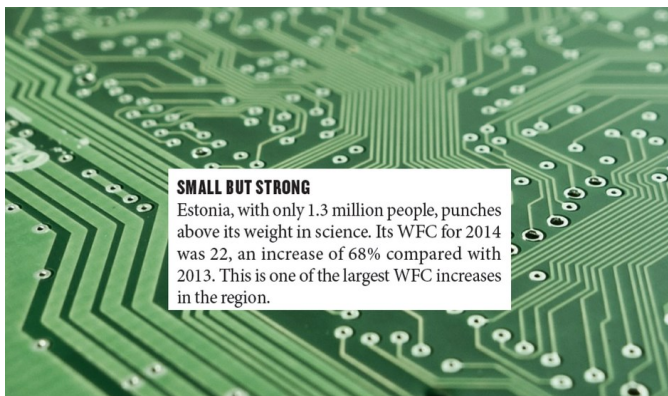


# Estonia – a place for science

Top-level research is one of the basis for the successful development of Estonian society, educational and cultural performance, and economic success. Estonia is constantly making efforts to improve its research capacities to efficiently contribute to solving the complex problems our society faces. This process is being guided by the [Estonian Research and Development and Innovation Strategy “Knowledge-based Estonia” \(2014–2020\)](#)<sup>1</sup>, which focuses mainly on achieving top level and versatile research activities, and implementing the created potential for improving the development of Estonia and making its economic structure more research-intensive.



Screenshot from the journal “Nature”, 18 June 2015

Estonia has [an attractive environment for research, top-level infrastructure, and smart people](#). Estonian researchers are highly valued partners in international cooperation projects and nearly half of the publications by Estonian researchers have been published in collaboration with foreign colleagues.<sup>2</sup> They have also [successfully participated in Horizon 2020 projects](#), bringing nearly twice as much money home per researcher as the Member States (28) on average. With regard to this indicator, Estonia ranks fourth in the European Union.<sup>3</sup>

In 2015/2016, Estonia was in 30th place from 140 countries in the Global Competitiveness Index and the best among Eastern European countries. With respect to the indicators of higher education and research, Estonia placed even higher in the ranking – Estonian higher education is in 20th place and the quality of research institutions in 22nd place.<sup>4</sup>

The journal “Nature” analysed the situation of top-level research in Central and Eastern Europe in its June 2015 additional issue. In the article “Central and East Europe”<sup>5</sup>, the author drew attention to Estonia as a country highly distinctive from the rest of Central and Eastern Europe. Estonian research was brought to the international platform in the 1990s by the bold research policy reforms that occurred after the restoration of independence. These reforms enabled, in line with the Western world, implementing the competitive funding scheme that was based on scientific excellence.

The high quality of Estonian research and researchers is also visible in bibliometric indicators. In 2004–2014, according to Scopus the average number of references to articles by Estonian authors was 5% higher than the Essential Science Indicators (ESI) average.<sup>6</sup> For the articles published in 2008–2012 by Estonian authors, 13.51% (global average is 10%) reached the 10% of the world’s most cited articles. This result guarantees Estonia a place among the top twenty in the world (see Figure 1)<sup>7</sup>. The most cited fields according to WoS are [environmental sciences and ecology, biology and biochemistry, psychiatry and psychology, medicine, social sciences, engineering, neuroscience, molecular biology and genetics, chemistry, physics, and plant and animal sciences](#).<sup>8</sup>

In the period of 2002–2013, the number of publications by Estonian researchers that were published in the 10% of the most cited journals (having amounted to 592) almost tripled<sup>9</sup>. In 2003–2012, 12.8% of Estonian scientific publications were

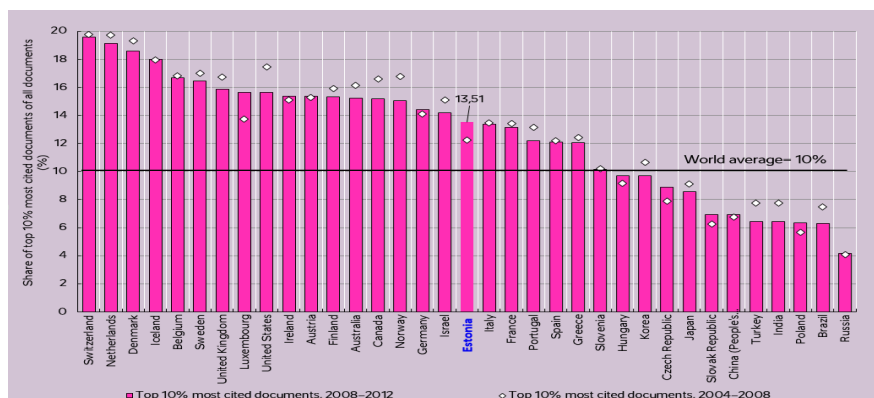


Figure 1. Proportion of the 10% most cited publications in 2008–2012 and 2004–2008. Source: OECD and Scimago Research Group (CSIC), Compendium of Bibliometric Science Indicators 2014, based on Scopus Custom Data, Elsevier, December 2014. (Figure 1.10)

printed in the top ten of the most cited scientific journals, whereas, in 5.4% of the cases, the primary author was an Estonian research institute, and in 7.4% of the cases, an Estonian working at an institution abroad<sup>10</sup>. Moreover, Estonian research has become more international. For example, from 2005 to 2014, the number of foreign researchers (see Figure 2) in institutional non-profit sectors has grown by almost seven times (from 62 to 426).<sup>11</sup>

**Most of the research is performed at universities.** The largest such public university is the University of Tartu, followed by the Tallinn University of Technology, Tallinn University, Estonian University of Life Sciences, Estonian Academy of Arts, and Estonian Academy of Music and Theatre.

**Estonian Academy of Sciences** is a union of scientists and scholars with a mission to develop and represent Estonian scientific research, help in implementing scientific data for improving the social and economic development of Estonian scientific research and the quality of life of Estonians, as well as in enhancing public appreciation of scientific research and scientific methods of thought in Estonia ([www.akadeemia.ee/en](http://www.akadeemia.ee/en)).

**Estonian Research Council** finances basic and applied research, and supports researchers' mobility and external cooperation. More information on the activities and grants for researchers is available on the Council's website ([www.etag.ee/eng](http://www.etag.ee/eng)).



Figure 2. Number of foreign researchers in institutional non-profit sectors over the years.

**Estonian Research Portal** incorporates information about Estonian research and development institutions, researchers, research projects, and the results of different research activities. At the same time, the Estonian Research Portal is meant for submitting different applications, reviewing submitted applications, as well as for approving applications and project reports ([www.etis.ee](http://www.etis.ee)).

The brand “Research in Estonia” was established to make the results of Estonian research also known internationally and to enhance cross-border collaboration. The target groups of the brand are international researchers, doctoral students, R&D administrators and journalists.

**More information and success stories about Estonian research are available at [researchinestonia.eu](http://researchinestonia.eu)**

## References

<sup>1</sup>Estonian Research and Development and Innovation Strategy 2014–2020 “Knowledge-based Estonia” [https://www.hm.ee/sites/default/files/estonian\\_rdi\\_strategy\\_2014-2020.pdf](https://www.hm.ee/sites/default/files/estonian_rdi_strategy_2014-2020.pdf), [16.3.2017].

<sup>2</sup>An overview of OECD’s scientific, technological, and industrial reports 2014–2015, [http://www.etag.ee/wp-content/uploads/2014/02/OECD-STI-2014-report\\_030316.pdf](http://www.etag.ee/wp-content/uploads/2014/02/OECD-STI-2014-report_030316.pdf), p 4 [16.3.2017].

<sup>3</sup>Source: Ministry of Education and Research (eCorda database, date of the extract 31 May 2016)

<sup>4</sup>The Global Competitiveness Report 2015–2016 <http://reports.weforum.org/global-competitiveness-report-2015-2016/>, [16.3.2017].

<sup>5</sup>Central and East Europe, journal “Nature” 18 June 2015, p S18 and S19

<sup>6</sup>Allik, J. Eesti teaduse lugu. “Akadeemia” 27<sup>th</sup> year of issue, 2015, No. 7, p 1221

<sup>7</sup>Source: OECD and SCImago Research Group (CSIC), Compendium of Bibliometric Science Indicators 2014, based on Scopus Custom Data, Elsevier, December 2014. (Figure 1.10)

<sup>8</sup>Allik, J. Eesti teaduse lugu. “Akadeemia” 27<sup>th</sup> year of issue, 2015, No. 7, p 1221

<sup>9</sup>Source: OECD (2014), OECD Science, Technology and Industry Outlook 2014, OECD Publishing, Paris, DOI: [http://dx.doi.org/10.1787/sti\\_outlook-2014-en](http://dx.doi.org/10.1787/sti_outlook-2014-en) [16.3.2017].

<sup>10</sup>An overview of OECD’s scientific, technological, and industrial reports 2014–2015, [http://www.etag.ee/wp-content/uploads/2014/02/OECD-STI-2014-report\\_030316.pdf](http://www.etag.ee/wp-content/uploads/2014/02/OECD-STI-2014-report_030316.pdf), p 5 [16.3.2017].

<sup>11</sup>Statistics Estonia [www.stat.ee](http://www.stat.ee) [16.3.2017].

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