EURAXESS – Researchers in Motion is an initiative of the European Research Area (ERA) that addresses barriers to the mobility of researchers and seeks to enhance their career development.

This pan-European effort is currently supported by over 40 countries, of which we will profile one in each of our quarterly EURAXESS Japan newsletters. In this edition, we will zoom in on Greece.

EURAXESS Members in Focus: Greece

Greece is a developed democratic country with a high standard of living. A founding member of the United Nations, Greece was the tenth member to join the European Communities (precursor to the European Union) and has been part of the Eurozone since 2001.

Research and Development in Greece

Greece has a number of research institutions conducting cutting-edge basic research. Five of the Top-50 research organizations that receive funding through the EU's Framework Programme for Research and Innovation (Horizon 2020) are from Greece[i]. The capacity of Greek research institutes to conduct excellent research is also reflected in the relatively good performance in terms of outstanding scientific publications[1]. Greece's performance (2015) is above the EU average for some individual indicators such as: international scientific co-publications (120% of the EU average), non R&D innovation expenditure in the private sector (127%), SMEs marketing/organisational innovations (124%) and innovative SMEs collaborating with others (120%)[2].

At the end of 2013 (most recent available data), **Gross Domestic Expenditure on R&D (GERD)** was at 1.47 billion euro, increasing from 0.67% of GDP in 2011 to 0.8% of GDP in 2013[3]. In the context of the revision of the National Reform Programme (for the year 2014), the Greek authorities have proposed a more ambitious target of as much as 1,2 % of GDP.[4] The Higher Education sector is the largest R&D performer accounting for 38.2 % of the total R&D expenditure in 2015. At the end of 2015, the Higher Education sector was composed of 22 public universities and 14 public Technological Education Institutes (TEI). In addition to public, there are 28 private universities of various types accredited by the Ministry of Education, Research and Religious Affairs operating in the country. There are 15 public research organisations, of varying sizes, supervised by the **GENERAL SECRETARIAT FOR RESEARCH AND TECHNOLOGY (GSRT).**

Greece is strategically located at the crossroads of Europe, Asia, and Africa.

The R&I strategy for the next programming period (**Revision of the implementation law (Law 4386/2016) of the National Strategy for Research, Technological Development and Innovation-ESETAK)**, which includes the **Smart Specialisation strategy (RIS3)**, focuses on the following priorities:

[i] *Foundation for Research and Technology Hellas (FORTH)- www.forth.gr/*

Center for Research and Technology Hellas (CERTH)- www.certh.gr/root.en.aspx,

National Center for Scientific Research "Demokritos"- www.demokritos.gr/?lang=en,

Institute of Communications and Computer Systems (ICCS)- www.iccs.gr/en/,

ATHENA Research and Innovation Center in Information, Communication and Knowledge Technologies- www.athena-innovation.gr/.

[1] *THE IMPACT OF RESEARCH ON GREEK ECONOMIC GROWTH, GERMAN INSTITUTE FOR ECONOMIC RESEARCH DIW ECON, NOVEMBER 2016*

[2] *RIO Country Report Greece 2016, Science and Policy Report by the Joint Research Centre, 2017*

[3] *RIO Country Report Greece 2014, Science and Policy Report by the Joint Research Centre, 2015*

[4] *Researchers' Report 2014 Country Profile: Greece, prepared by Deloitte*

- areas of traditional strength for the country (examples: shipping, tourism, energy)

- areas of recent successes in terms of critical mass and on-going activities (examples: IT, pharmaceuticals, engineering, energy);

- areas of high added value and able to deliver major economic benefit and employment prospects (examples: energy, nutrition – food sciences); and

- areas of national interest (examples: food production, archaeology, culture, energy, defence, biomedicine).

In total, 8 technological areas were identified matching the priorities; Biosciences, Agro-Biotechnology Nutrition, Energy and Environment, Computer Science and Mathematics, Physical Sciences, Engineering, Social Sciences and Arts and Humanities, with about 28% of the funding for the next programming period 2014-2020 allocated to Biosciences, followed by Engineering (18%) and Physical Sciences (12%)[5]. Approximately 27% of the total funding is expected to be dedicated to societal challenges.

Greek R&D Strategy

The **New R&D&I Strategy for the Programming Period 2014-2020**[6] aspires to strengthen the Greek research system (human capital and infrastructure), conduct research relevant to the needs of the country and thus make R&D an indispensable tool for the further development of the Greek economy. In this context, it is intended to launch programmes focusing on the development of human capital for research in a knowledge economy (including support to excellent researchers, support to mobility of researchers to work in enterprises, and support to training for innovation activities, as well as starting grants for new researchers).

Entrepreneurship and Innovation

The Business Sector is the second largest R&D provider of funds and performer in Greece (31.8% and 33.3% of the total GERD respectively). Based on EU2016 Industrial R&D Investment Scoreboard, **five Greek companies (one more than the previous year) featured among the top EU companies on R&D spending**: PHARMATHEN (Pharmaceuticals & Biotechnology, www.pharmathen.com), INTRALOT (Technology Hardware & Equipment, www.intralot.com/), the National Bank of Greece (Banks, www.nbg.gr), GALAXIDI Marine Farmand (fish farm, www.gmf-sa.gr) and Creta Farm (meat and deli meats, www.cretafarms.gr). A large number of SMEs and start-ups are also declaring R&I activities mainly in service and incremental innovations[7].

[5] *National Strategic Framework for Research and Innovation 2014-2020, National Council of Research and Technology*
[6] *Greek National Reforms Programme 2014, April 2014*
[7] *RIO Country Report Greece 2016, Science and Policy Report by the Joint Research Centre, 2016*

Greece has three University Business Incubators and 6 Science and Technology Parks: Technology & Science Park of Attika "Lefkippos"(www.demokritos.gr/Contents.aspx?CatId=60), Science and Technology Park of Crete (www.stepc.gr) , Thessaloniki Technology Park (www.thestep.gr), Patras Science Park (www.psp.org.gr), Epirus Science and Technology Park (www.step-epirus.gr) and Lavrion Technological and Cultural Park (www.ltp.ntua.gr). Technology Transfer Offices (called "Innovation Liaison Offices") exist in major Higher Education Institutions and in 64% of Public Research Organisations[7].

Establishment of a Foundation for Research and Innovation (ELIDEK) October 2016 by Law 4429/2016.

www.eib.org/projects/loan/loan/20150747

Enterprise Greece promotes investment and foreign trade in Greece

www.enterprisegreece.gov.gr/en/about-us

The main funding body is the General Secretariat for Research and Technology

(**www.gsrt.gr/**)

According to the National Reform Programme 2016, Greek enterprises are expected to increase their Business Expenditures on Research and Development (BERD) to approximately 0.38% of the GDP in 2020[6]. A large number of SMEs and start-ups have been undertaking R&I activities mainly in services and incremental innovations.

Brain drain has been recognized as a key challenge in the Operational Program for Competitiveness, Entrepreneurship and Innovation as well as the Greek Strategy for the European Research Area – Roadmap 2015-2020 (GSRT, 2016). The recently established (2016) **National Foundation for Research and Innovation (NFRI-ELIDEK)** in the footsteps of the National Science Foundation (NSF) of the US, and Germany's Deutsche Forschungsgemeinschaft (DFG) aims to address this challenge. The Foundation, co-sponsored by the European Investment Bank (EIB) and national funds, aims to fund combined with Greek national funds. The aim is to attract and to keep highly-qualified scientists in Greece, through funds devoted both to curiosity driven research and entrepreneurship & innovation. To this end, the Greek Research and Innovation Foundation will allocate 240 million euro by 2019[6].

Greece has valuable assets that contribute to the transition to an innovation-driven economy:

- leading research institutions,
- medium and high-tech firms, e.g. in the IT and pharmaceutical sector, as well as a certain number of innovative startups in the information technology sector in Athens,
- a considerable diaspora in research, finance and business

Enterprise Greece is designed to promote and support Greek exports of goods & services and investments in Greece.

Funding and Recruitment Opportunities

The government constitutes the largest R&D source of funds (in 2015, 52.7% of the GERD was funded by GOV) and the third largest R&D performer (after Higher Education Institutes and Business). The National Council for Research and Innovation (NCRI) is the supreme State advisory body for national policy for research, technology and innovation. The responsibility of funding research is shared between the Ministry of Education, Research and Religious Affairs and the Ministry of Economy, Development and Tourism. Funds coming from the EU Regional Operational Programmes fall typically under the competence of the Regional Authorities. The Ministry of Rural Development and Food supervises the National Agricultural Research Foundation (NAGREF), which undertakes research and technology in agricultural, forest, animal and fish production and other related areas in Greece. The Higher Education sector is the largest R&D performer accounting for 38.2 % of the total R&D expenditure in 2015. The Business Sector is the second largest R&D funder and performer in Greece (31.8% and 33.3% of the total GERD respectively) [6].

The new Law on Research Technological Development and Innovation acknowledges the pivotal role of the General Secretariat for Research and Technology (GSRT), part of the Ministry of Education, Research and Religious Affairs, in the design of R&D programmes and the allocation of funding.

Japanese citizens can stay in Greece visa free for 90 days but for working and long-term stays a residence permit is required. Greek Embassies and representations around the world: www.mfa.gr/en/appendix/greece-bilateral-relations/a.html

Important information for incoming researchers

EURAXESS Greece is a resource for foreign researchers who plan to come to Greece. Whether you are looking for information about work, study or everyday life in Greece, EURAXESS Greece covers all matters relating to your professional and daily life, job and funding opportunities. EURAXESS Greece is also a platform for researchers, entrepreneurs, universities and businesses.

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International Research Cooperation and/or Mobility Examples

International cooperation is sought primarily through bilateral agreements. Such agreements have been signed between Greece various countries in Asia and in other parts of the world. Currently, agreements are planned with Chile, Montenegro, and Azerbaijan[8].

Some examples of S&T cooperation:

- E-Rare-3 Call (www.erare.eu/) for proposals 2017: Transnational Research Projects for Innovative Therapeutic Approaches for Rare Diseases, to which 17 countries including Greece and Japan intend to participate in.

Agreements for Scientific Cooperation

- **Cooperation agreement between HOPE-A** (Hellenic Organic and Printed Electronics Association) **and JAPEC** (Japan Advanced Printed Electronics Consortium) signed on 5 July 2016. This Cooperation Agreement has opened new channels for effective collaboration, new cooperation opportunities, and mutual promotion of innovation activities between the HOPE-A and JAPEC members in OLED Lighting and the emerging technological field for Organic and Printed Electronics Applications in Energy.
- The **7th International Exhibition on Nanotechnologies**, Flexible Organic Electronics & Nanomedicine (www.nanotexnology.com) will take place from 3 to 7 July 2017 in Thessaloniki. Matchmaking events and a Business Forum are foreseen in the framework of Nanotexnology 2017.
- **Commitment** initially of EUR 37 million from the smart specialization strategy (RIS3), in order to finance the programmes under the bilateral agreements until 2020. Part of the government's priorities is the promotion of the cooperation programmes in other countries within and outside the EU[9].

[8] *R&I sector, Summarised Review, March 2015-August 2015, Ministry of Culture, Education and Religion, pg. 8*

[9] *HELLENIC REPUBLIC MINISTRY OF EDUCATION, RESEARCH & RELIGIOUS AFFAIRS GENERAL SECRETARIAT FOR RESEARCH AND TECHNOLOGY (GSRT), Greek Strategy for the European Research Area (ERA) National Roadmap (2015-2020), Athens, April 2016*