

10 Science, technology and innovation

An effective institutional and policy context for science, technology and innovation (STI) is essential to boost the knowledge economy. This chapter, along three sub-dimensions, analyses the overall STI trends and performance in the region, the development of sustainable and impactful STI policies and processes. The first sub-dimension, STI system, assesses the STI regulatory framework and strategies, including smart specialisation strategies and the institutional framework for STI policy. The second sub-dimension, public research systems, analyses the governance of the public scientific research sector, funding approaches and human resource capacity to foster academic research excellence. The third sub-dimension, knowledge exchange and co-creation, assesses policies that support integration between scientific research and the private sector, which is critical for technology transfer, as well as policies and initiatives to promote European and regional collaboration in STI.

Key findings

Albania has made progress in the science, technology and innovation (STI) policy dimension since the previous Competitiveness Outlook (Table 10.1). In particular, the overall policy framework for STI has strengthened and public funding for STI-related activities increased, albeit from very low levels. With an overall score of 2.4, Albania continues to perform better than some of its regional peers, but scores just below the WB6 average, and falls significantly behind the regional innovation leader, Serbia. Further efforts are required to create an environment conducive to public-private sector co-creation that fosters knowledge and technology transfer.

Table 10.1. Albania's scores for science, technology and innovation

Dimension	Sub-dimension	2018 score	2021 score	2024 score	2024 WB6 average
Science, technology and innovation	9.1: STI system			2.8	2.9
	9.2: Public research system			2.5	2.5
	9.3: Knowledge exchange and co-creation			1.8	2.0
Albania's overall score		1.3	1.8	2.4	2.5

The **key findings** are:

- Albania adopted a new STI strategy in 2023; the successor to one that expired in 2022, it contains a number of important objectives aligned to the European Research Area (ERA). The economy's first Smart Specialisation Strategy (S3), however, is still being developed.
- In 2022, Albania participated for the first time in the European Innovation Scoreboard, demonstrating improvements in collecting STI-related data. Nevertheless, insufficient quality and granularity of statistical data, particularly on gross domestic expenditure on research and development (GERD), continue to hinder evidence-based STI policy making and monitoring.
- While the availability and scope of financial support schemes in Albania have increased, the funding methodology for scientific research remains non-systematic. A forthcoming Law on Scientific Research envisages a new methodology for public research funding, which could provide transparent criteria for funding allocations and more competitive-based funding for research activities in the medium term.
- Both financial and (particularly) non-financial incentives to stimulate business-academia collaboration remain limited. Some support schemes are run by the National Agency for Scientific Research and Innovation (NASRI), including a pilot finance scheme, but more efforts are needed to increase the mobility of researchers, strengthen the infrastructure of collaboration and encourage co-creation via targeted intellectual property (IP) incentives.
- Albania has taken some steps to support open access to science, but further work is required to adhere to open science principles.

State of play and key developments

Science, technology and innovation (STI) capacity in Albania requires continued development and investments, although a comprehensive assessment of the state of play of STI in Albania remains difficult amid the absence of statistical data. While figures are not systematically captured, overall investment into research and development (R&D) remain low and scientific research outputs remain limited with the number of national patent applications stagnant. In contrast, however, participation in regional and international research collaboration programmes, including Horizon Europe, is increasing, albeit from very low levels and with limited private sector participation. According to the European Innovation Scoreboard, Albania is an emerging innovator; its performance, however, has been decreasing and stood at 41.1% of the EU average in 2023 (European Commission, 2023^[11]).

Sub-dimension 9.1: STI system

Albania's strategic **STI policy framework** remains well developed and aligned to European good practice, although it falls short of specifically addressing emerging trends such as digitalisation, sustainability, or emerging technologies. Following expiration of the National Strategy for Scientific Research, Technology and Innovation (2017-22), a new National Strategy on Scientific Research and Innovation covering the period 2023-30 was approved in 2023. The strategy envisages a gradually increasing annual budget of up to ALL 3.7 billion (around EUR 36 million) to be implemented by 2026, thereby addressing funding shortcomings identified in a 2019 midterm review of the implementation of the previous strategy. The new STI strategy also puts forward a number of recommendations from an interministerial working group set up in 2021 to oversee monitoring and evaluation of the STI strategic framework. In 2022/23, this working group concluded an assessment providing recommendations in line with the ERA's priorities, such as ensuring open online access for all publicly funded scientific publications and creating legal and fiscal incentives to encourage businesses to finance scientific research. The policy framework is complemented by the Business Development and Investment Strategy (2021-27), which places strong emphasis on small and medium-sized enterprise (SME) innovation and links between industry and academia to spur economic growth. In 2022, legislation on start-ups was adopted, which facilitated the establishment of a start-up agency and regulation of digital nomads. Lastly, Albania also adopted a Digital Action Plan for the period 2022-26, which however focuses primarily on the development of digital skills for the general public, and less on the development of digital technology.

The **institutional framework** to oversee and implement STI policy has slightly improved since the previous Competitiveness Outlook assessment. A newly proposed Ministry of Economy, Culture, and Innovation, once set up, will fully oversee innovation policy, while the Ministry of Education and Sports formally leads the design and implementation of scientific research-related policies. The aforementioned interministerial working group, established in 2021, aims to co-ordinate STI policy measures and implementation; its efforts build on the impact assessment of the previous STI strategy, which constituted an important milestone in ensuring that STI priorities and future activities are aligned and co-ordinated. Furthermore, the Agency for Innovation and Excellence was established in 2023 with the aim to promote innovation and support policy formulation by the planned Ministry of Economy, Culture, and Innovation in this area. While the agency's establishment is encouraging and underlines the government's commitment to building a knowledge economy, it will be important to ensure efficient co-ordination across ministries, as well as clear responsibilities for the respective institutions.

The National Agency for Scientific Research and Innovation (NASRI) and the Albanian Investment Development Agency (AIDA) remain the key implementation vehicles, and have expanded activities since the previous assessment. Although the institutional capacities of both agencies are improving, the overall availability of funding to implement effective and sizeable policy measures remains limited (see Chapter 2 for more information on AIDA).

In addition, Albania has started participating in the European Innovation Scoreboard in 2022, marking a significant opportunity for the economy to enhance data collection and better inform STI policy making. In an effort to improve data collection for gross domestic expenditure on research and development, the National Statistical Institute of Albania (INSTAT) in 2021 conducted surveys across the private sector, public sector bodies, higher education institutions (HEIs) and non-profit organisations to collect information on funds allocated for research and development (R&D). However, the outputs were unsatisfactory as both public and private entities did not report data, or values were not representative. While the overall quality and granularity of data continue to pose an obstacle for evidence-based policy making, the authorities conducted the surveys again in December 2023, with the results still being processed at the time of writing.

There has been limited progress made in the development of Albania's first **Smart Specialisation Strategy (S3)**. Under the auspices of the Office of the Deputy Prime Minister and with the support of a national S3 team, the Entrepreneurial Discovery Process (EDP), in line with the European Commission's Joint Research Centre (JRC) methodology, was finalised in 2023. The S3 process identifies, among others, energy efficiency, information and communication technology, and the blue economy as key crosscutting priority areas. Albania is currently in the process of drafting the S3 strategy, which it expects to adopt by June 2024.

Sub-dimension 9.2: Public research system

While further steps towards promoting **public research excellence** have been taken since the previous assessment, Albania's overall scientific research and innovation capacity remains low. The impact assessment of the 2017-22 STI strategy identified several shortcomings in R&D, including an incomplete legal framework and insufficient public spending for scientific research, limited links between academia, industry and government, and shortcomings in the fields of open access and open data. The new 2023-30 STI strategy aims to address some of these findings, while the forthcoming Law on Scientific Research will establish new rules and procedures for the organisation and operation of the public research system in Albania. It is also expected to lay the ground for introducing a new methodology for public sector research funding, which may reduce the chronic funding gap in the system. Currently, public sector research institutions, including HEIs, are funded through institutional block funding and some competitive grants distributed through NASRI, but available information on their funding methodology and mix is limited.

Albania has demonstrated some effort in increasing funding for scientific research. However, despite an increase from 0.04% and 0.05% in 2021 and 2022 respectively to 0.08% of GDP in 2023, public research funding remains significantly below the government's explicit target of 1% of GDP by 2030 (a target prolonged from initially 2022) (European Commission, 2023^[2]). In the absence of data on GERD, a full analysis of the economy's performance in scientific research remains incomplete.

Albania is chronically affected by brain drain, undermining the development of **human resources for research and innovation**. NASRI administers a number of programmes to develop researchers' skills, including on proposal writing, applying for research programmes, and project management, which is an important step in recognising and addressing shortcomings in this policy area. Improvements have also been made to increase linkages with Albania's diaspora so as to support the development and capacity of human resources in research and innovation. In 2021, an online platform was established to leverage Albania's diaspora for brain circulation. With support from the Albanian-American Development Foundation, the fellowship programme "Research Expertise from the Academic Diaspora (READ)"¹ with the purpose to support curriculum co-development, Ph.D. supervision and capacity building. A first call took place in 2022, but no further information has been made available. Nevertheless, actions to foster Albania's human research capacity remain ad hoc and limited in size. No support is available for research mobility, and there have been few efforts to increase the overall attractiveness of scientific research as a profession. Since the last Competitiveness Outlook assessment, only one Albanian research institution participated in the Marie Skłodowska-Curie Action (MSCA),² making it four in total by March 2024.

Albania has made efforts to promote **international and regional collaboration** in STI policy. The economy's participation in the EU Framework Programmes for Research and Innovation has improved, and the economy is fully associated with Horizon Europe. While 38 Albanian organisations have to date participated in Horizon Europe, receiving over EUR 5.81 million in EU contributions, most beneficiaries remain public bodies and HEIs, with only few private firms (including only two SMEs) successfully participating in the scheme (European Commission, 2023^[31]). Since the last assessment, Albania has also officially joined the Eureka platform, and collaboration with European Cooperation in Science and Technology (COST) is improving; however, the economy does not participate in the European Strategy Forum on Research Infrastructures (EFSRI). In May 2023, a new centre for innovation called the Pyramid of Tirana was opened to the public. The centre will house a TUMO Centre for Creative Technologies, providing educational programmes for young people in the region in areas such as robotics, animation, game development, music, and film. Despite overall progress in promoting international and regional research collaboration, there is potential for Albania to further improve linkages with European partners in order to engage more closely in international research projects under the auspices of the ERA.

A good-practice example of regional research co-collaboration is NanoALB (Box 10.1), which launched activities in 2020 under the auspices of the Academy of Sciences of Albania. It is a virtual centre that coordinates research activities in nanoscience and nanotechnologies across HEIs in the region.

Box 10.1. NanoALB

NanoALB is a virtual centre established under the Albania Academy of Science with the goal of co-ordinating activities in the area of nanoscience and nanotechnology in Albanian universities across four economies in the region: Albania, Kosovo, North Macedonia and Montenegro.

The key objective of NanoALB is to strengthen the R&D activities in nanoscience and nanotechnology and enhance collaboration and synergies among the various research organisations and industries in the region. To achieve this objective, NanoALB offers academic courses in nanotechnology and its application in health and the pharmaceutical industry, environment, food and agriculture, as well as safety and security. Moreover, it offers Ph.D. research opportunities and promotes knowledge sharing and dissemination to a younger generation of scientists and students, through seminars, conferences, workshops and meetings. Most notably, it has organised an annual nanoBalkan international conference each year since 2021, bringing together regional and international experts to discuss the latest trends and developments in nanotechnology.

Source: NanoALB (2024^[4]).

Sub-dimension 9.3: Knowledge exchange and co-creation

Albania has made efforts to set the foundations for future linkages between scientific research and industry. Stimulating knowledge exchange and co-creation is a cornerstone of the forthcoming National Strategy on Scientific Research and Innovation (2023-30) and the planned Smart Specialisation Strategy, particularly in industries such as agriculture and fishery, energy, services and manufacturing. These efforts are complemented by the Business Development and Investment Strategy (2021-27), mentioned above.

Although national STI strategies, particularly the OECD-led Triple Helix Action Plan, contain well-designed **incentives for business-academia collaboration**, the implementation of these provisions is not advancing and financial incentives have remained largely absent. Some recent efforts have been made when NASRI in 2023 launched on a pilot basis a dedicated call for proposals to implement a university-business co-operation programme. Of 20 received applications, 10 were selected from priority sectors and

awarded over ALL 17 million (approximately EUR 167 000). In addition, a number of Albanian-Italian technological and scientific research projects are currently being supported under NASRI. Moreover, the new Law on Scientific Research, once adopted, foresees provisions to establish a regulatory framework to facilitate grants in support of joint research activities for businesses and academia. AIDA's dedicated Innovation Fund has not yet resumed financing activities following funding suspension during the COVID-19 pandemic, but there are plans to reactivate innovation programmes in 2024. As a result, a voucher scheme established in 2018 promoting innovation in SMEs that had awarded over EUR 2.5 million to 58 enterprises has also halted activities. In 2023, the Swedish and EU-supported Challenge Fund, aimed at innovative start-ups, launched operations.

Non-financial incentives to stimulate collaboration between the private sector and public research institutes remain limited, with no progress or planned policy measures reported since the previous assessment cycle. Despite mobility schemes being included in the 2017-21 action plan to support the development of innovative policies based on the Triple Helix approach, efforts to develop targeted mobility schemes in order to increase exchanges between academia and businesses are still needed. Likewise, researchers are not incentivised to collaborate with businesses during research activities, as performance is purely based on conventional assessment criteria such as the number of publications and citations.

A new IP strategy (2022-25) has been adopted since the previous assessment and amendments to the Law on Copyright have aligned Albania's IP framework further to the EU *acquis*; however, no specific provisions are included to favour business-academia collaboration. Albania's General Directorate of Industrial Property (GDIP) provides services that support patent counselling and commercialisation of intellectual property, and works closely with universities to raise awareness about IP, but does not provide incentives or support for co-creation. Scientific research outputs continue to be limited overall, with little development in the number of national patent applications. Since 2020, six patent applications have been filed with the European Patent Office, of which only one patent was granted (EPO, 2022^[5]).

There has been minor progress since the previous assessment cycle to establish a research and innovation **(R&I) infrastructure for business-academia collaboration** in Albania. With support from the Regional Cooperation Council (RCC), Albania has mapped its R&I infrastructure and produced a roadmap in 2022. This roadmap focuses, among other things, on developing an action plan for further developing R&I infrastructure, increasing funding, and raising participation in pan-European research projects, as well as facilitating regional mobility for researchers. In the same year, a law was adopted to establish a legal basis for the organisation and operation of science and technology parks (STPs) in Albania, although there are no concrete plans to establish any STPs to date. Several Technology Transfer Centres (TTOs) operate throughout four universities; however, these mainly function as information centres, linked to the GDIP's activities. Tirana Inc., a collaborative project of Albania's five leading universities supported by EU funds to foster entrepreneurship and innovation among university students, was created in 2021. The project could contribute to further exchanges and collaboration opportunities between industry and academia in the medium term, although it has yet to show tangible results.

Initial steps have been taken to foster **open science**. Albania is a member of the European Open Science Cloud, and key principles of open science are embedded in the forthcoming Law on Scientific Research. The Albanian Initiative for Open Science, operated by the Academic Network of Albania (RASH) and part of the framework of National Initiatives for Open Science in Europe (NI4OS Europe), encourages and works with national universities to promote and institutionalise open access to science. Moreover, a new National Register of Scientific Journals³ has been set up – but still needs to become fully operational – to enable open access to all publicly funded scientific research, but also to better analyse and monitor overall research quality in the economy. Efforts are also under way better to define criteria for the publication of scientific research.

Overview of implementation of Competitiveness Outlook 2021 recommendations

All recommendations made in the previous Competitiveness Outlook have been partially addressed or implementation is in progress (Table 10.2). Albania's STI policy framework is being strengthened but remains incomplete, with the Smart Specialisation Strategy still under development. Investments into R&D are expected to increase further in the coming years, and progress has been made to improve statistical data collection to inform STI policy making better. Nevertheless, knowledge exchange and co-creation remain weak, most notably due to the lack of incentives to stimulate linkages between academia and businesses.

Table 10.2. Albania's progress on past recommendations for science, technology and innovation

Competitiveness Outlook 2021 recommendations	Progress status	Level of progress
Prioritise implementation of the existing STI policy framework	An interministerial working group was set up in 2021 to oversee and monitor Albania's National Strategy for Scientific Research, Technology and Innovation (2017-22). An ex post assessment identified achievements and shortcomings, which significantly contributed to streamlining the governance of the STI framework. The new STI strategy 2023-30, which is aligned with the priorities of the European Research Area, was approved in September.	Strong
Finalise the development of the Smart Specialisation Strategy	The development of a Smart Specialisation Strategy is progressing but remains unfinished.	Moderate
Increase investment in public sector research	Public spending on scientific research has increased substantially since the previous assessment, but continues to fall short of the economy's target of 1% of GDP. The forthcoming Law on Scientific Research is designed to enable a more systematic approach to funding research and development.	Moderate
Expand data collection to support evidence-based STI policies	In 2022, Albania participated in the European Innovation Scoreboard for the first time, albeit with limited data. STI-related data continue to be incomplete and of low quality.	Limited
Improve the incentive structure to encourage academia and businesses to seek co-operation with each other	A number of financial instruments have been piloted to facilitate closer business-academia collaboration. A new law on science and technology parks has been adopted in 2022; however, no concrete plans currently exist to build any STPs.	Limited

The way forward for science, technology and innovation

Albania has made some progress in the areas of science, technology and innovation since the last CO assessment. Albania should focus on the following to maintain momentum and further improve the economy's STI performance.

- **Accelerate adoption of the Smart Specialisation Strategy.** Albania has taken major steps in developing the Smart Specialisation Strategy (S3) and clear ownership has been established. The economy should maintain momentum and ensure the swift finalisation and adoption of the S3 strategy to complete Albania's STI policy framework. Similarly, an action plan with clear short- and medium-term targets and sufficient resources to implement the S3 strategy should be developed. Securing international donor support can help build continuous implementation capacity.
- **Improve quality and availability of statistical data related to STI,** including the indicator on GERD. Comprehensive statistical data are an important tool for the design and monitoring of policy measures. While INSTAT is already taking important steps to improve and align data collection to Eurostat methodology, capacity-building support will be required to support research and

development institutions, private sector players, HEIs and public bodies in producing consistent high-quality data. Participation in the OECD STIP Compass database can provide further assistance.

- **Increase public investments in research and development activities.** It will be important for the government of Albania to adhere to its commitments made as part of the new STI strategy (2023-30) to gradually increase public funding to ALL 3.8 billion by 2026 and ALL 4.5 billion in 2030. This will ensure the sustainability of policy measures introduced in the early years of implementation and provide certainty to the research community and private sector seeking to invest in R&D activities. The allocation of funding should be merit-based and in co-ordination with all relevant stakeholders. Moreover, financial incentives should particularly target research on strategic priorities such as digital development and net-zero.
- **Develop more systematic incentives to stimulate business-academia collaboration.** Financial and non-financial incentives to stimulate more exchange between academia and industry should be deployed in tandem. The authorities should work with public research institutions and private sector bodies to identify platforms for exchange, encourage mobility of researchers and create physical spaces for co-creation. The adjustment of Albania's IP regulatory framework to incentivise the commercialisation of research in favour of the creator should be another non-budgetary support mechanism to consider.

References

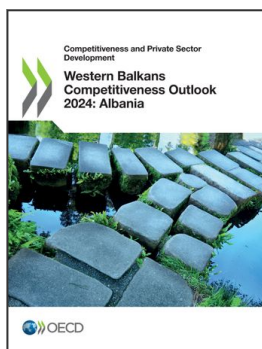
- EPO (2022), *European Patent Office: Country Dashboard*, <https://www.epo.org/en/about-us/statistics/statistics-centre#/countrydashboards?code=AL>. [5]
- European Commission (2023), *Albania Report 2023*, European Commission, https://neighbourhood-enlargement.ec.europa.eu/albania-report-2023_en. [2]
- European Commission (2023), *European Innovation Scoreboard 2023: Country profile Albania*, European Commission, https://ec.europa.eu/assets/rtd/eis/2023/ec_rtd_eis-country-profile-al.pdf. [1]
- European Commission (2023), "Horizon dashboard", <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/horizon-dashboard>. [3]
- NanoALB (2024), *Home*, <https://nanoalb.al/nanoalb/> (accessed on 22 May 2024). [4]

Notes

¹ More details on Albania's fellowship programme "Research Expertise from the Academic Diaspora (READ)" to strengthen ties with the diaspora can be found here: aadf.org/launching-event-of-read-program-research-expertise-from-the-academic-diaspora.

² Marie Skłodowska-Curie Actions (MSCA) is an EU programme that provides grants to support research careers and encourages transnational, intersectoral and interdisciplinary mobility (ec.europa.eu/programmes/horizon2020/en/h2020-section/marie-sklodowska-curie-actions).

³ The Nation Register of Scientific Journals can be accessed here: research-scientific.arsimi.gov.



From:
**Western Balkans Competitiveness Outlook 2024:
Albania**

Access the complete publication at:

<https://doi.org/10.1787/541ec4e7-en>

Please cite this chapter as:

OECD (2024), "Science, technology and innovation", in *Western Balkans Competitiveness Outlook 2024: Albania*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/a45245a8-en>

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. Extracts from publications may be subject to additional disclaimers, which are set out in the complete version of the publication, available at the link provided.

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at <http://www.oecd.org/termsandconditions>.