecd.org/std/productivity-stats).
- OECD (2014), *OECD Patent Database*, March, [www.oecd.org/sti/ipr-statistics](http://www.oecd.org/sti/ipr-statistics).
- OECD (2014), *OECD Research and Development Statistics (RDS) Database*, March, [www.oecd.org/sti/rds](http://www.oecd.org/sti/rds).
- OECD (2014), *OECD Science, Technology and Industry Outlook Policy Database*, <http://qdd.oecd.org/subject.aspx?Subject=a2ebc2a0-b8dc-4d1a-82be-3fea780b86a6>.
- UNESCO Institute for Statistics (UIS) (2014), *Education Database*, May, [http://data.uis.unesco.org/Index.aspx?DataSetCode=SCN\\_DS](http://data.uis.unesco.org/Index.aspx?DataSetCode=SCN_DS).
- UIS (2014), *Science, Technology and Innovation Database*, June 2014, [http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT\\_DS](http://data.uis.unesco.org/Index.aspx?DataSetCode=EDULIT_DS).
- United Nations (UN) (2013), *UN e-Government Survey*, United Nations, NY, <http://unpan3.un.org/egovkb/Reports/UN-E-Government-Survey-2014>.
- World Bank (WB) (2014), *World Development Indicators (WDI) Databank*, <http://wdi.worldbank.org>.