

Quarterly Newsletter Issue 2 2024

EURAXESS India
Newsletter is a quarterly
electronic publication. It
provides information
about conducting
research in Europe or
with European partners
and gives insights for
Indian and European
researchers who are
interested in the
European research
landscape.

Please email to india@euraxess.net for any comments on this newsletter, contributions you would like to make.

Editor Dr Samrat S. Kumar, Country Coordinator, EURAXESS India.

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World Fact Book

Location: Balkans

Population: 633,158 (2023

census)

Capital: Podgorica **Area**: 13,812 km²

Languages: Montenegrin (Albanian, Bosnian, Croatian,

Serbian in use)

Currency: Euro (de facto) **GDP (PPP)**: US\$28,002 (per

capita)

Economy: Largely serviceoriented, late-transition market economy

Innovation: 75th on Global Innovation Index (2023)

1 EURAXESS Country in Focus: Montenegro

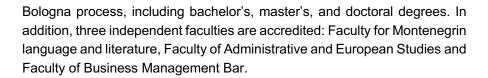
Montenegro, a burgeoning EU candidate country situated in the Western Balkans, is making significant strides in developing its academic and research sectors. Despite its size, this small nation has ambitious goals to foster a robust science, technology, and innovation (ST&I) environment, vital for its economic transformation and integration into the European Research Area (ERA).

Higher education

At the heart of country's academic landscape is the University of Montenegro (UCG), the largest and oldest public university in the country. Established on 2 April 1974, UCG serves as the primary hub for higher education, research, and artistic endeavours, enrolling nearly 20,000 students – representing 80% of the nation's student population. With its main campus in the capital city of Podgorica and additional campuses spread across seven other cities, UCG offers a wide array of programmes through its 19 faculties and three scientific institutes. The university's commitment to international cooperation is evident through over 137 bilateral agreements with universities in 41 countries, aligning its curricula with respected European standards as per the Bologna Declaration.

Complementing UCG are three private higher education institutions/universities: Mediterranean University, the University of Donja Gorica, and Adriatic University. Mediterranean University focuses on fields such as tourism, IT, and business, emphasising international collaboration. The University of Donja Gorica stands out for its strong emphasis on innovation and entrepreneurial studies. Adriatic University covers diverse areas including business, law, transport, communications, and maritime studies. Together, these institutions form the core of Montenegro's higher education system, offering accredited programmes that adhere to the

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Research and development

Montenegro's investment in research and development (R&D) has been gradually increasing, although it remains below the European Union average. The country's R&D expenditure rose from 0.3% of GDP in 2011 to 0.5% in 2018, with a total of approximately EUR 17.98 million spent in 2019. Of this, higher education institutions (HEI) received about EUR 6.56 million. This investment supports around 1,000 researchers, a number that includes a growing contingent of foreign researchers, reflecting the nation's efforts to expand its research capabilities and foster international collaboration.

Strategic initiatives and smart specialisation

Central to Montenegro's vision for economic and academic transformation is its <u>Smart Specialisation Strategy</u> (S3), which outlines targeted research priorities in sectors where the country holds a comparative advantage. These priority areas include energy and sustainable environment, sustainable agriculture and food production, sustainable and health tourism, ICT and digitalisation, and creative industries.

The strategy's overarching goals are to enhance innovation capacity, promote economic growth and diversification, create high-quality jobs, support sustainable development, and boost international cooperation.

- Energy and sustainable environment: Focuses on renewable energy sources like solar, wind, and hydro, alongside energy efficiency technologies and sustainable environmental management practices.
- Sustainable agriculture and food production: Aims to advance organic farming, integrate agro-tech innovations, and enhance foodprocessing and safety standards.
- Sustainable and health tourism: Develops eco-tourism and health and wellness tourism by leveraging Montenegro's natural resources, such as thermal springs, while preserving cultural heritage.
- ICT and digitalisation: Seeks to improve digital infrastructure and broadband connectivity, enhance e-government services, and support the growth of ICT startups and innovations.
- Creative industries: Encourages the growth of media, film, entertainment, design, fashion, and cultural arts sectors.

Legislative and policy framework

Montenegro has implemented comprehensive legislative frameworks to support its ST&I ambitions. Laws on the recognition of foreign qualifications and educational credentials facilitate international mobility and cooperation. Other significant legal developments include the Law on National Vocational

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Qualifications and the Law on National Qualifications Framework, which ensure that all qualifications meet both national and international standards. Additionally, the Law on Innovation Activities and the Law on Incentive Measures for the Development of Research and Innovation provide a robust framework for organising, financing, and stimulating innovation activities, thereby reducing bureaucratic hurdles and promoting economic growth.

Human resources and research development

Efforts to bolster Montenegro's human resources in research are evident in the increasing number of foreign researchers and the focus on developing a skilled workforce. The country hosts approximately 1,000 researchers, and various programmes aim to attract more international talent to enhance its ST&I capabilities. The strategic partnerships and collaborative projects funded through programmes like Horizon 2020, Horizon Europe, Erasmus+, and bilateral agreements further underpin Montenegro's commitment to advancing its research landscape.

Boosting innovation and international collaboration

Montenegro fosters innovation through several dedicated entities and initiatives. The main institution boosting innovation is the <u>Science and Technology Park Montenegro</u> (NTP), which supports startups and growing companies to accelerate their growth and development, conquer new markets and attract investments. In addition, the newly established <u>Innovation Fund of Montenegro</u> supports startups and SMEs with funding and mentoring, while the Innovation and Technology Hub – <u>Tehnopolis</u> in Nikšić provides incubation and acceleration services for startups. The Council for Innovation and Smart Specialisation oversees the implementation of S3, functioning as a strategic advisory body comprising members from state administration, local governments, businesses, and other stakeholders.

Montenegro's participation in international research projects and its strategic alliances with global partners underscore its commitment towards greater ERA integration. By focusing on its comparative advantages and fostering a collaborative research environment, Montenegro aims to drive sustainable economic growth, create high-quality jobs, and establish itself as an innovation-driven economy.

Digitalisation policies and ecosystem

Montenegro's <u>Digital Transformation Strategy 2022-2026</u> is a pivotal initiative aimed at enhancing its digital infrastructure and services, bolstered by an Action Plan for 2022-2023 that promotes swift adaptation to the digital environment and the proactive development of a digital society. Key policies supporting this transformation include a Programme for Improving the Competitiveness of the Economy, the Industrial Policy of Montenegro 2019-2023, and the Smart Specialisation Strategy (S3) 2019-2024, which particularly fosters greater innovation and ICT growth. The Ministry of Public Administration spearheads these digitalisation efforts, prioritising human-centred services and public-sector improvements through collaboration with

the private sector, academia, and civil society to bridge the digital divide and enhance digital skills.

Montenegro's innovation ecosystem is underpinned by robust programmes and legislation, notably the Law on Innovation Activities and the Law on Incentive Measures for the Development of Research and Innovation (Official Gazette of Montenegro 82/20). These acts provide a framework for organising, financing, and stimulating innovation, reducing bureaucratic obstacles, facilitating access to financing, and promoting economic growth. Complementary programmes, such as the Economic Reform Programme for Montenegro 2020-2022 and the Programme for Encouraging Innovative Startups 2019-2021, aim to stimulate the entrepreneurial ecosystem and promote digital solutions. The Programme of Measures Promoting Innovative Startups in Montenegro includes actions to remove statutory barriers, develop financial schemes, and attract talent to foster an entrepreneurial culture. Supporting institutions like the Montenegro Innovation Programme 2023-2027, which covers the entire innovation cycle from idea generation to commercialisation, and the Innovation Fund, a crucial financial instrument, are designed to bolster innovative entrepreneurship and enhance Montenegro's capacity to secure EU funds.

S&T international cooperation

Montenegro has established a national network of National Contact Points (NCP) to align with the European Research, Economic, and Green Agenda. In addition, the University of Montenegro is an active participant in various prestigious networks, enhancing its academic and research capabilities. These include the Ulysseus Network of European Universities, the European University Association (EUA), the Francophone University Association (AUF), the University Network of the Adriatic Ionian Initiative (Uniadrion), the Network of Universities of Small Countries and Territories (NUSCT), the Association of Balkan Universities (BUA), and the Inter-University Centre Dubrovnik. Furthermore, it collaborates with the European Security and Defense College (ESDC) and is a signatory of the Magna Charta Universitatum, underscoring its commitment to academic excellence and international cooperation.

Examples of successful collaborations

1. As mentioned, the University of Montenegro is a full member of the <u>Ulysseus network of European universities</u>, which aims to connect Europe's most prestigious HEIs to tackle today's major challenges by fostering innovation and creating territorial and digital innovation ecosystems. By participating in this network, which includes nearly 164,000 students, 20,000 academic and administrative staff, 87 faculties, 1,035 research groups, and 54 research centres, UCG enhances its networking opportunities within Europe and its ability to engage in interdisciplinary research projects. Ulysseus, led by the University of Seville and including universities from Italy, France, Slovakia, Austria, and Finland, strives to become the European university for future citizenship by promoting mobility, joint degrees, corporate internships, and impactful international research and innovation projects. The network, comprising 95 associated partners

ranging from long-established educational institutions to specialised business-technical universities, also focuses on entrepreneurship and academic innovation. Within the network, UCG coordinates the Cybersecurity Innovation HUB, further solidifying its role in cutting-edge research and innovation.

Regional Cooperation Council (RCC): With the support of RCC, UCG
has developed a significant document underpinning the <u>Policy for</u>
<u>Open Access to Research Infrastrcurure</u>. It was adopted in October
2020.

Researcher diaspora and alumni

In 2024, the University of Montenegro has established a dedicated <u>platform</u> to boost cooperation and better capitalise on the country's extensive (~90,000 from 1974 to 2024) researcher diaspora and alumni.

Co-funded by the European Union, this is a valuable part of UCG's broader <u>Internationalisation Strategy 2021-2026</u>, as well as its <u>Development Strategy 2019-2024</u>.

Contact details

EURAXESS Montenegro coordinator, Dr Srna Sudar, srna@ucg.ac.me





2 HOT TOPIC: Horizon Europe Missions ... what's the state of play?

When the European Commission launched its current research and innovation (R&I) framework programme – Horizon Europe (2021-2027) – much was made of a novel feature, called "missions", aimed at tackling some of society's greatest challenges.

The Horizon Missions were inspired by the United States' now famous 1960s 'moonshot' Apollo space programme which <u>NASA</u> today calls a "dramatic and ambitious goal [involving] enormous human efforts and expenditures to make [it] a reality by 1969".

Combining R&I with new forms of governance, citizen engagement and collaboration, the European Commission named five societal challenges to be tackled through its own series of moonshot missions: 1) cancer, 2) climate change, 3) healthy oceans/water, 4) climate-neutral/smart cities, and 5) soil health.

By design, the Horizon Missions were longer and bigger in scope than any one country or organisation could muster, and more than the sum of science and policy together.

Built to last...

Their clearly stated ambitions were to deliver concrete results using innovative, representative, sustainable and people-centred approaches guided by appointed experts assembled into dedicated Mission Boards. Anyone with an interest in a brighter future was encouraged to get involved, including scientists, entrepreneurs, citizen groups, schools, etc. And each Mission was given a specific timeframe and budget – depending on the complexity and size of the challenge.

It was at the inaugural *European R&I Days* (September 2020), that the appointed Mission Boards presented their first Mission Statements to the Commission, after lengthy consultation with stakeholders as well as citizens, learning about their expectations and needs through a series of events hosted across the EU.

The Missions were deliberately evocative and quite specific in a couple of cases:

Mission **CANCER**: save the lives of more than three million people, improve expectancy and quality of life

Mission **CLIMATE**: prepare Europe for adapting to climate change; create 150 climate-resilient regions and communities

Mission CITIES: 100+ model cities (living labs); turn all cities in Europe climate-neutral by 2050

Mission **SOIL**: contribute to the objective of 75% healthy soils in Europe; support 100 demonstration cases

Mission **WATERS**: clean oceans, seas and waters from pollution; restore eco-systems; foster a CO₂-neutral blue economy

Objectives of the five EU Missions of Horizon Europe until 2030, as depicted in the <u>Mutual Learning Exercise (MLE) on EU Missions</u> (a series of thematic reports have been produced on the national-level implementation of Missions, covering governance structures, mission portfolio analysis, funding instruments, and citizen engagement).

Feeling the pulse midway

EURAXESS Worldwide (EWW) provides an overview of the Missions' overall progress at what is just past the midway point of the seven-year Horizon Europe programme, and in the second part of this feature, we delve into the main (direct) health-related challenge, **Mission Cancer**.

The overview is drawn from an evaluation carried out in 2023 assessing the governance, funding structures, budget, and operations of each Mission. The findings are captured in individual Mission Area Reports as well as a consolidated summary review, all published in September 2023. A Commission Communication with supporting political messages and an outlook on the Missions' future was also drafted alongside a Staff Working Paper providing technical support for the review.

The "societal relevance" of the five Mission areas is uncontested, according to the consolidated report, "as they address complex challenges facing the EU that require action on the part of governments, businesses, education and research institutions, and civil society".

The review's authors add that the Mission areas are clearly interlinked and they call for "concerted action to optimise synergies in implementing Missions" backed up by "sustained R&I investment feeding new discoveries and more innovation to implement existing solutions".

There is also documented evidence that more interdisciplinary R&I is needed, including social sciences and humanities, and the authors encourage the adoption of solutions by specific user groups. It is felt that the "scope of each area is sufficiently broad to stand the test of time to the 2030 horizon addressed by each respective Mission".

Three policy recommendations are provided in the review:

- 1) Define Mission areas based on an objective evidence base (including assessment of mega-trends, foresight, etc.), and agree on criteria and the procedure for ranking alternative Mission areas, giving sufficient time and means for citizens to propose ideas that feed into a high-level policy debate and final decision.
- Mission area selection requires a deeper understanding of the social factors driving or hindering change, and the social innovations required to achieve it.

3) Structured or systematic updating and anticipating of the key trends and factors influencing the five Mission areas is important.

The findings underline both the magnitude of the challenge and the intricate interdependencies within the ecosystem of actors – scientists, citizen, policymakers, etc. – involved. For example, Mission Cancer alone involves researchers, healthcare providers and insurers, medical staff, hospitals/clinics, health ministries, agencies/authorities, patients and patient groups, among others.

MISSION ROUNDUP: BEATING CANCER ONCE AND FOR ALL

In this edition of EWW Newsletter, we offer a roundup of progress and actions under Mission Cancer. Its work focuses on improving our understanding of the disease – how to prevent, detect and diagnosis it earlier – while developing better treatment and support to boost the quality of life for patients and their families.

In 2020, 2.7 million people in the European Union were diagnosed with cancer, and another 1.3 million lost their lives to it, including over 2,000 young people. On present trends, cancer cases are predicted to increase by some 24% by 2035, making it the leading cause of death in the EU.

New and better R&I is a clear driver of progress under Mission Cancer. Major developments since the Mission was launched include the launch of Europe's Beating Cancer Plan and a new European Cancer Inequalities Registry (run by the EU's Joint Research Centre) to address disparities in cancer, Europe-wide.

The Mission supports projects in novel treatments, personalised medicine, digital health, and more. It also underscores the importance of public engagement, raising awareness, and involving patients in the research process.

The Mission Board for Cancer provides strategic guidance and collaborates with the <u>European Health Data Space</u> to leverage datasets for better cancer outcomes, as demanded under the <u>European Health Union</u> – where Member States "work together to improve prevention, treatment and aftercare for diseases such as cancer" and in tackling medical crises, meeting demand for medications, etc.

The Commission's Research Directorate-General has a dedicated <u>Mission Cancer</u> website with a wealth of information for EWW members, including opportunities for research, innovation, technology and actions to tackle cancer. Consult the EU's <u>Funding and Tenders Portal</u> and especially the <u>EU4Health Programme</u> for future actions and updates.

The Commission website also signposts cancer-related R&I project results (total EU-funding well over EUR 4 billion) that can be found on the <u>CORDIS</u> platform, including 46 projects working together in clusters and supported by Mission Cancer.

Other project references can be consulted via the Digital Europe programme including the <u>European Cancer Imaging Initiative</u> and related projects such as <u>EUCAIM</u> (federated European data infrastructure for cancer images), <u>QCLN</u> (cybersecurity in the health sector), and <u>GDI</u> (genomic data infrastructure).

Another noteworthy theme supported by the European Regional Development Fund's (ERDF) Interregional Innovation Investment (I3) Instrument is *I3 Strand 1*, which called for projects to "unlock digital growth potential", deploy solutions for improving the accessibility and efficiency of services, and to bridge the persisting digital divide.

The call covered three main areas: digital economy and innovation; digitalisation of public administration; and **digitalisation of healthcare**. And according to the 'Europe fit for the digital age' Strategy, the now closed call for proposals targeted investments in businesses, administrations, and for citizens.

Several EU-funded projects are using artificial intelligence (AI) to tackle cancer and improve patient quality of life, such as <u>ASCAPE</u>, <u>PANCAIM</u>, <u>QUALITOP</u>, and <u>CLARIFY</u> (see also the <u>blog</u>). All of these were previously featured as part of the <u>European Week Against Cancer</u>, hosted by the Association of European Cancer Leagues (ECL) and celebrated at the end of May (read the article on the European Health and Digital Executive Agency, <u>HaDEA</u>, website 'EU health research projects using AI to improve cancer treatment and patients' quality of life').

<u>Cancer Patients Europe</u> is also a useful reference point for more initiatives, including R&I developments, in this area.

Europe's Beating Cancer Plan

Five years ago, Commission President von der Leyen committed to a new European strategy supporting Member States and stakeholders in their efforts to tackle cancer and reduce the suffering it causes. This led to the Beating Cancer Plan which was eventually adopted in February 2021. The Plan focuses on four key pillars: (1) prevention; (2) early detection; (3) diagnosis and treatment; and (4) quality of life of cancer patients and survivors. Indeed, advances in cancer detection, treatment and care have markedly improved survival rates over the past 20 years. See cancer-related projects on EU4Health and follow debates on survivors' 'right to be forgotten'.

The right to be forgotten...

While data, digital technology and increasingly AI are heralded in some circles for their power to tackle disease, others are expressing concern about the way data is used not only before and during cancer patients' medical journey but also after they have been given the all-clear.

Today, there are more than 12 million people with a history of cancer in Europe alone, thanks largely to advances in science and improving healthcare management. But for people who beat the scourge, their health records can impact their future employment prospects, access to finance, and other socio-economic interactions.

A feature of the General Data Protection Regulation (GDPR) in Europe is the "right to be forgotten" (RTBF), principally meaning the removal of personal data from the internet. For people with experience of cancer or other severe medical conditions, the application of RTBF principles paves the way to fairer access to financial services – long-term loans, mortgages, health insurance – as they return to normal life.

A survivor code

On 14 May, a high-level EU-hosted event directly addressed the subject of 'Cancer survivorship: advancing the right to be forgotten'. To date, 12 Member States have adopted legislation or voluntary measures on cancer survivors' RTBF after a designated time. Five of them – France, Belgium, Netherlands, Luxembourg, Italy – also apply a grid reference system to codify this right.

While some countries favour legislation, Commission representatives at the May event noted certain advantages – more tailored and nuanced outcomes – emerging from a voluntary industry code of conduct. Using national reference grids as a starting point, it was suggested that an EU-backed version of the code could provide a fast and effective solution for the 15 Member States with no RTBF mechanism currently in place.

3 In case you missed it...

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