

**EURAXESS Korea  
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*Dear Readers,*

As we bid farewell to 2023, we are thrilled to bring you the final edition of our quarterly newsletter, a celebration of research and innovation featuring the captivating landscape of Italy. Join us on a journey through the scientific wonders and technological marvels that make Italy a true powerhouse in the realm of research.

In this edition, we delve into the EU's commitment to safeguarding research and innovation, exploring the intricacies of the European Global Approach to Research and Innovation. Discover how this comprehensive strategy ensures a delicate balance, propelling the EU forward in the pursuit of groundbreaking discoveries.

I extend my deepest gratitude to each and every one of EURAXESS Korea subscribers for your unwavering attention and support throughout the year. Your engagement has been the driving force behind my efforts to bring you the latest updates and insights from the European realm of international research collaboration.

As we approach the dawn of 2024, I wish you a year filled with creativity, innovation, and collaborative breakthroughs. May the upcoming year be a canvas for new ideas, partnerships, and discoveries that transcend boundaries and propel us into a future shaped by the collective brilliance of the global research community.

Thank you for being an integral part of EURAXESS Korea, and here's to a remarkable 2024!

Best regards,

*Tomasz Wierzbowski*

- *Tomasz Wierzbowski*, EURAXESS Korea Representative

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## EURAXESS members in focus: ITALY

Italy, officially the Republic of Italy, is a founding member state of the European Union, located in southwestern Europe. Italy is a unitary parliamentary republic and has a population of about 59 million, making it the third largest state in the European Union. The capital city is Rome.

The Italian national research system is composed of public and private entities that carry out scientific and technological research. The objective of the Ministry of University and Research (MUR), a department of the Italian government in charge of university administration and scientific and technological research, is to foster new knowledge, capacities, products and production processes.

To date, with 20 Nobel laureates, Italy ranks seventh in the world in terms of the number of citizens awarded this prestigious prize.

### Research and innovation in Italy

The Italian research and innovation (R&I) strategy is currently managed by the MUR. Nationwide, the Italian higher education system of universities and equivalent tertiary institutions are normally divided into three levels, with some exceptions.

There are 99 mostly state-run university institutions joined by the seven special-order universities of excellence, legally recognised traditional non-state universities, and several newer online universities.

High schools for linguistic mediators (SSML), which are legally recognised and authorised to award only first- and second-level degrees, complete this system.

In terms of numbers, Italy ranks fourth in the EU with about [161,000 researchers \(2022\)](#).

### National Research Programme 2021-2027

Italy has published its National Research Programme (NRP, 2021-2027), which is divided into system priorities, major areas of R&I and related areas of focus, national plans, and missions. The system priorities are designed to consolidate the strengths and overcome the weaknesses of the Italian research system. There are six core focus areas reflecting the six clusters of Horizon Europe while taking into consideration the National Strategy for Smart Specialisation. Research and innovation activities are also broadly aligned with the national context articulated through consultation with and contributions from the administrations involved.

The NRP guides research action carried out by central and regional public administrations. Together, through their respective competencies and specialties, they enrich the national R&I system. Local initiatives, contributions

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 43 countries, each of which will be profiled in our quarterly e-newsletters.

In this edition, we will zoom on Italy.



**Capital:** Rome

**Area:** 301,340 km<sup>2</sup>

**Population:** 58,853,482 million (2022)

**Language:** Italian with English widely spoken

**Currency:** EURO

**Unemployment rate:** 11.1%

**GDP per capita:** \$54,258



and realities as well as European and international dimensions of research are reflected in the NRP.

In fact, the NRP aims to foster greater harmony and more effective coordination of research policies at the European, national and regional levels, and to strengthen the presence and competitiveness of Italian researchers both in the European Research Area and on the world scene.

The NRP acts as a guiding document for research policies in Italy and a mechanism through which state administrations contribute to MUR priorities and overall coordination of different themes and programmes.



Discovery Italy at [italia.it/en](http://italia.it/en)

Largest universities:

[Sapienza University of Rome](#)

[University of Naples Federico II](#)

[University of Bologna](#)

[University of Turin](#)

[University of Padua](#)



Main research institutes:

[National Research Council](#)

[Italian Space Agency](#)

[National Institute for Astrophysics](#)

[National Institute for Nuclear Physics](#)

## Funding programmes and thematic areas

- **Basic research.** This aims to expand scientific and technical knowledge, even if not directly linked to immediate industrial or commercial objectives. However, its results can have very important spin-off applications.
- **Industrial research.** With the [Italian Ministerial Decree 593 of 26 July 2016](#) (issued following a profound process of revising the regulatory framework for funding research projects initiated by Legislative Decree 83 of 2012), MUR established new procedures to regulate the use and management of the Fund for Investments in Scientific and Technological Research (FIRST).
- **Projects of Significant National Interest.** The regulations for the funding of Projects of Significant National Interest include a new mechanism for allocating funds based on co-funding, group research work, and peer review.
- **Pre-commercial Procurement of Research and Development.** Recently, an intense debate has been taking place among insiders on how public procurement can better support R&D activities, i.e. new and more effective solutions.
- **Italian Science Fund.** The ISF supports fundamental research in the context of highly qualified research programmes to the tune of EUR 50 million for 2021 and EUR 150 million from 2022.

## Space research

Space represents a fundamental area of research with deep spillovers in the development of economies and the growth of nations including Italy. It is no longer considered as an adjunct or singular research sector, but rather as a connected economic activity or opportunity in a similar fashion to the telecommunications and satellite navigation market.

MUR is involved in this area through the funding of programmes and overall supervision of the **Italian Space Agency**, a national body established in 1988



Main research institutes:

[Zoological Station](#)

[Area Science Park](#)

[National Institute of Geophysics and Volcanology](#)

[National Institute of Oceanography and Applied Geophysics](#)

[National Metrology Institute](#)

[Enrico Fermi Study and Research Center](#)

[Italian Institute of Germanic Studies](#)

[National Institute of High Mathematics](#)



[nobelprize.org](http://nobelprize.org)

Giorgio Parisi, Nobel Prize in Physics 2021

with the aim of defining and implementing national space policy, addressing both the research and industrial sectors, and in line with governmental guidelines.

Through this Agency, Italy today plays a leading role both at the European level, where it is the third largest contributor to the **European Space Agency (ESA)**, and at the global level, thanks to its close collaboration with the US national space agency NASA. Indeed, Italy has participated in many of the more interesting scientific missions of recent years, including the International Space Station.

## Investment in research and innovation

About EUR 26 billion was spent on research and development in 2021. Due to the Covid-19 pandemic emergency, R&D spending by companies is expected to be lower in 2022, according to preliminary data. Analysts estimate that R&D investment will return to 2021 levels and beyond for 2023: business spending is expected to increase to around EUR 16 billion (+5.2% compared to 2022).

## Reasons to study/research in Italy

Four of the ten oldest universities in the world are located in Italy! They are the **University of Bologna** (1088), the **University of Padua** (1222), the **University 'Federico II' of Naples** (1224) and the **University of Siena** (1240). Europe's first **Conservatory** is also Italian and was established in Naples in 1808, and the world's first **art academy** was founded in Florence by Giorgio Vasari in 1563.

Italy's special and distinctive ability to combine tradition with innovation distinguishes the country. Indeed, a certain *savoir faire* has been handed down from generation to generation, a talent for turning the known or expected into something altogether new. Small and medium-sized enterprises make up 92% of active businesses and collectively contribute to Italy's commercial reputation and worldclass brands.

Moreover, thanks to its vital links to the Mediterranean, Italy has historically been at the centre of a continuous exchange of civilizations. A cultural flow that has made it rich in precious treasures, both tangible and intangible. Italy has 58 sites registered on the UNESCO World Heritage List, the highest number in the world.

## Science and technology international cooperation

The Ministry of Foreign Affairs and International Cooperation (MAECI) promotes the internationalisation of Italian research and scientific diplomacy as fundamental tools for the development of cooperation with the rest of the world.

MAECI firmly believes in economic development through innovation and support for scientific research, and that maintaining competitiveness in increasingly complex global markets requires the constant application of novel technologies to boost production processes and new products with high added value. From



this belief comes an increasingly careful use of resources in this field, as an investment for the country's growth, especially in the most innovative sectors, with positive economic and commercial spin-offs.

## Italian research collaboration with EURAXESS Worldwide countries

The General Directorate for the Promotion of the Country System, through the Central Directorate for Research and Innovation, makes use of a network of scientific officers and experts, mostly from state and public entities acting to boost excellence in scientific and technological research and support Italian companies operating in advanced technology sectors. Many of these agents and experts hold Italian diplomatic posts within Europe and across other regions, including the Middle East, Americas, Africa, Asia, Australia, and Oceania.

The main functions of the **scientific officers** are:

- supporting and developing bilateral cooperation, both in negotiations and implementation of executive protocols;
- promoting the Italian scientific and technological system;
- advising on the scientific systems and science policies implemented by accredited countries;
- collaborating with the INNOVITALIA IT platform and the RISeT information network;
- promoting and managing contacts with both Italian and Italian descended researchers working abroad and with foreign researchers;
- carrying out promotional initiatives for Italian science and technology;
- coordinating with Italian cultural institutes to organise events promoting Italian scientific culture;
- coordinating with embassy commercial offices, ICE Agency Offices and local chambers of commerce to promote the Italian high-tech industry.

A number of experts operate within Italian embassies in Washington and Prague, and the permanent representations to the European Union in Brussels. Other experts operate within international organisations in Paris as 'Space Matters Officers' to maintain effective contact between agencies and institutions responsible for space and aerospace, and to consolidate Italy's action and international cooperation in the field.



## Italian EURAXESS Centres

The Italian EURAXESS Centres and Local Contact Points provide free and customised assistance to all mobile researchers and their families seeking advice on issues related to their relocation across borders.

### **EURAXESS centres are spread throughout Italy:**

**Bologna** – Alma Mater Studiorum

**Cagliari** – University of Cagliari

**Camerino** – University of Camerino

**Catania** – University of Catania

**Cosenza** – University of Calabria

**Foggia** – University of Foggia

**Milano** – University of Milan

**Padova** – University of Padua

**Roma** – Agency for the Promotion of European Research (APRE); Italian National Research Council (CNR); The Conference of Italian University Rectors (CRUI); Libera Università Maria Ss. Assunta

**Siena** – University of Siena

**Torino** – University of Turin

**Trento** – Bruno Kessler Foundation; Edmund Mach Foundation

**Trieste** – Area Science Park

**Udine** – University of Udine

**Verona** – University of Verona

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# HOT TOPIC: Safeguarding European R&I, a delicate balancing act

*Building guardrails to deal with foreign interference has become a key talking point following publication of the EU's [Global Approach to Research and Innovation](#). In this edition of EURAXESS Worldwide newsletter we explore the context, latest developments, and tools Europe is using to achieve the fine balance between scientific openness and safeguarding strategic interests.*

Europe is making “significant progress” in its efforts to boost international cooperation in R&I while at the same time strengthening its leadership and safeguarding its strategic interests in the world, according to the first biennial [Global Approach Implementation Report](#).

The recently published report provides a snapshot of Europe’s performance in meeting its [strategic goals](#) according to themes identified in the 2021 Commission Communication launching the ‘Global Approach’ to international R&I cooperation in a changing world.

Progress has been reported in multilateral R&I cooperation to deliver science-based solutions promoting fairness in the green and digital transition as well as better security, preparedness, and responses to crises.

International partnerships to reduce strategic dependencies in key technological areas have been strengthened, and “strategic autonomy” in critical areas has been better factored into global value chains.

## New horizons for cooperation

Since the launch of [Horizon Europe](#) – the current framework programme – also in 2021, the EU has successfully implemented new provisions for scientists in non-EU countries to take part in funded framework programme initiatives, and established joint commitments with a number of partners to help shape global R&I governance.

Being formally accepted as ‘associated country’ to the EU’s framework research programmes means their researchers can participate in collaborative research, approved entities can join consortia applying for EU funds and may even take the lead in specific research initiatives (see which third countries are [associated to Horizon Europe](#)).

A clear mandate was added to Horizon encouraging ‘open access’ to publications and to make sure ‘open science’ principles are considered throughout, as explained in the related [Open science fact sheet](#). The seven-year programme also introduced a boost to “objective-driven and more ambitious partnerships” with industry, a widening remit for the [European Research Area](#),





and stressed the need for more multilateral research and ambitious missions to tackle global challenges.

## What does the Global Approach mean in practice?

WHAT IS THE AIM OF THE GLOBAL APPROACH TO RESEARCH AND INNOVATION (R&I)?	HOW WILL THIS BE ACHIEVED?
<p>To preserve openness in research and innovation international cooperation while promoting a level playing field and reciprocity underpinned by fundamental values.</p>	<p>Modulating bilateral cooperation in line with European interests and values and EU's open strategic autonomy.</p>
<p>To strengthen multilateral partnerships to deliver new solutions to green, digital, health and innovation challenges.</p>	<p>Accelerating sustainable and inclusive development, and the transition to resilient, knowledge-based societies and economies in low and middle-income countries.</p>
	<p>Using a <i>Team Europe</i> approach, with actions by the EU, its financial institutions and Member States.</p>

In the end it seeks a balanced approach to promoting open scientific cooperation with like-minded international partners while installing the necessary guardrails to protect the EU's strategic assets, interests, autonomy, and security.

But how did it come about? The Commission published the Global Approach Communication to signal its leading role in supporting multilateral R&I partnerships capable of delivering innovative solutions to the problems facing the world.

At the same time, it reaffirmed Europe's openness to purpose-driven R&I partnerships based on a common understanding of fundamental values and principles guiding them, including academic freedom, gender equality, and research ethics.

"Today, more than ever, global challenges require global solutions for which research and innovation act as catalysts," remarked Research and Innovation Commissioner Mariya Gabriel on the Global Approach. She added that the "openness in research cooperation that characterises our actions is nevertheless taking place in a transformed global environment". Promoting a "level playing field" in multilateral research needs to be based on reciprocity and mutual respect.



## Achieving balance on a level playing field

A level playing field means finding a balanced approach to better safeguard EU interests, but also to further boost collective resilience to global shocks, such as pandemics and climate crises.

It also implies more determined promotion of fair innovation ecosystems, open and transparent standard-setting, protection and the enforcement of intellectual property rights, and non-discriminatory use of state support for science and innovation. Preventing foreign interference in multilateral research is a critical component in maintaining this balance, too.

Strategic partnerships and negotiations over research association agreements with third countries are typically complex and time-consuming. To achieve consistent results, notes the European Commission, it is important to agree on targeted bilateral R&I roadmaps with priority non-EU countries, and to present guidelines on dealing with foreign interference targeting EU R&I and higher education organisations. Developing a code of practice on the smart use of intellectual property (IP) in an international context is also recommended.

## Foreign interference toolkit

A year after the Global Approach was launched, the Commission delivered a toolkit to help national research organisations and universities, in particular, tackle potential foreign interference in science and policy amid what [Science Business](#) called heightened “fears over technology espionage”.

At the request of several EU Member States, a set of guidelines were drafted as a toolkit to safeguard the Union’s fundamental values, key research findings, and intellectual assets. They form part of what is being described as a “constructive management approach” to relations with third-party countries and their access to EU research funding.

“The guidebook is also meant to underpin the newly revamped European Research Area, which the Commission sees as at potential risk from foreign interference because of its objectives of supporting free circulation of researchers, knowledge, and technology, and of supporting cooperation between all sectors in research and technology development activities,” notes [Science Business](#).

To protect European values, the guidelines encourage universities to identify countries and partner institutions that may not be respecting R&I values and principles, using a multi-step checklist arranged under several key themes (see box).



## EU toolkit tackling foreign interference

Foreign interference in R&I occurs when activities are carried out by, or on behalf of, a foreign state-level actor, which are considered coercive, covert, deceptive, corrupting and/or contrary to the sovereignty, values, and interests of the European Union.

Higher education institutions (HEIs) and research-performing organisations (RPOs) need a comprehensive strategy for tackling foreign interference that covers key areas of attention grouped into the four categories: **1) values, 2) governance, 3) Partnerships, and 4) cybersecurity.**

Several tips and steps are provided under each category, for example under the 'governance' section it is suggested that HEIs and RPOs publish a code of conduct for foreign interference under several headings:

- > academic freedoms, data security and intellectual property;
- > excellence and openness in research, teaching and support for learning;
- > ethics, integrity and trust;
- > procedures for identifying data breaches, ethically unsound research, etc.;
- > whistleblower protection; and
- > dealing with internal conflicts of interest.

It also recommends integrating foreign interference into existing institutional structures and responsibilities for awareness-raising through:

- > education and training;
- > monitoring of potential risks;
- > management of research data and intellectual assets in international cooperations;
- > providing advice and support to research groups involved;
- > risk management and risk mitigation; and
- > investigation of suspected incidences of interference.

Read the steps/tips for all four categories in the full toolkit ([staff working document](#)).

The guidelines emphasise awareness-raising within academia and R&I, noting that researchers may be unaware of their own vulnerability to foreign interference, or that security implications of some technologies may be complex or difficult to define, such as "dual-use" (civilian and military) innovations/technologies – specialist microchips, applications for artificial intelligence, biological agents, etc.

The toolkit is seen as being deliberately "country-agnostic", or geopolitically neutral, in order to achieve the delicate balance between encouraging the benefits of scientific cooperation and researcher mobility – whether tackling an



emerging disease threat or developing novel renewable energy solutions – while not leaving Europe exposed to risks associated with that relationship.

In the end, the guidelines are aimed to facilitate more responsible collaboration through awareness and by using the toolkit to identify the risks of foreign interference and learn how to respond.

## EURAXESS Worldwide and the Global Approach

During a series of workshops earlier in 2023 on the Global Approach and Horizon Europe, EURAXESS Worldwide (EWW) representatives were trained on the main issues affecting international cooperation in R&I, the increasingly important role of science diplomacy, what to look out for in terms of foreign interference and safeguarding European interests, and more.

Maria Cristina Russo, Director for Global Approach and International Partnerships at DGRTD (European Commission) pointed out the essential role of EWW in promoting the EU's research programme outside the EU, and the importance of building on concrete ways to enhance its relationships with global partners through Horizon's Pillar 2 projects addressing global challenges and European industrial competitiveness.

Martin Penny, head of DGRTD's International Cooperation I unit (Europe, Americas and thematic coherence) stressed at the workshop that openness in EU policies and programmes is an essential part of its strategy, and that EWW needs to continue promoting this but in "modular ways" adapted to different countries, regions, and themes.

It amounts to a more nuanced stand on "openness", where partnerships and cooperation should be based on a level-playing field to ensure fairness and incorporate accepted R&I values and principles.

He reminded EWW delegates that the Union reserves the right to restrict participation in certain "critical areas". In March 2023, only 3% (31 out of 900) of Horizon Europe topics were restricted under the specific clause (Article 22.5). "Only five are completely closed and are related to security and space," according to original reporting from the event, and may indeed still be open to associated countries and OECD members.

## Values and principles

These two words are used often in European policymaking. But what do they mean in the context of science diplomacy? In June 2022, the European Council set out a series of "[Principles and values](#) for international cooperation in research and innovation", including scientific freedom, gender equality, research excellence, and protection and enforcement of intellectual property rights in a changing world. EU leaders agreed to launch a multilateral dialogue with the EU's main partners on the basis of those principles and values with a view to ensuring "balanced and mutually beneficial international cooperation". This built



on the Council's recommendation on a [Pact for Research and Innovation](#), in November 2021, as a governance layer for the ERA.

Martin Penny emphasised during the training programme that such “principles and values” underpin research, how science works, and the whole science system. They are not a European preserve, he stressed, and they may be applied slightly differently from one country to another, even within the European Union.

Depending on adherence to these principles and values, the EU can “modulate its cooperation” accordingly, he said, and that Horizon’s Article 22.6 allows the Commission to restrict cooperation, but also to open and encourage closer collaboration for like-minded countries/regions, such as formal negotiations for association starting with Canada and formal agreement signed with New Zealand, in 2022 and 2023 respectively.



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