European Commission

ERA Country Report 2024
Greece

Independent
Expert
Report

Research and Innovation

ERA Country Report 2024: Greece

European Commission
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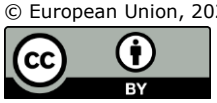

EUROPEAN COMMISSION

ERA Country Report 2024

Greece

This report was prepared by

Nikos Maroulis, Technopolis Group

as part of the project ‘Implementation of the ERA Monitoring Mechanism’ for the European Commission, Directorate-General for Research and Innovation (RTD/2023/OP/0017)

2025 Directorate-General for Research and Innovation EN

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Key takeaways

- Greece's commitment to the specific ERA Actions is integral to its National Strategy for Research, Technological Development, and Innovation 2021-2027.
- Regarding ERA Priority 1, Greece offers considerable potential in Open Science, research careers and mobility as well as research infrastructures. Adopting the national strategy plus additional measures and funding will impede the effective implementation of the Actions and generate more impact.
- As regards ERA Priority 2, insufficient funding for various activities hinders their progress and overall impact.
- Furthermore, coordination among the ministries that is required for the implementation of some of Greece's commitments remains a challenge, resulting in delays in decision-making and implementation.

1. National context

Greece *as a moderate innovator* in the latest 2024 European Innovation Scoreboard.[1] While overall research expenditures as a percentage of GDP (GERD) have increased to 1.49 percent in 2023, they still fall short of the EU27 average. This growth is primarily attributed to a slight improvement in business expenditures, which accounted for 49 percent of total expenditures in 2023, compared to 46 percent between 2018 and 2020. Nevertheless, business expenditures remain relatively low compared to the EU average of 67 percent. Greece's share of female researchers surpasses the EU average.

Table 1 Structural Key Indicators

Indicator	EU27	Greece		
	2023	2023	Average 2018-2020	Average 2021-2023
GDP, in current prices, per capita	35 790.00	19 530.00	16 760.00	17 336.67
Gross Domestic Expenditure on R&D (GERD) as a share of GDP	2.27	1.49	1.33	1.48
Government Budget Allocations for R&D (GBARD) as share of GDP	0.73	0.58	0.74	0.72
Business Enterprise expenditure on R&D (BERD) as a share of GDP	1.52	0.73	0.62	0.72
Expenditure on R&D procurement as a percentage of GDP	0.06	0.06	/	0.06
Size of the population (million)	448.80	10.41	10.73	10.52
Researchers (in FTE) per million inhabitants	4 681.34	4 934.26	3 688.76	4 704.93
Share of female researchers, all sectors of performance (%)	33.71	38.70	38.5	/

Note: EU and country averages are for 2023, except share of female researchers (2021)

Source: see Annex 1; Share of female researchers, all sectors of performance (%): National Documentation Center, Greece.

Although the National Strategy for Research and Technological Development and Innovation 2021-2027[2] (National RTDI Strategy) does not explicitly mention ERA, some of its priorities are reflected in National RTDI Strategy, as well as in the Greek Recovery and Resilience Plan (Greece 2.0).[3] The main areas of the national strategy include supporting innovation by fostering collaboration between the research and business sectors and encouraging innovative entrepreneurship; supporting research excellence and human researchers by investing in research skills and infrastructure; and addressing economic and societal challenges while strengthening the connection between science and society. The priority of integrating the national research system into the European one crosscuts all other priorities. The Smart Specialisation Strategy,[4] which channels most of the competitive funding, partially acknowledges the importance of the objectives of Action 1 without specifying any specific activities. It also aligns with aspects of Actions 4, Action 8, Action 10, and Action 11. The Bible of Digital

[1] See https://projects.research-and-innovation.ec.europa.eu/en/statistics/performance-indicators/european-innovation-scoreboard/eis-2024#/eis/countries/EL

[2] https://gsri.gov.gr/wp-content/uploads/2021/12/Eisagogiki_A_Spilioti_Symvouleftikes_v01-1.pptx

[3] See https://greece20.gov.gr/en/greece-submits-request-for-the-revision-of-the-national-recovery-and-resilience-plan-quot-greece-2-0-quot/

[4] https://gsri.gov.gr/wp-content/uploads/2022/07/ΕΣΕΕ-2021-2027-V.1.0.pdf

Transformation 2021-2025[5] of the Ministry of Digital Governance addresses several issues related to the digital infrastructures that support open science.

2. Status of the Implementation of the ERA Policy Agenda

Chapter 2 briefly summarises **new developments in Greece since the publication of the ERA Country Report 2023**, based on the commitments to ERA Actions. The findings are based on qualitative desk research and interviews.

Table 2 Commitment to ERA Actions

1: Deepening a truly functioning internal market for knowledge								
1. Enable Open Science, including through EOSC	2. Propose an EU copyright and data legislative framework for research	3. Reform the Assessment System for research, researchers and institutions	4. Promote attractive research careers, talent circulation and mobility	5. Promote gender equality and foster inclusiveness	6. Protect academic freedom in Europe	7. Upgrade EU guidance for a better knowledge valorisation	8. Strengthen research infrastructures	9. Promote international cooperation
2: Taking up together the challenges posed by the twin green and digital transition, and increasing society's participation in the ERA					**3: Amplifying access R&I excellence across the Union**		**4: Advancing concerted research and innovation investments and reforms**	
10. Make EU R&I missions and partnerships key contributors to the ERA	11. An ERA for green transformation	12. Accelerate the green & digital transition of Europe's key industrial ecosystems	13. Empower Higher Education Institutions	14. Bring Science closer to citizens	16. Improve EU-wide access to excellence	17. Enhance public research institutions' strategic capacity	19. Establish an ERA monitoring system	

Source: European Commission (Note: Actions 15, 18 and 20 were not implemented)

Greece has committed to six out of 20 ERA Actions, covering two out of the four Priority Areas (see Table 2). The national implementation of ERA Actions is coordinated by the General Secretariat for Research and Innovation (GSRI) which is responsible for the national response to ERA, although close cooperation with the Ministries of Education and Digital Governance is necessary. The selection of country commitments follows the priorities of the National RTDI Strategy.

ERA Priority 1: Deepening a truly functioning internal market for knowledge

ERA Action 1) Enable the open sharing of knowledge and the re-use of research outputs, including through the development of the European Open Science Cloud (EOSC)

Greece has yet to adopt a National Open Access/Open Science strategy. Elements of a plan have been incorporated into the Digital Transformation Bible. The strategy will prioritise the immediate enhancement of Greece's participation in the EOSC, the necessary institutional framework, and the launch of infrastructures for Open Science. Among planned investments, the National Open Science Cloud is currently in a development phase. A pilot for utilising FAIR data management began in 2022, while the use of open data by default commenced in 2024. Planned future actions include enhancing the National Research Web, upgrading repositories and journals, and strengthening research infrastructures and digital services. GSRI supported open science applications in the May 2024 call under the "Research and Innovate" measure. Similar requirements featured in project calls from the Bilateral Cooperation measures (Greece-Germany, Greece-Cyprus), and measures of the Hellenic Foundation for Research and Innovation (HFRI).

[5] https://digitalstrategy.gov.gr

ERA Action 4) Promote attractive and sustainable research careers, balanced talent circulation and international, transdisciplinary and inter-sectoral mobility across the ERA

Overall, three research organisations received the HR Excellence in Research logo. GSRI encourages more Greek organisations to adopt the European Charter for Researchers. As part of Euraxess activities, GSRI coordinates the monitoring and evaluation of Hub structures in the ERA Talent project. In 2024, HFRI provided EUR 4.6 million for 163 scholarships for PhD candidates. In May 2024, the 4th call for funding Postdoctoral Researchers was published with a budget of EUR 9.25 million.[6] In December 2023, funding for industrial PhDs from the National Recovery and Resilience Plan commenced in collaboration with the private sector. In total, 44 PhDs were funded with EUR 4.9 million.[7] GSRI's efforts in 2023 and 2024 to adopt the EU pension tool RESAVER by Greece were obstructed by formal restrictions from the fiscal mid-term programme.

ERA Action 8) Strengthen sustainability, accessibility and resilience of research infrastructures in the ERA

The primary activity involves supporting the National Research Infrastructures (NRIs). Following the assessment of the existing NRIs,[8] GSRI launched a call for expressions of interest in December 2023, aiming to enhance the framework and support both the most successful existing NRIs and potentially a few new ones.[9] The call contributes to the creation of the National Roadmap for the 2021-2027 Programming Period. The previous road map included 28 NRIs, but the new call aims to reduce their number to fewer than 20 to ensure sustainability. Selected NRIs will receive support between EUR 4 million for the new infrastructures and EUR 6 million for the mature infrastructures continuing from the previous roadmap.

ERA Priority 2: Taking up together the green transition and digital transformation and other challenges with impact on society and increasing society's participation in the ERA

ERA Action 10) Make EU R&I missions (10.1) and partnerships (10.2) key contributors to the ERA

Greece participates in ten co-funded European Partnerships[10], in one Common Programming (EOSC), one Article 185 TFEU (PRIMA), and two Institutional Partnerships (EuroHPC and CHIPS JU).

ERA Action 11) An ERA for green transformation

Greece has tapped into the Just Transition Fund (JTF) to mitigate the impacts of the energy and climate transition on its local economy and society. Three projects, selected under Priority 1 of the JTF, have already been chosen. These projects, totalling EUR 16.8 million, aim to establish S+I Incubators and co-working spaces and foster social innovation in three distinct regions of Greece.

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[6] https://www.elidek.gr/en/call/4th-call-for-h-f-r-i-research-project-to-support-postdoctoral-researchers/

[7] https://www.epiteliki.minedu.gov.gr/wp-content/uploads/2024/07/3650_5η-Τροποπ-ΥΑ-Έγκρισης-Χρηματοδότ_SUB3_ΡΑΘ546ΝΚΠΔ-ΔΜΕ.pdf

[8] https://gsri.gov.gr/wp-content/uploads/2022/10/Support-to-Greece-for-policies-developing-research-infrastructures-and-the-RI-ecosystem.pdf and https://gsri.gov.gr/wp-content/uploads/2023/10/230831-Final-Report_PSF-Open-Greece_FINAL-VERSION.pdf

[9] https://gsri.gov.gr/wp-content/uploads/2023/11/Call-for-expressions-of-interest_TC__final_EN_24_11_2023.pdf

[10] Clean Energy Transition Partnership, Driving Urban Transitions Partnership, Biodiversa+, Water4All, Sustainable Blue Economy, Eurostars, Transforming Health and Care Systems, Personalised Medicine and Pandemic Preparedness.

ERA Action 14) Bring Science closer to citizens

The activities focus on organising exhibitions and fairs aimed at enhancing the population's interest in innovation and technology. Such events include the Thessaloniki International Fair in September 2024, the Athens Science Festival 2024,[11] and the BEYOND 2024 Expo.[12] Furthermore, HFRI, with its flagship initiative "Science and Society", seeks to popularise science and disseminate scientific knowledge to the wider community while fostering a broader research culture. In October 2024, a call on "Current Nutritional Awareness" was published to inform and educate the general public about food awareness, consumer habits, and nutritional behaviour, with the aim of reducing food waste.[13]

ERA Priority 3: Enhancing access to research and innovation excellence across the Union and enhancing interconnections between innovation ecosystems across the Union

Greece has not committed to an ERA Actions under this priority area. However, the Recovery and Resilience Plan of Greece[14] addresses issues related to this area.

ERA Priority 4: Advancing concerted research and innovation investments and reforms

Greece has not committed the ERA Action under this priority area. However, the Recovery and Resilience Plan of Greece[15] addresses issues related to this area.

3. Contribution of ERA Actions to national performance in reaching ERA objectives

This chapter provides a qualitative assessment of how the joint ERA Actions contributed to Greece's performance in achieving the ERA objectives as defined in the Pact for R&I during the period 2022-2024.

ERA Priority 1 is addressed through a range of initiatives focusing on **ERA Actions 1, 4, and 8**, which aim to create structural reforms and other interventions. The implementation of these activities is largely on track for Actions 4 and 8, despite the need for further improvements, while Action 1 faces significant delays, despite Greece's high potential due to the leading role of Greek actors in open science initiatives such as EOSC and OpenAIRE.

The implementation of **ERA Action 1** is progressing at a very slow pace, as the progress for indicator 7 on the creation of open access datasets remains stagnant, and the gap with the EU27 is widening. Indicator 8 remains much lower compared to the more advanced countries of a similar size, such as Austria, Belgium, and Denmark, while it is comparable with Portugal and Czechia. Although there is a vibrant community of open science in Greece with a leading role in EOSC, public investments (ERA Dashboard Indicator 9) remain at the same level as

[11] https://www.athens-science-festival.gr/festival-2024/
[12] https://www.beyond-expo.gr/hold/
[13] https://www.elidek.gr/en/?s=open+science
[14] See https://greece20.gov.gr/en/greece-submits-request-for-the-revision-of-the-national-recovery-and-resilience-plan-quot-greece-2-0-quot/
[15] Ibid.

very small countries, such as Cyprus, Latvia, and Luxembourg, due to the lack of a national open science strategy and the delays in decisions and implementation.[1617] Efforts to cultivate an open science culture and the required skills remain fragmented, primarily driven by bottom-up initiatives and lacking concrete measures as well as the establishment of a regulatory framework and incentives.[18] Overall, the coordination between the three main ministries that share responsibilities remains a challenge.[19]

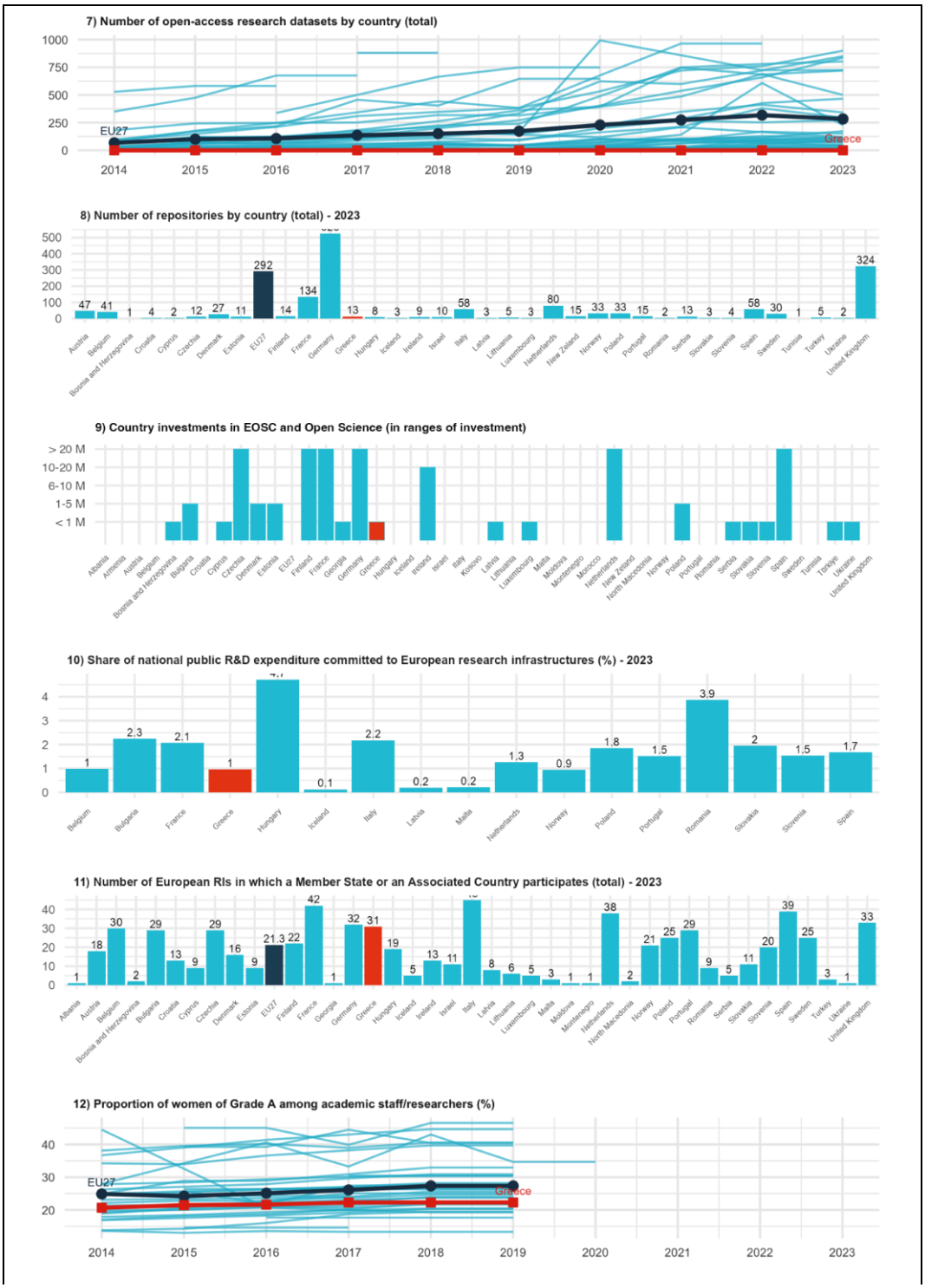
The commitment to **ERA Action 4** is proceeding keeping Greece performance close to the EU27 as it is evident by ERA Dashboard Indicators 18 and 19. Nevertheless, there are areas for further improvements. Overall, the adoption of the Charter and Code of Researchers is progressing very slowly. Despite the existing collaboration between industry and academia, intersectoral circulation remains a challenge. Moreover, the performance regarding the circulation of talent from abroad is below that of the EU27, and the gap is widening, according to ERA Dashboard Indicator 17. The main hindrance to circulation is the rigid regulatory framework, particularly within the universities.

Commitments to **ERA Action 8** are progressing with Greece's active participation in the European Research Infrastructures (Ri). Investments (ERA Dashboard Indicator 10) are comparable to those of Belgium and Norway but lag behind countries like Portugal, Slovenia, and Slovakia. Spreading limited investments over a considerable number of RI participations is a core obstacle (ERA Dashboard Indicator 11). Currently, Greece focuses on ensuring the sustainability of the supported infrastructures by reducing the number of RIs in the national roadmap, which will consequently impact its commitments to the RIs. In addition to the necessary investments, promotion for the wider use of the RIs is necessary but usually overlooked.[20]

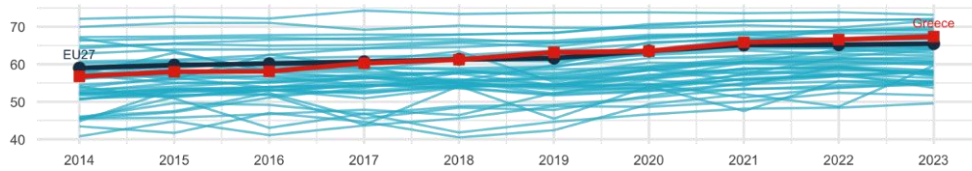
Though not among Greece's commitments, **gender equality** remains a priority within the R&I policy supported by regulatory initiatives. As a result, Greece performs around the EU27 average on ERA Dashboard Indicators 13-16. However, despite this progress, the glass ceiling persists, as evidenced by ERA Dashboard Indicator 12. Greece is performing at the EU27 average across several indicators related to **knowledge valorisation**, while the economic relevance of knowledge and utilisation of knowledge by the business sector remain its main shortcomings according to ERA Dashboard Indicators 21 and 23. ERA Dashboard Indicators 23 and 24 also illustrate the problem of the relatively smaller size of knowledge intensive sectors in Greece. In **scientific leadership**, action for improvement is essential regarding academic freedom (ERA Dashboard Indicator 27) and the performance of universities (ERA Dashboard Indicators 28).

[16] For example, the delay in the decision regarding the continuation of the RI Hellenic Data Service (HELIX).
[17] Interviews with stakeholders.
[18] Ibid. The ministries are the GSRI in the Ministry of Development, which is responsible for ERA policy; the Ministry of Education, which oversees universities; and the Ministry of Digital Governance, responsible for digital infrastructure development.
[19] Interviews with ERA representatives.
[20] Interviews with stakeholders.

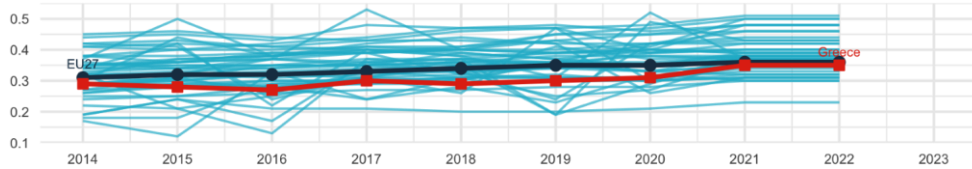
Figure 3-1 Indicators for ERA Priority 1



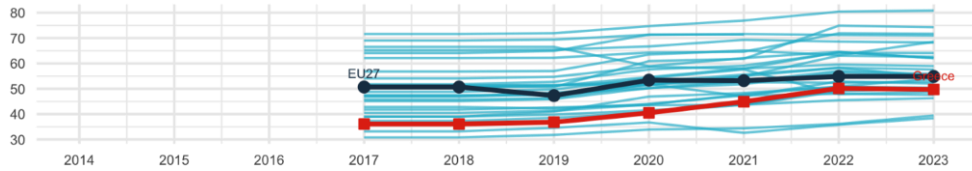
13) Proportion of mixed-gender teams (%)



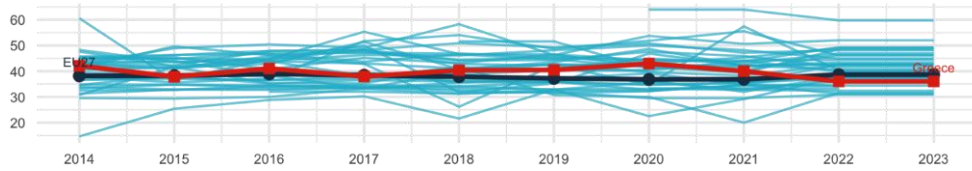
14) Proportion of women in authorships of the top 10% most cited publications (%)



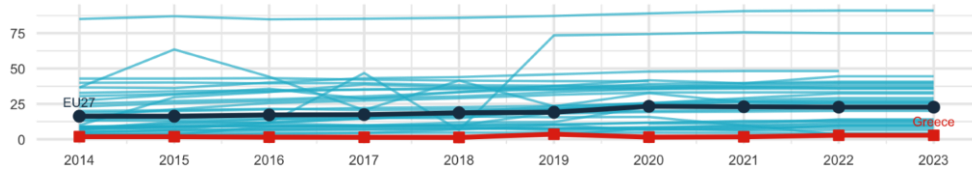
15) Women in Digital index (0-100)



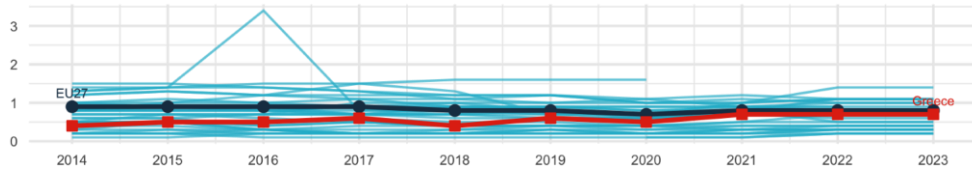
16) Proportion of women among doctoral graduates by narrow fields of STEM (%)



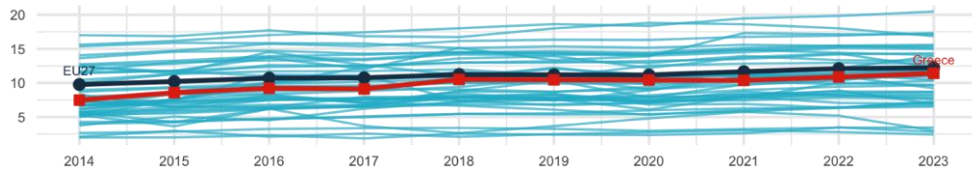
17) Share of foreign doctorate students as a percentage of all doctorate students (%)



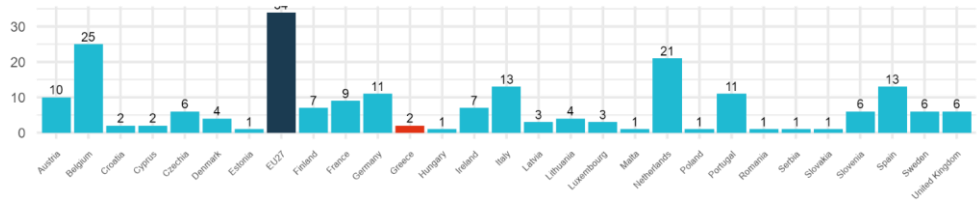
18) New doctorate graduates per 1,000 inhabitants aged 25-34



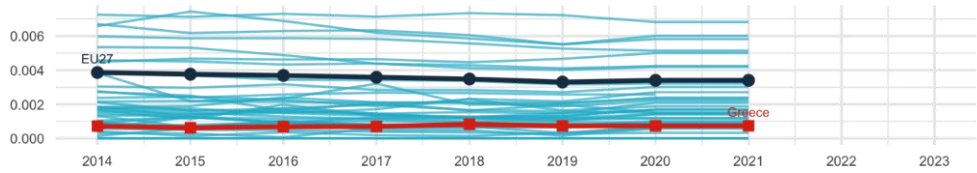
19) Share of public-private co-publications (%)



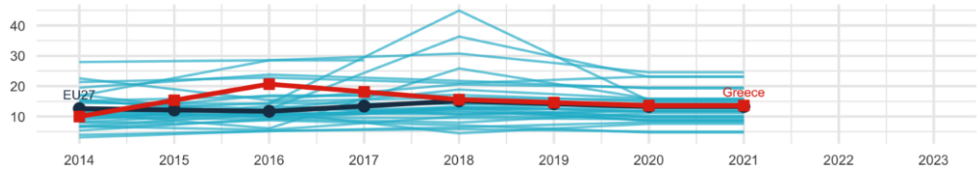
20) Best practice examples and methodologies for knowledge valorisation - 2023



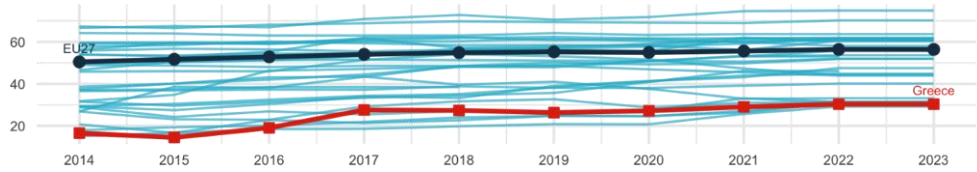
21) Number of PCT patent applications divided by GDP in million Euros/Dollars



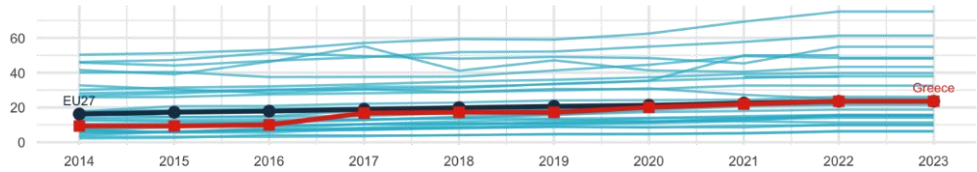
22) Share of innovating firms collaborating with HEI/PRO out of all innovative firms



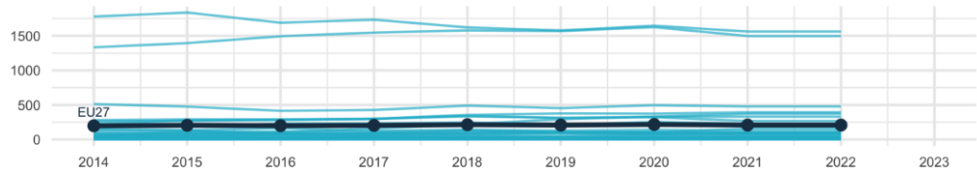
23) Business enterprise researchers as % of total researchers (%)

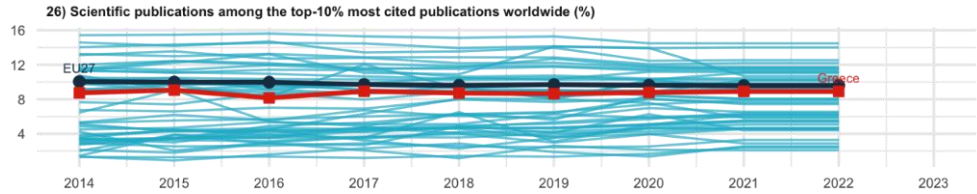


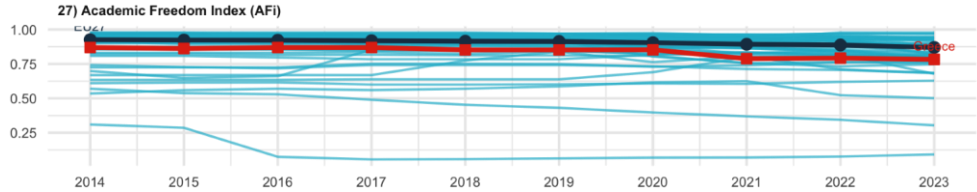
24) Business enterprise researchers in full-time equivalent per thousand employment in industry

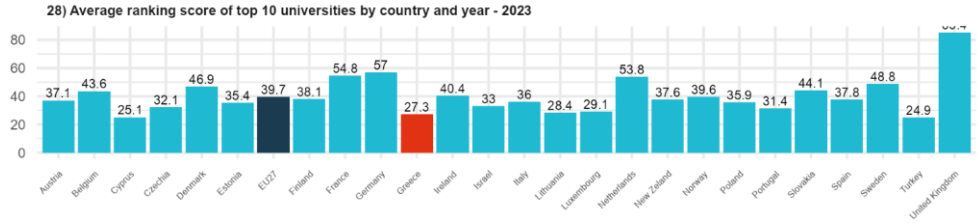


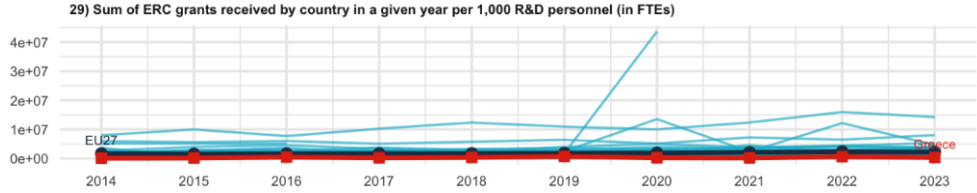
25) Patents by universities and public research organisations

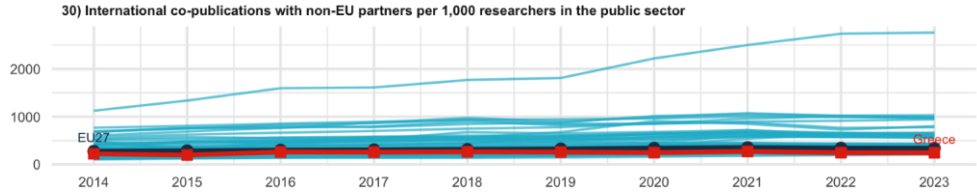


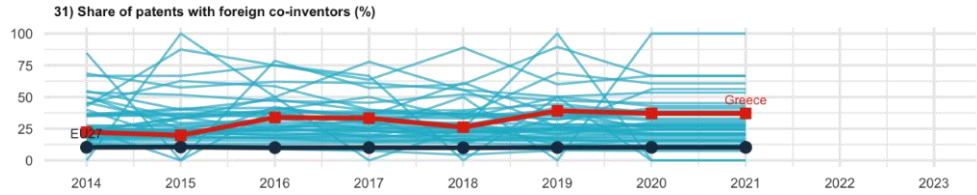

26) Scientific publications among the top-10% most cited publications worldwide (%)
16
12
8
4
EU27
Greece
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023

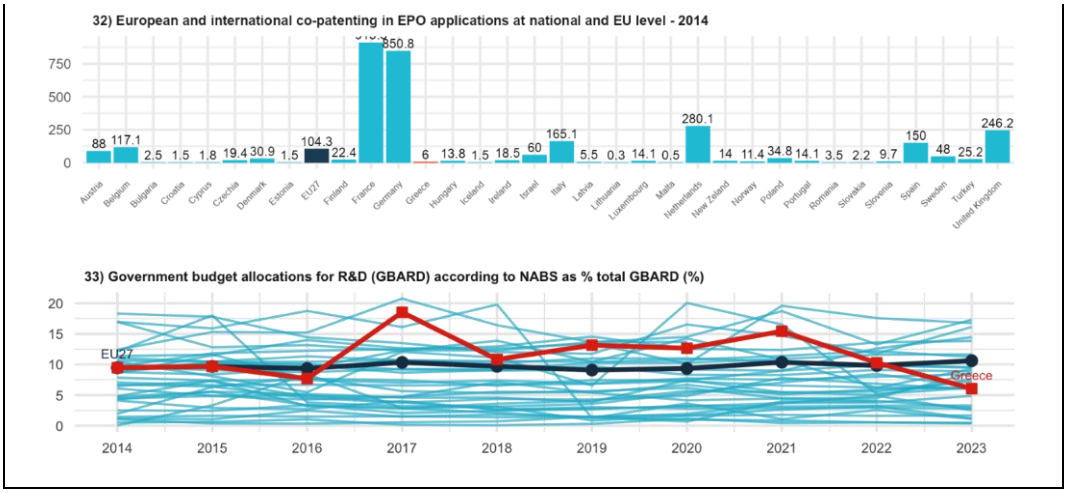

27) Academic Freedom Index (AFi)
1.00
0.75
0.50
0.25
Greece
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023


28) Average ranking score of top 10 universities by country and year - 2023
80
60
40
20
0
37.1
43.6
25.1
32.1
46.9
35.4
39.7
38.1
54.8
57
27.3
40.4
33
36
28.4
29.1
53.8
37.6
39.6
35.9
31.4
44.1
37.8
48.8
24.9
Austria
Belgium
Cyprus
Czechia
Denmark
Estonia
EU27
Finland
France
Germany
Greece
Ireland
Israel
Italy
Lithuania
Luxembourg
Netherlands
New Zealand
Norway
Poland
Portugal
Slovakia
Spain
Sweden
Turkey
United Kingdom


29) Sum of ERC grants received by country in a given year per 1,000 R&D personnel (in FTEs)
4e+07
3e+07
2e+07
1e+07
0e+00
EU27
Greece
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023


30) International co-publications with non-EU partners per 1,000 researchers in the public sector
2000
1000
0
EU27
Greece
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023

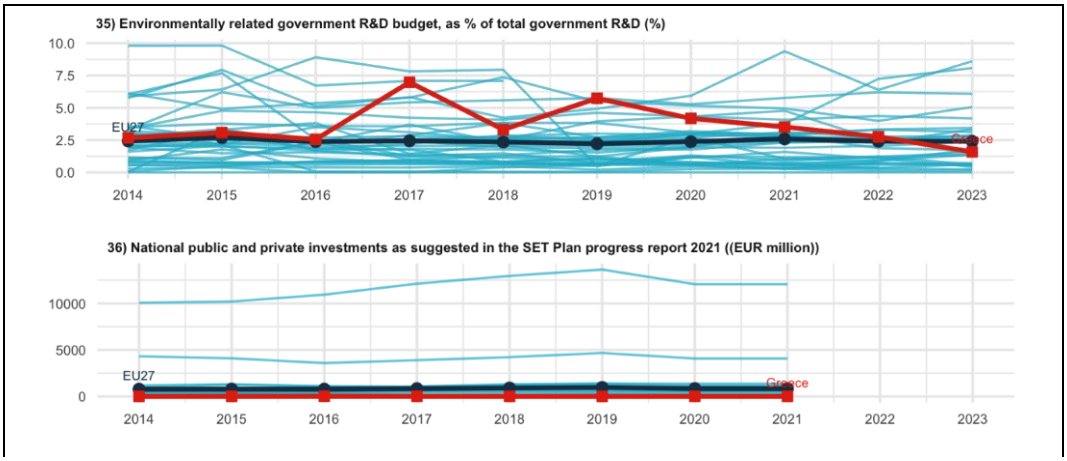

31) Share of patents with foreign co-inventors (%)
100
75
50
25
0
Greece
EU27
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023

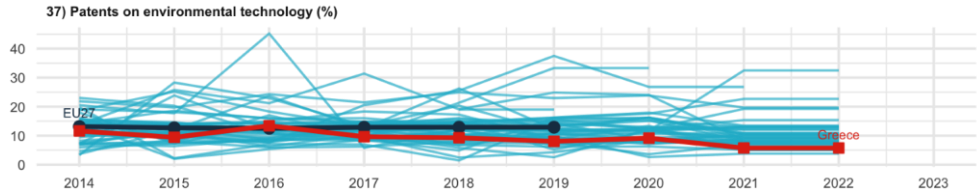


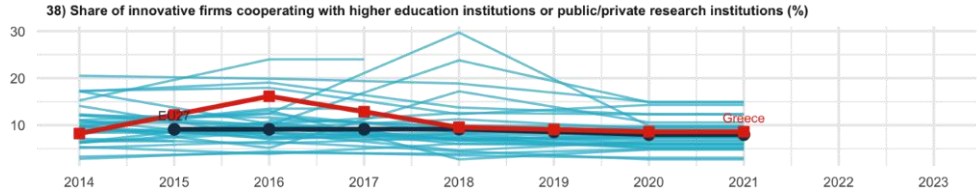
Source: see Annex 1

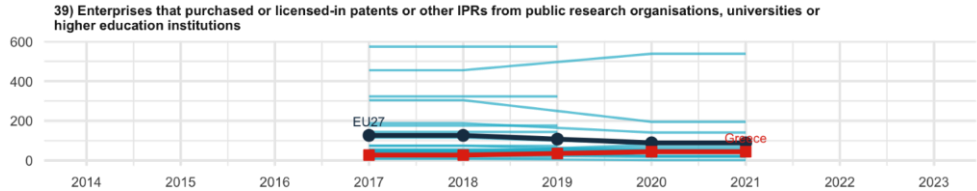
ERA Priority 2 is addressed through various activities and measures, particularly through national initiatives on **ERA Actions 10, 11, and 14**. In the area of challenged-based ERA Actions (10-11), there are overall negative trends. Although Greece participates in a significant number of European Partnerships, the funding for Europe-wide initiatives per researcher in the public sector (ERA Dashboard Indicator 34) remains below EU27 levels. Regarding the green transition, both public and private R&I investments and patents related to green technologies (ERA Dashboard Indicators 35-37) are also below EU27 averages. Of particular concern is the trend in the government R&D budget for environmental initiatives (ERA Dashboard Indicator 35), which, although higher than the EU27 in 2017, has been consistently declining since then, falling below EU27 figures in 2023. In the realm of citizen science, despite low public funding and a limited number of activities, trust in science remains higher than the EU27 average.

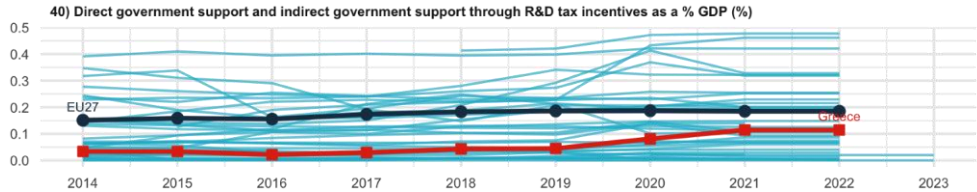
Figure 3-2 Indicators for ERA Priority 2

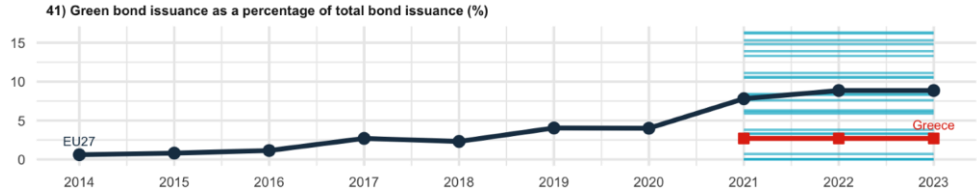


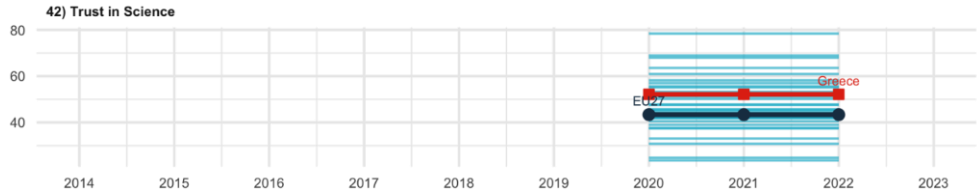

37) Patents on environmental technology (%)
40
30
20
10
0
EU27
Greece
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023

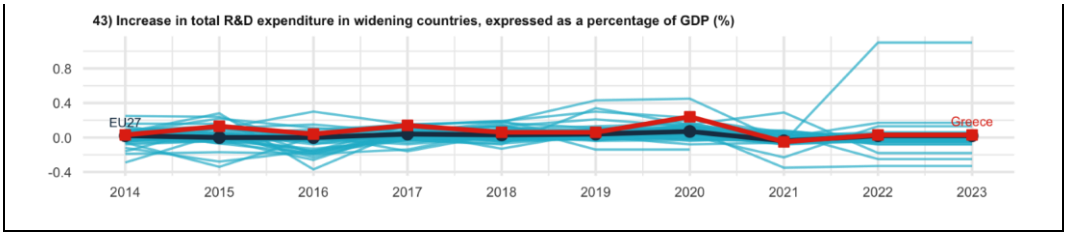

38) Share of innovative firms cooperating with higher education institutions or public/private research institutions (%)
30
20
10
EU27
Greece
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023


39) Enterprises that purchased or licensed-in patents or other IPRs from public research organisations, universities or higher education institutions
600
400
200
0
EU27
Greece
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023


40) Direct government support and indirect government support through R&D tax incentives as a % GDP (%)
0.5
0.4
0.3
0.2
0.1
0.0
EU27
Greece
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023


41) Green bond issuance as a percentage of total bond issuance (%)
15
10
5
0
EU27
Greece
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023

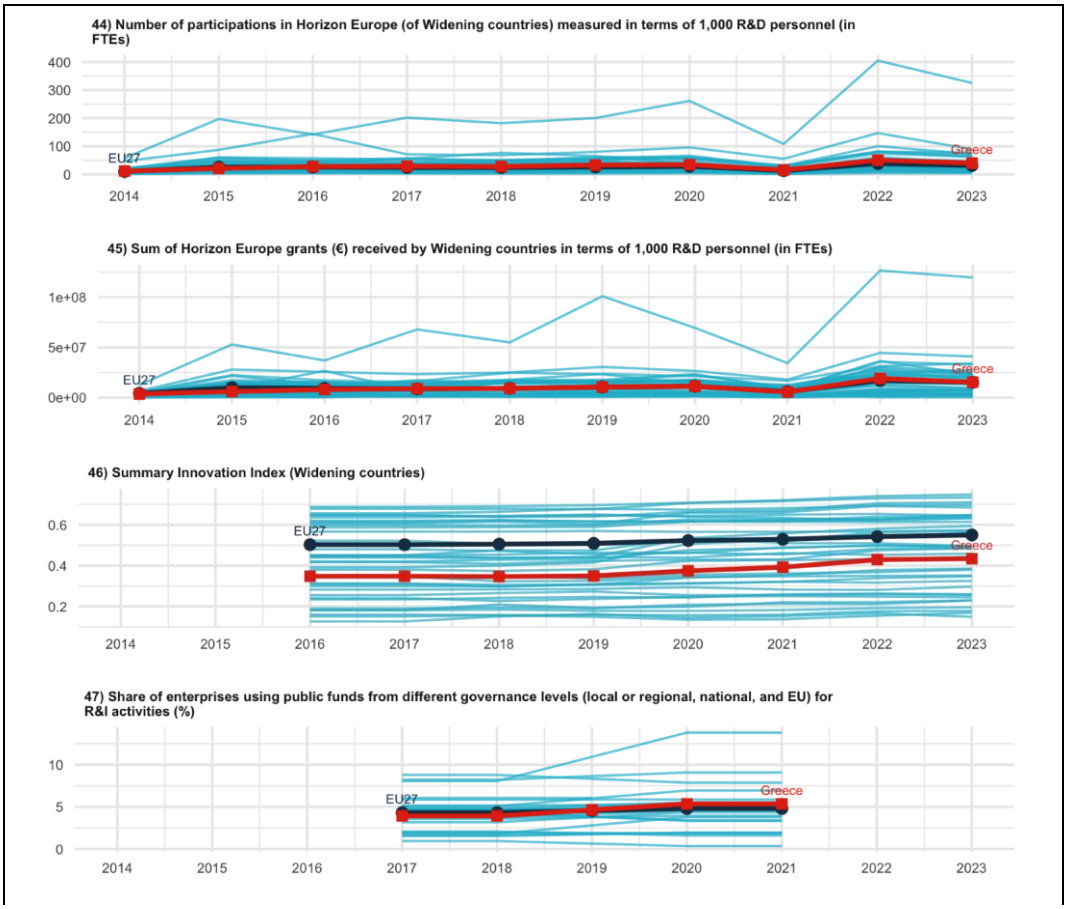

42) Trust in Science
80
60
40
Greece
EU27
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023



Source: see Annex 1

Greece has not committed to an ERA Action in **ERA Priority 3**. While indicators show that the country's performance consistently aligns with the EU27 average, this is largely driven by the strong public research organisations. However, the low performance in the innovation index (ERA Dashboard Indicator 46) highlights a significant gap in translating research excellence into innovation outcomes. This underperformance is predominantly attributed to limited engagement and weak research capacity within the business sector stemming from its structural characteristics and relatively low knowledge intensity of its activities.

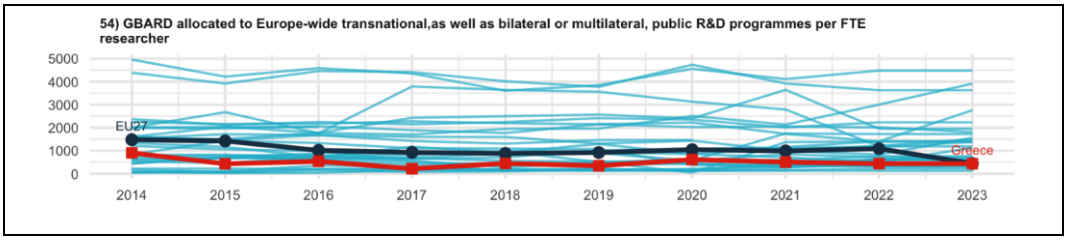
Figure 3-3 Indicators for ERA Priority 3



Source: see Annex 1

Greece is not committed to an ERA Action in **ERA Priority 4**. Overall, Greece remains below the EU27 average in terms of the coordination of Europe-wide R&D programmes.

Figure 3-4 Indicators for ERA Priority 4 with comparison across MS/AC



Source: see Annex 1

4. Effects of ERA Action implementation on the national R&I system

This chapter presents a qualitative assessment of the ERA Action commitments of Greece and their effects on the national R&I system, including the quantitative performance in the ERA Dashboard. While there is not yet a public National RTDI Strategy rectified by the Parliament, this includes the priorities included in various documents,[21] the Smart Specialisation Strategy (s3)[22] and the GSRI's plan on gender equality.[23]

ERA Priority 1: Greece's implementation of **ERA Actions 1, 4, and 8** aligns with the priorities of the National RTDI Strategy and the S3. Although the support for Open Science is not explicitly addressed, the S3 recognises its role as an enabler for the strategy's success. The National RTDI Strategy emphasises enhancing research infrastructures, including long-term funding plans and connections to international infrastructures such as ESFRI. Furthermore, the S3 includes initiatives to improve national research infrastructures, enhance accessibility, and promote collaboration between infrastructures and industry. In line with these priorities, Greece has committed to a substantial number of European Research Infrastructures (ERIs), albeit without adequate budgetary support. Supporting researchers' careers and mobility is a significant aspect of the National RTDI Strategy and the S3. Regarding mobility the focus is on inward mobility aimed at addressing brain drain. Additionally, funding schemes facilitate the development of a new generation of researchers and support the careers of existing researchers while also aligning with industry needs, which remains a major challenge. The positive impact of actions is reflected in the improvement of ERA Dashboard Indicator 18 and the convergence with the EU27.

In addition, Greece is conducting activities relating to gender equality despite not having committed to the respective **ERA Action 5**. The Dashboard shows growth in these areas, in particular ERA Dashboard Indicators 13, 14, and 15. Similarly, Greece is active in knowledge valorisation although the country is not committed to **ERA Action 7**. However, the ERA Dashboard provides a mixed picture. On the one hand Greece constantly preforms close to the EU27 in Dashboard Indicators 19, 22 and 24, while the country is lagging in Dashboard Indicators 21 and 23. Also activities in the area of global engagement are important for the National RTDI Strategy and the S3 without being committed to the relevant **ERA Action 9.** Greece has achieved a longstanding convergence with EU27 in ERA Dashboard Indicator 30 and strong growth above the EU27 on ERA Dashboard Indicator 31.

[21] https://gsri.gov.gr/wp-content/uploads/2021/12/Eisagogiki_A_Spilioti_Symvouleftikes_v01-1.pptx
[22] https://gsri.gov.gr/wp-content/uploads/2022/07/ΕΣΕΕ-2021-2027-V.1.0.pdf
[23] https://gsri.gov.gr/wp-content/uploads/2023/01/ΣΔΙΦ-ΓΓΕΚ-V.9.1.pdf

ERA Priority 2: Greece's implementation of **ERA Actions 10, 11, and 14** aligns with the National RTDI Strategy and S3. Participation in European Partnerships is one of the primary strategies for the internationalisation of the research system and the involvement of Greek companies and research organisations in international value chains. However, despite their strategic importance, the budget allocated to these activities is lower than that of the EU27, according to indicator 34. Green transitions and energy transformation are among the priorities of the S3, with support for research and innovation on hydrogen featuring as one of the sub-priorities. According to the Dashboard, Greece's performance closely follows that of the EU27 in indicators 36, 37, and 38, although its performance in indicator 35 is declining. The National RTDI Strategy supports actions that aim to bring science closer to the citizens, including initiatives to promote public engagement and science communication, such as outreach programmes and citizen science campaigns. According to the Dashboard, Greece performs better than the EU27 in indicator 42, and the level of trust in science remains stable across the available years.

Although Greece is not committed to **ERA Action 12**, the support of industrial ecosystems by accelerating their green and industrial transition is among the priorities of S3. However, this performance is not accurately reflected in indicators 40 and 41 of the ERA Dashboard, which only capture specific funding instruments.

5. Conclusions

Greece's commitment to specific ERA Actions is closely tied to its National Strategy for Research, Technological Development, and Innovation 2021-2027. However, delays in the strategy's official adoption and publication have impeded decision-making and hindered commitments related to specific activities and budget allocations. While Greece is committed to Actions 1, 4, 8, 10, 11, and 14, it also implements activities aligned with Actions 5, 7, and 12 to support its national strategy. Despite considerable potential in Open Science, delays in adopting a national strategy on Open Science and securing adequate funding have significantly impacted the implementation of Action 1. Actions 4 and 8 are progressing as planned, though additional measures are needed to optimize their outcomes. In Priority 2, insufficient funding continues to hinder progress and overall impact. Moreover, challenges in coordination among ministries further delay decision-making and the implementation of Greece's commitments.

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Annex 1 – Full list of ERA Dashboard Indicators

The indicators used in the report are taken from the ERA Dashboard 2024. The full ERA Dashboard Report and the supporting Data Replication Package can be downloaded at https://european-research-area.ec.europa.eu/era-monitoring-reports. However, *GDP (in million €)*, *Size of the population (million)*, and *Share of female researchers, all sectors of performance (%)* were added to provide additional context and directly retrieved from the Eurostat website.

Additionally, EU and country averages are for 2023, except *Share of female researchers, all sectors of performance (%)* (2021).

Table 1 Structural Key Indicators:

Indicator number	Indicator	Source
/	GDP in euro per capita, current prices	Eurostat https://doi.org/10.2908/TEC00001
1	Gross Domestic Expenditure on R&D (GERD) as a share of GDP	Eurostat
2	Government Budget Allocations for R&D (GBARD) as share of GDP	Eurostat
4	Business Enterprise Expenditure on R&D (BERD) as a share of GDP	Eurostat
5.2	Expenditure on R&D procurement as a percentage of GDP	EC/European Innovation Procurement Observatory
/	Size of the population (million)	Eurostat, https://doi.org/10.2908/TPS00001
3	Researchers (in FTE) per million inhabitants	Eurostat
/	Share of female researchers, all sectors of performance (%)	Eurostat, https://doi.org/10.2908/TSC00005

Figure 3.1 Indicators for ERA Priority 1

Indicator number	Indicator	Source
6	Share of publications available in open access (green, gold, and diamond)	OpenAIRE
7	Number of open-access research datasets by country	OpenAIRE
8	Number of repositories by country	EOSC - Re3data
9	Country investments in EOSC and Open Science (in ranges of investment)	EOSC Observatory
10	Share of national public R&D expenditure committed to European research infrastructures	ESFRI
11	Number of European RIs in which a Member State or an Associated Country participates	ESFRI
12	Proportion of women of Grade A among academic staff/researchers	Women in Science - She Figures
13	(Corrected) Proportion of mixed-gender teams	EC_Scopus
14	(Corrected) Proportion of women in authorships of the top 10% most cited publications	EC_Scopus
15	Women in Digital index (0-100)	EC-Women in Digital Scoreboard

16	Proportion of women among doctoral graduates by narrow fields of STEM	Eurostat
17	Share of foreign doctorate students as a percentage of all doctorate students	Eurostat
18	New doctorate graduates per 1,000 inhabitants aged 25-34	Eurostat
19	Share of public-private co-publications	EC_Scopus
20	(Cumulative number of) Best practice examples and methodologies for knowledge valorisation	Knowledge Valorisation Platform
21	Number of PCT patent applications divided by GDP in million Euros/Dollars	OECD, Eurostat & World Bank
22	Share of innovating firms collaborating with HEI/PRO out of all innovative firms	Eurostat CIS (own calculations)
23	Business enterprise researchers as % of total researchers	OECD
24	Business enterprise researchers in full-time equivalent per thousand employment in industry	OECD
25	Patents by universities and public research organisations	EPO PATSTAT - Fraunhofer ISI calculations
26	% of scientific publications among the top-10% most cited publications worldwide	EC_Scopus
27	Academic Freedom Index (AFi)	V-Dem Varieties of Democracy
28	Average ranking score of top 10 universities by country and year	QS World University Ranking
29	Sum of ERC grants received by country in a given year per 1,000 R&D personnel (in FTEs)	EC-ERC
30	International co-publications with non-EU partners per 1,000 researchers in the public sector	EC_ScienceMetrix and Eurostat/OECD
31	Share of patents with foreign co-inventors	OECD
32	European and international co-patenting in EPO applications at national and EU level	Eurostat
33	Government budget allocations for R&D (GBARD) according to NABS as % total GBARD	Eurostat

Figure 3.2 Indicators for ERA Priority 2

Indicator number	Indicator	Source
34	Note: The ERA Dashboard Indicator 34 was removed from the Dashboard in January 2025. As a consequence, the indicator has also been omitted from the Country Report, while, however, keeping the original numbering of the indicators.	
35	Environmentally related government R&D budget, as % of total government R&D	Eurostat
36	National public and private investments as suggested in the SET Plan progress report 2021 (EUR million)	SETIS R&I data
37	% Patents on environmental technology	OECD
38	Share of innovative firms cooperating with higher education institutions or public/private research institutions	Eurostat CIS
39	Enterprises that purchased or licensed-in patents or other IPRs from public research organisations, universities or higher education institutions	Eurostat CIS

40	Direct government support and indirect government support through R&D tax incentives as a % GDP	OECD
41	Green bond issuance as a percentage of total bond issuance	Eurostat - EEA
42	Trust in Science	Eurobarometer 95.2
43	Increase in total R&D expenditure in widening countries, expressed as a percentage of GDP	Eurostat, OECD, UNESCO

Figure 3.3 Indicators for ERA Priority 3

Indicator number	Indicator	Source
44	Number of participations in Horizon Europe (of Widening countries) measured in terms of 1,000 R&D personnel (in FTEs)	Cordis - Eurostat
45	Sum of Horizon Europe grants (€) received by Widening countries in terms of 1,000 R&D personnel (in FTEs)	Cordis - Eurostat
46	Summary Innovation Index (Widening countries)	EC_EIS
47	Share of enterprises using public funds from different governance levels (local or regional, national, and EU) for R&I activities	Eurostat CIS
48	Number of Seal of Excellence projects on the InvestEU Portal per 1,000 R&D personnel (in FTEs)	EC - Invest EU
49	Number of collaboration networks of RPOs in Widening countries with other EU countries	Cordis - Horizon Dashboard
50	Average number of partners from non-widening countries per institution from a Widening country participating in the Horizon programme each year	Cordis - Eurostat
51	Share of patents registered by a Widening country together with partners from other EU countries	OECD
52	Share of innovative enterprises that cooperated with RPOs located in other countries	Eurostat CIS
53	Share of public R&D expenditures financed by the private sector	Eurostat

Figure 3.4 Indicators for ERA Priority 4

Indicator number	Indicator	Source
54	GBARD allocated to Europe-wide transnational, as well as bilateral or multilateral, public R&D programmes per FTE researcher	Eurostat

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ERA Monitoring 2024: ERA Country Report Greece.

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