euacde COUNCIL FOR DOCTORAL EDUCATION

2025 SURVEY – REPORT II

Policies in doctoral education: navigating geopolitical change and technological acceleration while advancing Europe's society and competitiveness

By Simon Marti and Ana-Maria Peneoasu

January 2026

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Foreword

In June 2025, the European University Association Council for Doctoral Education (EUA-CDE) published the first report on the 2025 survey under the title 'Doctoral education in Europe today: enhanced structures and practices for the European knowledge society'. Celebrating, acknowledging, and reviewing 20 years of the so-called Salzburg Principles, this first report testifies to "a new culture of doctoral education", as Aleksandra Kanjuo-Mrčela rightly states in her foreword. By addressing the demands for sustainable structures, the crucial role of supervision, and the promotion of career development opportunities, the first report offers a comprehensive picture of the central and continuous challenges in doctoral training.

This second report on the 2025 survey is dedicated to the issues that doctoral education faces today and tomorrow – and that 20 years ago, and under different historical and technological conditions, were not on the agenda. These issues impact on doctoral education as much as on society at large. And yet, it is in the training of young researchers and in their dedication to finding new answers and solutions that the current challenges turn into opportunities for the betterment of society and the advancement of the common good.

To a certain extent, the title of this second report is both analytic and programmatic: 'Navigating geopolitical change and technological acceleration while advancing Europe's society and competitiveness'. The geopolitical change – with a war directly affecting members of EUA-CDE in Ukraine, in many neighbouring countries, and across Europe – has led to the need for new areas of focus. Increasing geopolitical conflicts have made peace and security the objects of continuous struggle. International cooperation and exchange, together with Open Science, have long been the driving forces of scientific development. And we truly believe that they still are. Nevertheless, we have learnt that our best efforts can be transformed into issues of conflict, into domains of interest, or into new forms of undesirable economic exploitation. Security is as much a common good as academic freedom is: the tension between the two is a demanding concern of our times.

The same holds true for technological acceleration. Currently, young researchers – and academia in general – are struggling with the promises, threats, and opportunities in technological development, namely concerning the use and proliferation of artificial intelligence (AI). While some people believe that the machine will take over human agency (and academic inquiry) in a couple of years, others do not acknowledge at all the chances and possibilities presented by a new and powerful tool. In the meantime, many researchers – without advocating the victory of the machine and without ignoring the enormous potential of a new tool – use AI responsibly and for the benefit of the advancement of knowledge.

Facing these challenges, young researchers must – more than ever – be trained in scientific integrity, in the awareness of their societal role, and in the risks that their work might imply. These are huge tasks in doctoral education, requiring responsible policies and practices, including new forms of research and career assessment, and adequate funding conditions. The current report provides evidence of the concerns of a community committed to advancing Europe's society and competitiveness. It is a valuable instrument for navigating new routes on a continuing journey.

PETER HANENBERG
Universidade Católica Portuguesa
Chair of EUA-CDE Steering Committee

1 Introduction

1.1 Objectives and context of this survey report

This is the second report on the results of the 2025 EUA-CDE survey. The first report covered the state of play in doctoral education in Europe 20 years after the Salzburg Principles emerged from the Bologna Process in 2005. While the first report focused on institutional structures and practices in doctoral education, topics that are at the centre of the Salzburg Principles, this second publication covers a range of policies at the institutional and European level that have emerged as key for doctoral education in recent years. This report provides an overview of policies that help universities to address challenges and opportunities at a time of geopolitical change and technological acceleration. The report also explores how universities, through their doctoral programmes and collaboration with societal actors at doctoral level, contribute to advancing European society and competitiveness. In addition, it focuses on institutional policies and views on research assessment and careers – two intertwined and crucial topics for doctoral candidates and their future. Furthermore, the report assesses an important topic at the centre of the current research policy debate at European level: perspectives and expectations on the next generation of European research and innovation (R&I) programmes for the years 2028–2034 and their importance for the doctoral level.

This survey report also closely relates to previous work by EUA-CDE, such as the 2022 EUA-CDE 'Vision for the Future of Doctoral Education'.[1] The vision paper included analyses of emerging topics that have now crystallised further in the short time span of three and a half years, a period marked by fundamental geopolitical change and technological acceleration, both of which have led to the new environment in which universities find themselves today. At the same time, 2025 is a crucial year for the future of European research policy and the development of the next generation of EU funding programmes, which makes it important to understand better the doctoral education community's view on these policy topics. Thus, the main objective of this survey report is to provide, for the first time, empirical evidence that captures and explores how these changes and the current policy environment affect universities at doctoral

1 EUA-CDE (2022): Building the Foundations of Research. A Vision for the Future of Doctoral Education in Europe. Geneva.

level. This survey report will provide the doctoral education community and its stakeholders with answers on how university leaders view today's challenges and opportunities for the doctorate, what policies they have put in place, and – importantly for EUA-CDE as the European voice for doctoral education – how key policies should be shaped in the future.

The report aims to provide answers to the questions of how doctoral education leaders perceive academic freedom, what policies they put in place when it comes to safeguarding academic freedom and institutional autonomy, and how they manage research security. The report explores the institutional policies that universities put in place to support the United Nations Sustainable Development Goals (SDGs) and to collaborate with societal actors at doctoral level. In the area of artificial intelligence (AI), the analysis shows how doctoral education leaders assess the adoption and use of AI. Questions that are addressed include the extent to which universities have developed policies and guidelines to manage AI and how they support doctoral candidates when it comes to the use and awareness of AI. The report provides answers to important research policy questions at European level: to what extent are doctoral schools involved in the reform of research assessment and careers – and where do they think the reforms should lead? Important for the current discussions at European level are questions about the next generation of EU funding programmes for research, innovation, and education. The survey results provide information on the importance of different funding instruments for the doctoral level – and on doctoral education leaders' views on the future of funding at European and national levels.

The results presented in this report can also serve as an opportunity for institutions to reflect on their own experiences, learn about approaches to institutional policies, and gain insights into policies that are playing an important role at European level. In addition, this survey report will inform the future work and activities of EUA-CDE in its aim to support its members in developing and strengthening their doctoral education capacity.

The year 2022, when the EUA-CDE 'Vision for the Future of Doctoral Education in Europe' paper was published in June, was key in two ways: changes that had been developing over several years became apparent with the return of war to Europe in February; and the launch of the generative AI chatbot ChatGPT in November reflected the rise of general-purpose AI applications. The change in the security environment in recent years impacted the dominant discourse in European politics and will most certainly continue to do so in the years to come. In 2025, these changes in discourse have already materialised in a concrete and significant policy change, namely the decision of the North Atlantic Treaty Organization member states to raise the level of their defence (and related) expenditure targets from the previous 2% of gross domestic product (GDP) to 5% by 2035.[2] This increase will have direct and indirect effects on national and EU public finances that have already started affecting budget discussions in other policy areas – including higher education and R&I across Europe – and will therefore also affect doctoral education and the future of Europe's R&I base.

2 NATO (2025): The Hague Summit Declaration issued by the NATO Heads of State and Government participating in the meeting of the North Atlantic Council in The Hague, 25 June 2025.

Against the backdrop of recent developments, the SDGs, especially those addressing climate change, are not being given the political priority that they had just a few years ago, and that they should be given to ensure that the Paris Agreement objectives can still be reached.[3] At the same time, the new priorities of the EU, namely economic competitiveness and strengthening Europe's defence preparedness, are increasingly influencing EU policies and programmes.[4] As the emergence of these developments coincides with the beginning of the policy cycle for preparing the next multiannual financial framework (MFF) of the EU (2028–2034), the new challenges will also shape the financial priorities of the next MFF period and its funding programmes such as Horizon Europe and Erasmus+, which in turn will affect the doctoral level in Europe. Given this context, the aim of this survey report to gain a better understanding of the state of policies in doctoral education appears to be a timely undertaking.

The second 2025 survey report is structured into seven chapters. Following this introduction, the second chapter focuses on the foundations and explores questions around the state of academic freedom at doctoral level. Chapter 3 explores a key purpose of doctoral education, namely its role and potential in contributing to advancing the SDGs, European society, and economic competitiveness. The fourth chapter assesses how universities are navigating technological acceleration at doctoral level with the rise of general-purpose AI, a topic that offers both opportunities and challenges. In order to help the advancement of society and competitiveness, important policy questions related to the framework conditions for doctoral education matter as enabling factors: how the assessment of research is being reformed, what career opportunities early-career researchers have, and – crucially – what funding opportunities will support doctoral candidates and doctoral education activities in creating Europe's future R&I base. These topics are discussed in Chapters 5 and 6. The seventh chapter contains the conclusions.

1.2 Survey methodology and representativeness

This report is based on data provided by the 2025 EUA-CDE survey 'Doctoral education in Europe today: achievements, policies and emerging trends'. As mentioned above, it represents the second report on this survey, covering 24 of its 49 questions.[5] The comprehensive survey was sent by email to the entire membership of the EUA-CDE and the wider EUA membership. It was subsequently communicated in the EUA-CDE newsletter and other EUA channels, including the EUA and EUA-CDE websites and social media. The survey was also further distributed by members of the EUA-CDE Steering Committee, by National Rectors' Conferences to their members, by individual universities within their networks, and by partner organisations that also informed universities of the survey. The survey was open between 6 January and 1 March 2025 and was conducted on a Qualtrics platform. The questionnaire included primarily multiple-choice questions with one- or multi-option responses. Several questions included options to supplement with own answers under 'other'.

3 World Meteorological Organization (WMO) (2025): State of the Global Climate 2024. Geneva, p. ii.
4 Von der Leyen, Ursula (2024): Europe's choice. Political guidelines for the next European Commission 2024-2029. Ursula von der Leyen, Candidate for the European Commission President. Brussels, pp. 6-14.
5 Additional questions included the role of the respondent and the type of university.

Table 1: Number of universities per country participating in the 2025 EUA-CDE survey

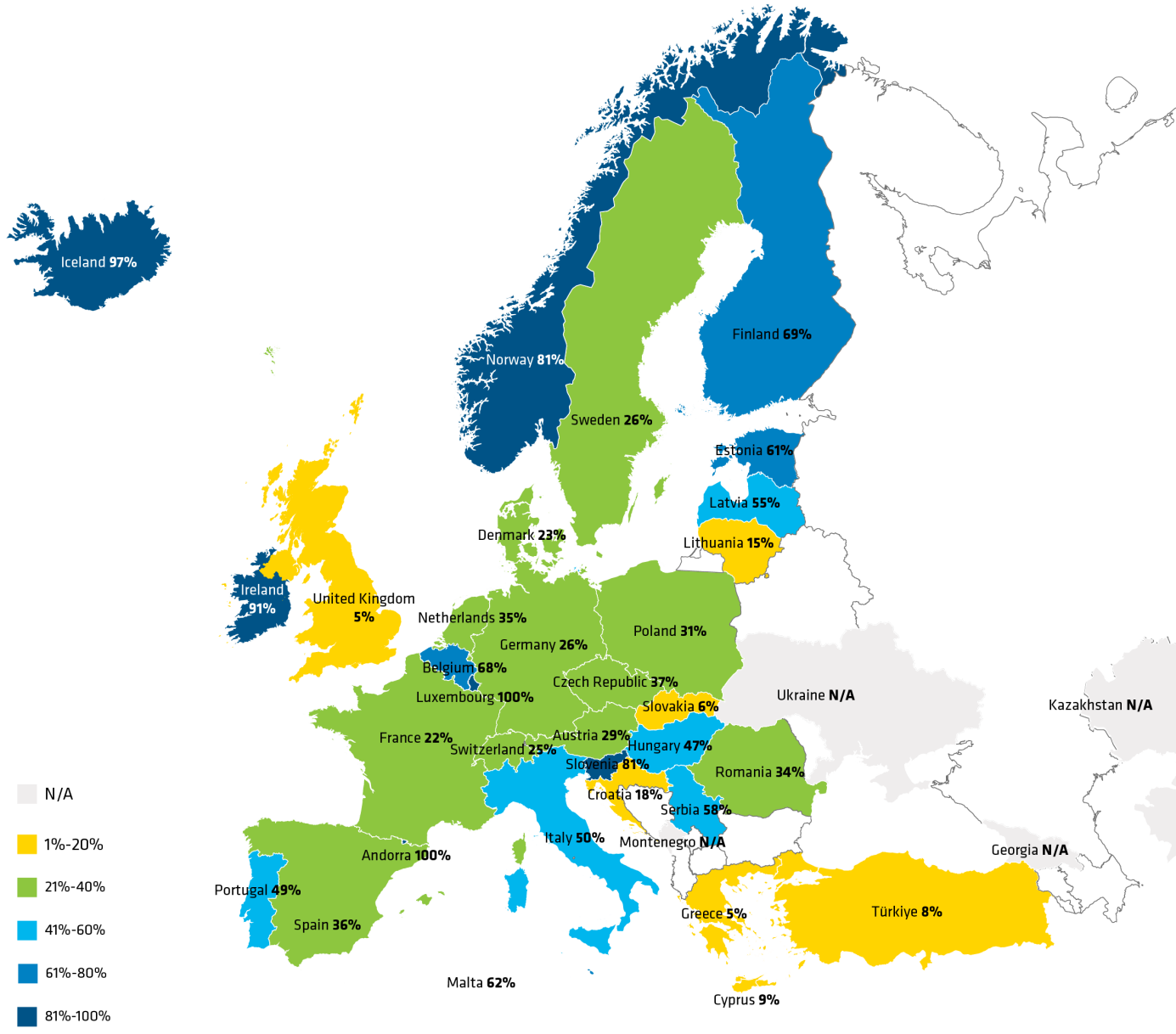
Country	Number of valid responses
Andorra	1
Austria	6
Belgium	6
Croatia	2
Cyprus	1
Czech Republic	3
Denmark	2
Estonia	2
Finland	7
France	11
Georgia	3
Germany	26
Greece	2
Hungary	8
Iceland	1
Ireland	9
Italy	26
Kazakhstan	1
Latvia	2
Lithuania	4
Luxembourg	1
Malta	2
Montenegro	1
Netherlands	4
Norway	11
Poland	10
Portugal	7
Romania	9
Serbia	1
Slovakia	2
Slovenia	3
Spain	18
Sweden	6
Switzerland	5
Türkiye	6
Ukraine	3
United Kingdom	5
Total	**217**

The 2025 EUA-CDE survey received 217 valid responses from 139 EUA-CDE members and from 78 European University Association (EUA) members that are not currently part of EUA-CDE. With 139 universities participating, almost half of the 283 EUA-CDE members at that time filled in the questionnaire. Overall, participants in this survey included institutions from 37 countries. Each institution provided one single consolidated response to the survey. In almost half of the cases, the survey was filled in by a director/head of the doctoral school or similar structure (49%). Around 18% of respondents were professionals working at a doctoral school or similar structure, 15% were vice-rectors or deputy vice-chancellors, 8% were advisers to the rector/rector's cabinet, and 10% indicated 'other' roles when filling in the survey.[6] Thus, the participating institutions provide an institution-wide view of the 217 universities. The largest proportion of the institutions participating in the survey were comprehensive universities (66%), followed by specialised universities such as medical science or music and arts universities (12%), technical universities/universities of technology (11%), and universities of applied sciences (7%). Just 4% indicated 'other' types of institutions. Although one representative per university, typically at a central institutional level, filled in the survey, in less centralised institutions, it might have been difficult to cover all facets of how the doctorate is managed. Moreover, there are typically discipline-related differences even within relatively centralised institutions. It was only possible to a limited extent to capture internal diversity via a question with unipolar scale.

Based on the data available through the European Tertiary Education Register (ETER), we estimated the survey sample's representativeness per country and for Europe by measuring how many universities that award doctorates and how many doctoral candidates it covered. We found that 14% of all doctorate-awarding institutions in the 33 countries for which ETER data was available and 28% of all doctoral candidates enrolled in these countries were covered by the survey. Given the higher share of doctoral candidates compared with the share of institutions covered in the 2025 survey, it can be concluded that larger doctorate-awarding universities are more represented in this survey than smaller and medium-sized ones. Furthermore, there are clear differences in representativeness when it comes to individual countries. Typically, universities in countries with a smaller or medium-sized population – and therefore with fewer universities – are better represented. In the case of Andorra and Luxembourg, 100% of doctoral candidates are represented, followed by Iceland (97%), Ireland (91%), and Norway and Slovenia (both 81%). Representativeness in the large European countries varies from 5% to 50%, led by Italy (50%) and followed by Spain (36%), Poland (31%), Germany (26%), France (22%), Türkiye (8%), and the United Kingdom (5%). However, the overall representativeness varies greatly across Europe, with no clear trends in the different European regions: there are countries with lower or higher representativeness in the south and north, as well as in the east and west.

6 The following roles were mentioned under 'other': Head of International Students Office, Head of the Central Quality Assurance Service, Rector Delegate for Didactics, President of the Doctorate Board, Chairman of the Doctoral Council, Rector's Delegate for PhD Courses, Rector, Senior Adviser, Coordinator of the Internationalization Office, and Executive Assistant to the Vice President Research.

Figure 1: Share of doctoral candidates per country covered by the universities participating in the 2025 EUA-CDE survey



The ETER dataset does not include the following countries with participants in the 2025 EUA-CDE survey: Georgia (3 participating universities), Kazakhstan (1 university), Montenegro (1 university), and Ukraine (3 universities).

When it comes to terminology, this report uses 'third Bologna cycle', 'doctoral education', 'at doctoral level', and 'doctorate' in an interchangeable way to aid readability and when the level of precision allows it. Similarly, 'institution' and 'university' are both used for contextually equivalent instances to enhance narrative flow. For better readability, when referring to the universities that participated in the survey, 'participants', 'respondents', 'doctoral education leaders', 'universities', and 'institutions' are also used synonymously.

2 Academic freedom in a changed security environment

2.1 The state of academic freedom and how it can be protected

While the Charter of Fundamental Rights of the European Union protects academic freedom,[7] the topic falls under the competence of member states, and protection at European level is viewed as insufficient.[8] As part of the work on the European Research Area (ERA), in the Bonn Declaration on Freedom of Scientific Research of 2020, European research ministers reaffirmed their commitment to uphold academic freedom.[9] The topic remains at the forefront of the discussions at European level, and academic freedom is also expected to be part of the upcoming Commission proposal for an ERA Act in 2026.[10]

Academic freedom can come under pressure anywhere in the world; threats to it might be subtle and not always originate from external actors, such as governments but rather from individuals within institutions.[11] The Academic Freedom Index (AFI) represents "the first conceptually thorough assessment of academic freedom worldwide and a times series dataset going back to 1900".[12] It uses the following five key indicators to measure academic freedom in the world:[13]

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7 Charter of Fundamental Rights of the European Union. (2012/C 326/02).

8 Scientific Foresight Unit (STOA) – EPRS | European Parliamentary Research Service (2025): Academic Freedom Monitor 2024. Analysis of de facto state of academic freedom in the EU – Country overview. Brussels, pp. 111-112. And: Ceran, O. (2025): The Democratic Justification of Academic Freedom in EU Law: Article 13 of the EU Charter, the Rule of Law Toolbox, and the Scope for EU Action. European Constitutional Law Review, 21(2), pp. 300–332.

9 Bonn Declaration on Freedom of Scientific Research. Adopted at the Ministerial Conference on the European Research Area on 20 October 2020 in Bonn.

10 European Commission (2025b): Call for evidence for an impact assessment. European Research Area (ERA) Act. Brussels.

11 European University Association (2025b): EUA Position. How universities can protect and promote academic freedom – EUA principles and guidelines. Brussels, p. 3. And: Castiaux, Annick (UNamur); Danckaert, Jan (VUB); Dubois, Philippe (UMons); Leirs, Herwig (UAntwerpen); Nyssen, Anne-Sophie (ULiège); Schaus, Annemie (ULB); Sels, Luc (KU Leuven); Smets, Françoise (UCLouvain); Van de Walle, Rik (UGent); Vanheusden, Bernard (UHasselt) (2025): Stand up for academic freedom: not a privilege, but one of the keys for a free society. Joint statement by the Rectors of the 10 Belgian universities, 8 July 2025, p. 2.

12 Spannagel, J., Kinzelbach, K. The Academic Freedom Index and Its indicators: Introduction to new global time-series V-Dem data. Qual Quant 57, 3969–3989 (2023), p 1.

13 Kinzelbach, Katrin; Lindberg, Staffan I.; Lott, Lars; and Panaro, Angelo Vito (2025): Academic Freedom Index 2025 Update. FAU Erlangen-Nürnberg and V-Dem Institute. doi:10.25593/open-fau-1637, p. 12.

- the freedom to research and teach
- the freedom of academic exchange and dissemination
- the institutional autonomy of universities
- campus integrity
- the freedom of academic and cultural expression.

EUA defines academic freedom as follows: "the freedom to learn and teach, the freedom to conduct and valorise research, and the freedom to communicate the results of scientific work within and outside of the university community".[14] The EUA position paper on academic freedom formulates six principles and nine guidelines for university leadership, individual academics, and university communities.

In recent years, academic freedom has come under pressure from authoritarian tendencies and due to the rejection of widespread scientific consensus on topics such as climate change.[15] The 2025 AFI Update observes an overall downward trend in the world. The degree of control on academic life and limitations to academic freedom do not necessarily need to correspond to lower levels of investment in research, as the dynamic development of R&I activity in parts of the world illustrates.[16] Political change in recent years, a trend toward more authoritarianism, coupled with a rise in conflicts and geopolitical confrontations have further exacerbated challenges to academic freedom and – perhaps as importantly – diminished former strongholds of academic freedom and their influence in the world.[17]

The 2022 EUA-CDE 'Vision for the Future of Doctoral Education in Europe' states: "Doctoral education should promote a dialogue about the different dimensions of academic freedoms and raise awareness about where any are at risk. It should create an open space for critical debate and the exchange of opposite views, while defending the rights of doctoral candidates to engage in these activities."[18] This is the issue to which the current survey aims to contribute by asking universities how they view academic freedom at doctoral level, and what policies are needed for the future.

The 2025 EUA-CDE survey focuses on how doctoral school leaders in Europe experience the state of academic freedom in their country and in academic practice at their institutions. The survey results show that universities view academic freedom as being well protected at doctoral level. While only a small proportion, 3%, experience no challenges to academic freedom, 86% think that it is protected by national law as well as in institutional practice. An additional 8% of institutions experience it as being maintained in practice by academic tradition, even if it is not explicitly protected by national law. Thus, a total of 94% of respondents view academic freedom as protected in practice. Very few respondents (1%) stated that it is protected by national law but not in institutional practice, or that academic freedom is neither protected by national law nor in institutional practice (0.5%). The survey results show a high level of awareness of the issue, as very few institutions (1.5%) selected the option 'I do not know'.

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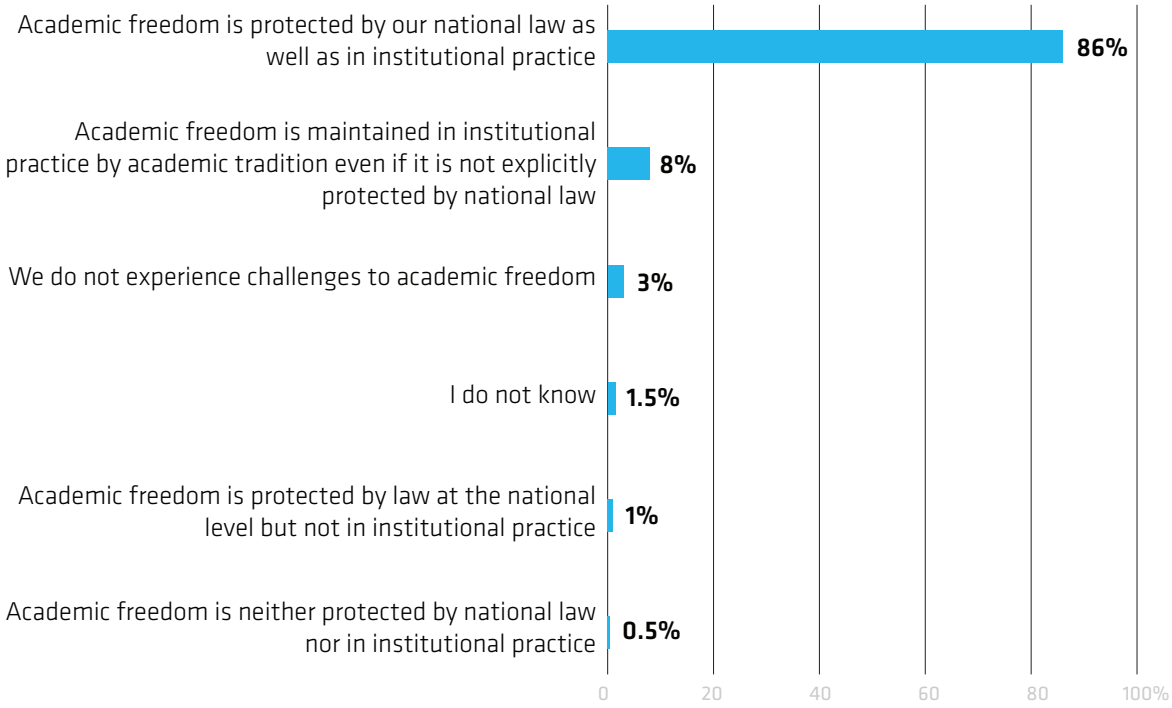
14 European University Association (2025b): EUA Position. How universities can protect and promote academic freedom. EUA principles and guidelines. Brussels, p. 3.
15 Kinzelbach, Katrin; Lindberg, Staffan I.; Lott, Lars; and Panaro, Angelo Vito (2025): Academic Freedom Index 2025 Update. FAU Erlangen-Nürnberg and V-Dem Institute. doi:10.25593/open-fau-1637, p. 8.
16 Scientific Foresight Unit (STOA) – EPRS | European Parliamentary Research Service (2023): Promotion of freedom of scientific research. European added value assessment. Brussels, pp. 3 and 22.
17 Ibid., p. 9.
18 EUA-CDE (2022): Building the Foundations of Research. A Vision for the Future of Doctoral Education in Europe. Geneva, p. 10.

Figure 2: What best describes the state of play of academic freedom (the freedom to research, teach, and publish findings without interference from university administrators, the government, donors, or other actors) at doctoral level at your institution?
Number of respondents: 217/217



The questionnaire asked respondents about different types of actions that could or should be taken on academic freedom at doctoral level. Although universities view academic freedom at doctoral level as being largely intact, only 20% think that no action is currently needed to protect academic freedom. This might indicate a general awareness that academic freedom has come under pressure in in recent years. The largest group, slightly fewer than half of the responding universities (46%), indicated that academic freedom should be protected at European level. About a third of institutions (32%) indicated that action is needed mainly at national level. A similar number of universities (30%) specified that academic freedom should be better monitored at European level or by international organisations. One in five universities (20%) stated that action is needed at the institutional level. Respondents could select up to two options for this question.

Figure 3: How could academic freedom be best protected at doctoral level? Select up to two options.
Number of respondents: 212/217

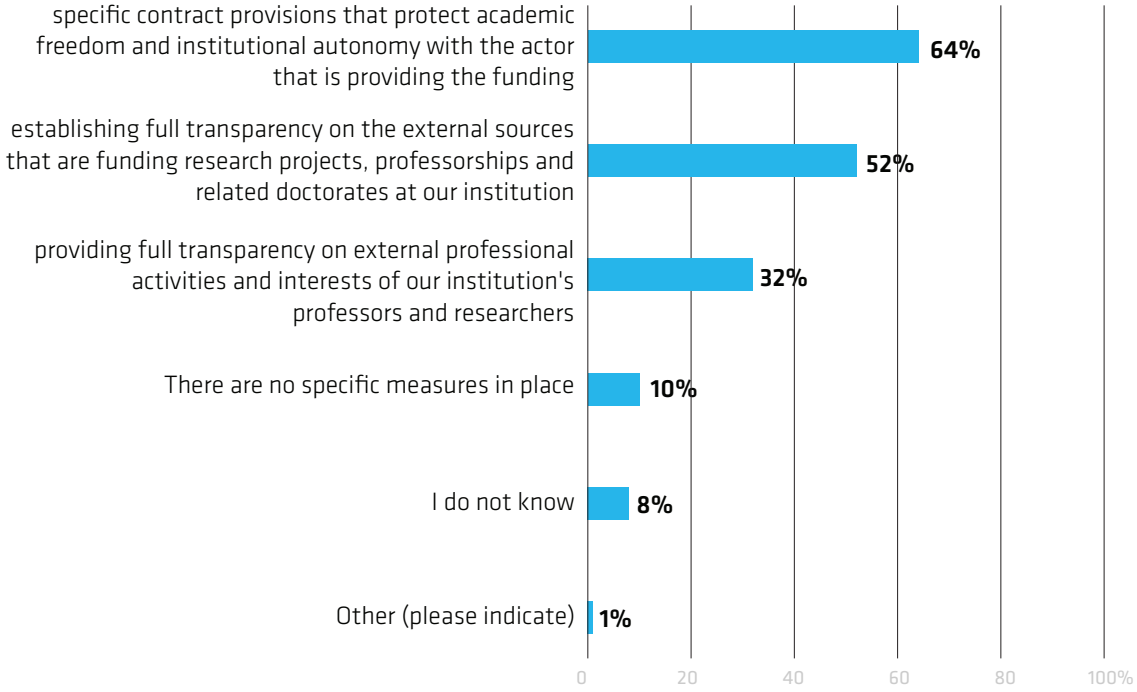
In addition to national governments, the EU, or international organisations, universities themselves can take measures to protect and strengthen academic freedom. This can contribute to academic freedom being protected in institutional practice, a situation most respondents experience at their university. An important and challenging area for academic freedom and institutional autonomy is the collaboration with and funding of research by actors outside academia.

The 2025 EUA-CDE survey asked institutions about the measures they have put in place in striving to protect academic freedom and institutional autonomy in the case of collaboration and funding from outside academia. The main measure that almost two thirds (64%) of universities have put in place includes specific contract provisions that protect academic freedom and institutional autonomy vis-à-vis the actor that is providing the funding. Slightly more than half of universities (52%) have established full transparency on the external sources that are funding research projects, professorships, and related doctorates at their institution. Around a third of universities (32%) are providing full transparency on the external professional activities and interests of their institution's professors and researchers. A smaller group, 10% of respondents, indicated that there are no specific measures in place at their institution. Only a few universities (1%) indicated that they have put in place 'other' measures, and 8% selected the option 'I do not know'. Universities could select all options that apply.

Taking measures that guide collaboration and funding from outside academia is closely connected to the 'honest broker' role of universities and related frameworks for enhancing this role by handling potential conflicts of interest, a topic covered in the 2022 EUA report on 'Universities as key drivers of sustainable innovation ecosystems'.[19]

19 Findings from EUA's 2022 innovation survey show that 43% of respondents had frameworks in place for handling conflicts of interest in innovation that establish principles on research-related engagement with industry, intellectual property, research commercialisation activities, the formation of spin-off companies, and secondary employment. Kozirog, Kamila; Lucaci, Sergiu-Matei; and Berghmans, Stephane (2024): Universities as key drivers of sustainable innovation ecosystems. Results of the EUA survey on universities and innovation. Brussels, p. 28.

Figure 4: In the case of collaboration and funding from outside academia, your institution is striving to protect academic freedom and institutional autonomy by... Select all that apply.
Number of respondents: 212/217



2.2 Research security measures and support for doctoral candidates

A direct effect of geopolitical change is the increasing importance of research security. Over the past few years a new debate has emerged about the perception of risk in the research sector. It includes a concern that fundamental research "is being taken advantage of by other countries".[20] This development is reinforced by the important role that R&I plays in today's environment of rising tensions.[21] Research and innovation are not only important for the defence sector, they play an even greater role in enabling economic powers to compete with each other. This, in turn, means that research security is becoming increasingly important in today's geopolitical environment.[22]

While the EU has laid out a strategy against foreign interference that includes elements of research security,[23] competences are mostly at national level, where the majority of the concrete measures can be observed, including at institutional level. Research security is also a topic closely related to academic freedom as it potentially brings restrictions on research, while it can

20 JASON (2019): Fundamental Research Security. McLean, p. 5.
21 Council of the European Union (2024): Council Recommendation on enhancing research security. Brussels. 14 May 2024, p. 2.
22 European Commission and High Representative of the Union for Foreign affairs and Security Policy (2023): Joint Communication to the European Parliament, the European Council and the Council on "European Economic Security Strategy". Brussels, pp. 1-5.
23 European Commission, Directorate-General for Research and Innovation (2022): Tackling R&I foreign interference. Staff working document. Publications Office of the European Union. Luxembourg, pp. 41-47.

also include measures to protect academic freedom from foreign interference. In addition, measures implemented by universities can contribute to their institutional autonomy – as discussed in the survey question above.

The 2025 EUA-CDE survey provides insights into the state of play in Europe at doctoral level in early 2025. Almost 70% of respondents indicated that they either have research security measures in place or are at various stages of developing or planning them. The survey differentiates between three different types of measures, covering:

- the daily conduct of research
- international research cooperation
- admission to doctoral programmes.

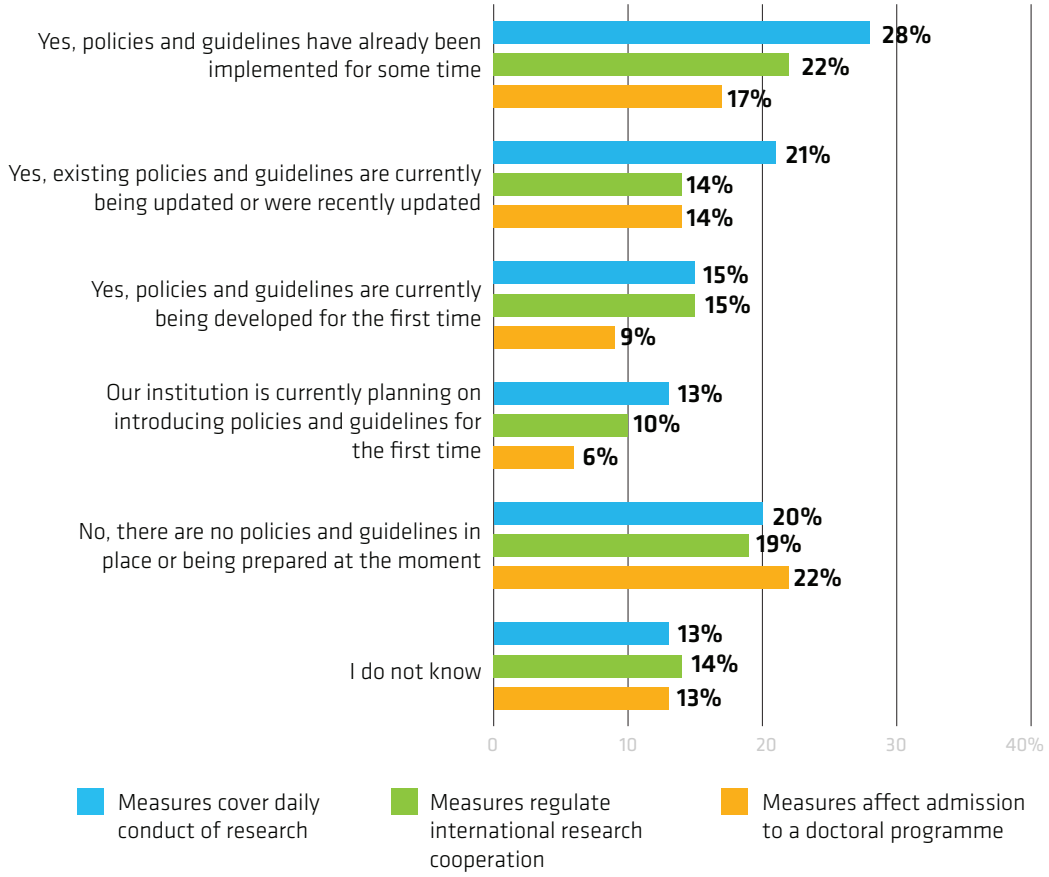
Measures that cover the daily conduct of research are the most widespread ones that have already been in place for some time. More than a quarter of institutions (28%) reported that this was already the case, while 22% of respondents indicated that their university has measures in place to regulate international research cooperation. Measures that affect admission to doctoral programmes are the least widespread ones, with 17% of universities reporting that they have already been implementing such measures for some time. Depending on the area, either 14% (international research cooperation and admission) or 21% (daily conduct of research) of universities indicated that their existing measures are currently being updated or were recently updated.

Some 15% of respondents indicated that they are currently in the process of developing measures for the daily conduct of research and for international collaboration for the first time. Around one in ten universities (9%) are currently developing measures on admission to a doctoral programme. Between 6% and 13% of respondents indicated that they are planning to introduce measures for the first time, depending on the area.

The percentage of institutions that neither have policies or guidelines in place nor are in the process of developing them ranges between 19% in the case of international research cooperation and 22% for measures affecting admission to doctoral programmes. A fifth of universities (20%) indicated that they have no measures that cover the daily conduct of research, nor are they currently preparing such measures. Slightly more than one in eight (13–14%) respondents selected 'I do not know' for the three categories.

The EUA-CDE survey findings show a considerable variation in the different stages of the implementation of policies and guidelines on research security across institutions. The relative high share of institutions that are either creating or planning policies and guidelines for the first time or reported an update of previous measures points to a dynamic situation and potential challenges in formulating policies and guidelines in this relatively new area. While this survey question shows the different stages of implementation of the measures by the institutions, it does not provide any information about what these measures entail.

Figure 5: Is your institution taking active measures to strengthen research security that affect the doctoral level and related research activities (including on dual-use research for civil and military purposes and on export restrictions)?
Number of respondents: 211/217

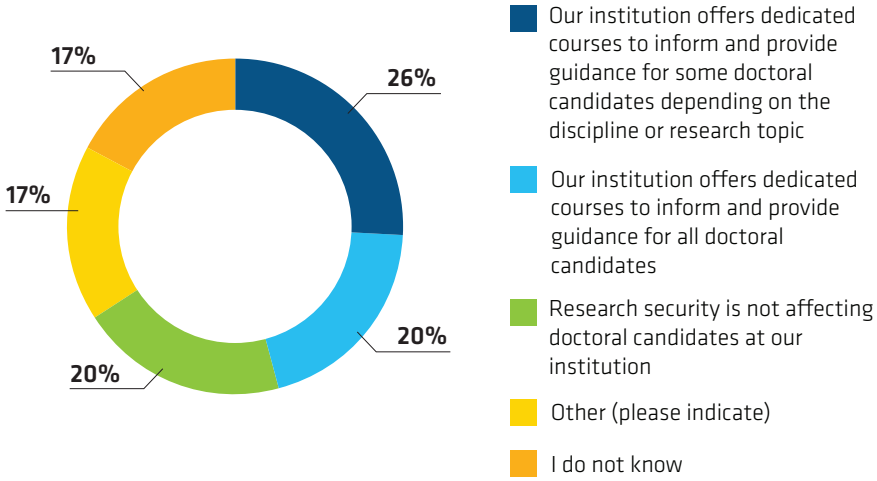


The doctoral level plays a key role when it comes to implementing measures on research security in Europe. First, today's doctoral candidates are Europe's future researchers and university leaders: the training and socialisation they receive during their doctorate will shape their career inside or outside academia. Second, many doctoral candidates are pursuing research projects in areas that are regulated by research security policies and guidelines. As a consequence, they themselves are often subject to screening processes at the time of their admission to the doctorate. Support for doctoral candidates therefore appears to be of high relevance.

When it comes to supporting doctoral candidates in the area of research security, the 2025 EUA-CDE survey shows that 26% of universities pursue a targeted approach and offer dedicated courses to inform and provide guidance for some doctoral candidates, depending on the discipline or research topic. A fifth of institutions (20%) are following a mainstreaming approach and are offering dedicated courses to inform and provide guidance for all doctoral candidates.

However, 20% of respondents stated that research security is not affecting doctoral candidates at their institution. Slightly fewer, 17%, chose the option 'other' and indicated support activities provided by their institutions that included seminars and lectures on research security, individual counselling sessions, and guidance on upskilling activities for supervisors.[24] Of note, an equal number of universities (17%) selected the option 'I do not know'.

Figure 6: How is your institution supporting doctoral candidates when it comes to research security?
Number of respondents: 214/217



2.3 How universities are supporting researchers at risk at doctoral level

When researchers and students have to leave their country due to the security situation, this constitutes the polar opposite of academic freedom. Thus, the rise in the numbers of researchers at risk is the result of an extreme threat to academic freedom in their respective countries.[25] It also constitutes one of the most direct effects of the geopolitical change in recent years, especially in cases when researchers have to leave their country due to war.

Universities in Europe are taking measures to support some of the researchers that are affected by these situations,[26] and the 2025 EUA-CDE survey asked institutions about their respective activities at doctoral level. Almost a third of the universities (30%) support researchers at risk

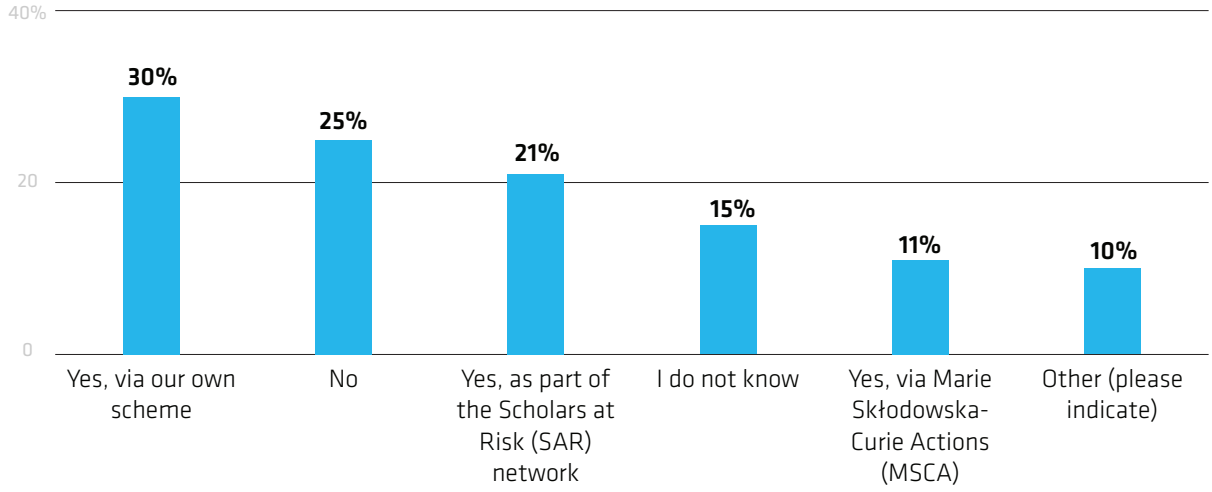
24 The following activities were mentioned under 'other': organisation of informative seminars/lectures on research security, individual counselling sessions and guidance, general guidance through research support platforms, ad-hoc training on information security for some disciplines, the creation of contact points where doctoral candidates can be kept up to date, webpage resources, upskilling activities for supervisors so that they can offer proper support, and addressing this topic during research ethics workshops.

25 Stoeber, Henriette; Gaebel, Michael; O'Gorman, Sinead; and Hanisek, Joel (2022): Inspireurope recommendations: Expanding opportunities in Europe for researchers at risk. Brussels. And: Didero, Maike; Radke, Holger; Zargouni, Nour; and Hanisek, Joel (Inspireurope+) (2024): Researchers at Risk: An Update on National-level Actions in Europe 2024. Brussels, p. 6.

26 Stoeber, Henriette: Gaebel, Michael; and Morrisroe, Alison (Inspireurope and EUA) (2020): Researchers at Risk: Mapping Europe's Response – report of the Inspireurope project. Brussels, p.15.

at doctoral level via their own schemes, 21% as part of the Scholars at Risk (SAR) network, 11% via Marie Skłodowska-Curie Actions (MSCA), and 10% in other ways, including by participating in national programmes for refugees or projects coordinated by funding organisations for the international exchange of researchers, by providing support on a case-by-case basis, or through individual agreements with Ukrainian researchers. Thus, the majority of universities are offering support via one or more schemes to at-risk early-career researchers at doctoral level. A quarter of respondents (25%) indicated that their universities do not offer support at doctoral level for researchers at risk and 15% selected the option 'I do not know'. Respondents could select all that apply; thus, some universities are active via two or more schemes.

Figure 7: Is your institution offering support to researchers at risk at doctoral level? Select all that apply.
Number of respondents: 214/217



3 Doctoral education for the advancement of society

3.1 Tackling global and societal challenges

Universities play a major role in tackling today's global and societal challenges. The doctoral level contributes to this endeavour by expanding the boundaries of knowledge, by developing novel approaches to tackle these challenges, by collaborating with stakeholders in society, and – perhaps most importantly – through the formation of early-career researchers with unique expertise to contribute to society as they embark on their career pathways in academia and beyond. The 2022 EUA-CDE vision paper emphasises that "universities should embrace the Sustainable Development Goals as a holistic framework providing a context for and supporting the delivery of doctoral education".[27] While there is evidence that the most conducive approach for empowering researchers to tackle today's major challenges is their freedom to pursue curiosity-driven research,[28] there are ways to influence further the focus of doctoral research on the SDGs.

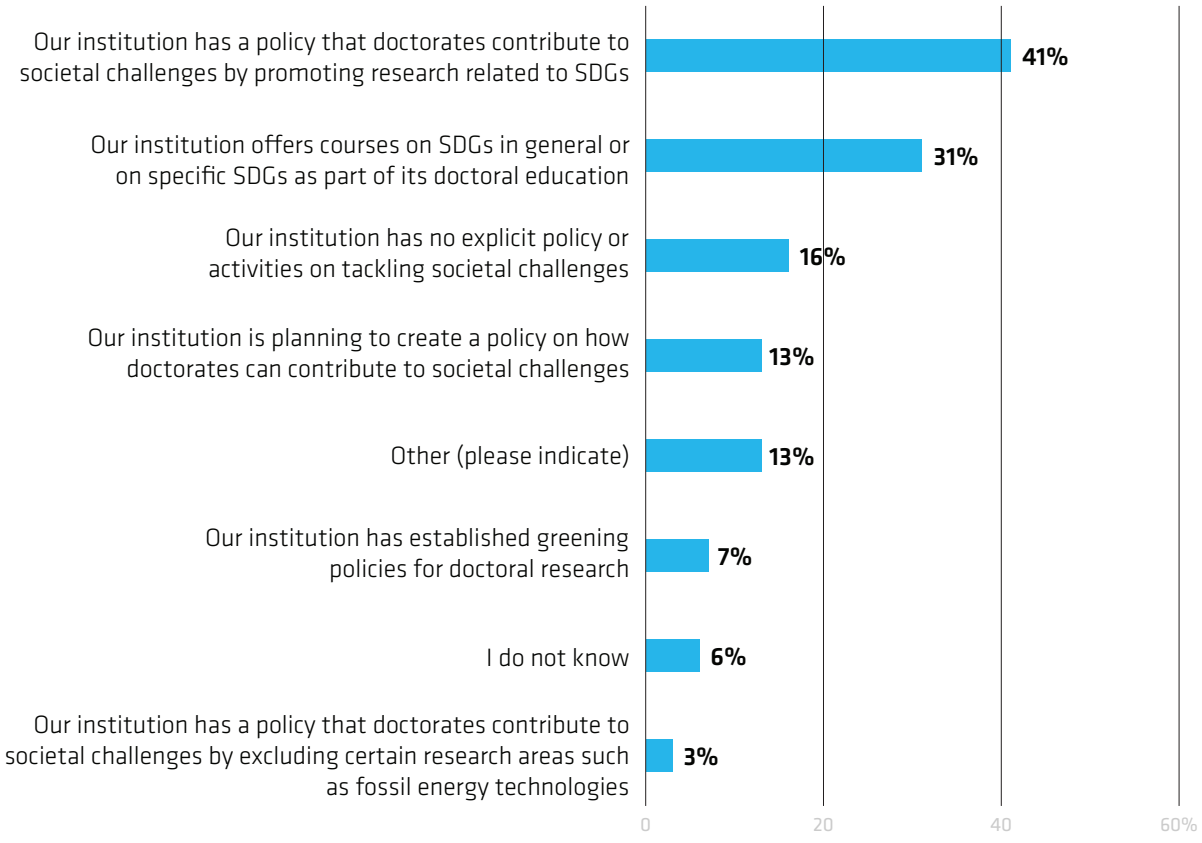
Image 1: Overview of the United Nations SDGs (Source: United Nations Department of Economic and Social Affairs)[29]

27 EUA-CDE (2022): Building the Foundations of Research. A Vision for the Future of Doctoral Education in Europe. Geneva, p. 8.
28 European University Association (2025b): EUA Position. How universities can protect and promote academic freedom EUA principles and guidelines. Brussels, p. 3.
29 United Nations Department of Economic and Social Affairs. https://sdgs.un.org/goals

The 2025 EUA-CDE survey shows that 41% of universities have policies in place to the effect that doctorates contribute to societal challenges by promoting research related to the SDGs. Slightly fewer than a third of institutions, 31%, indicated that they are offering courses on SDGs in general or on specific SDGs as part of their doctoral education course offers. While 13% of respondents are currently planning to create a policy on how doctorates can contribute to societal challenges, another 13% selected 'other' and indicated the following activities: encouraging specific topics related to the SDGs, creating a Green Office with responsibility for all university members including doctoral candidates, promoting SDG-related research topics within the framework of their European Universities alliance, implementing the SDGs as part of the institutional strategy, introducing policies on (research) travels that suggest the use of public transport, or integrating the SDGs into doctoral education curricula.

A smaller percentage of participating institutions (7%) mentioned that their university has established greening policies for doctoral research. Other options were less common among respondents: only a few universities (3%) reported that their institution has a policy that doctorates contribute to societal challenges by excluding certain research areas, such as fossil energy technologies, and the option 'I do not know' was selected by 6%. However, some 16% of universities stated that their institution has no explicit policy or activities on tackling global and societal challenges.

Figure 8: How is your institution tackling global and societal challenges at doctoral level, for instance the sustainable development goals (SDGs)? Select all that apply.
Number of respondents: 213/217



While universities are tackling global and societal challenges in various ways, it becomes clear that the topic plays a considerable role at universities, and awareness is relatively high.[30] At the same time, universities refrain from prescriptive approaches and instead support awareness via courses or by promoting research related to SDGs.

A recent EUA survey report also focused on the topic of sustainability and greening in European higher education, capturing a wide range of perceptions and approaches among European universities. With 400 responses from institutions in 43 countries of the European Higher Education Area (EHEA), the outcomes show that universities promote sustainability and greening in R&I through dedicated institutes and living labs. This report also showcases examples of good practices, illustrating how universities are integrating sustainability and greening into their operations, for instance by offering sustainability courses and training opportunities for staff and doctoral candidates.[31]

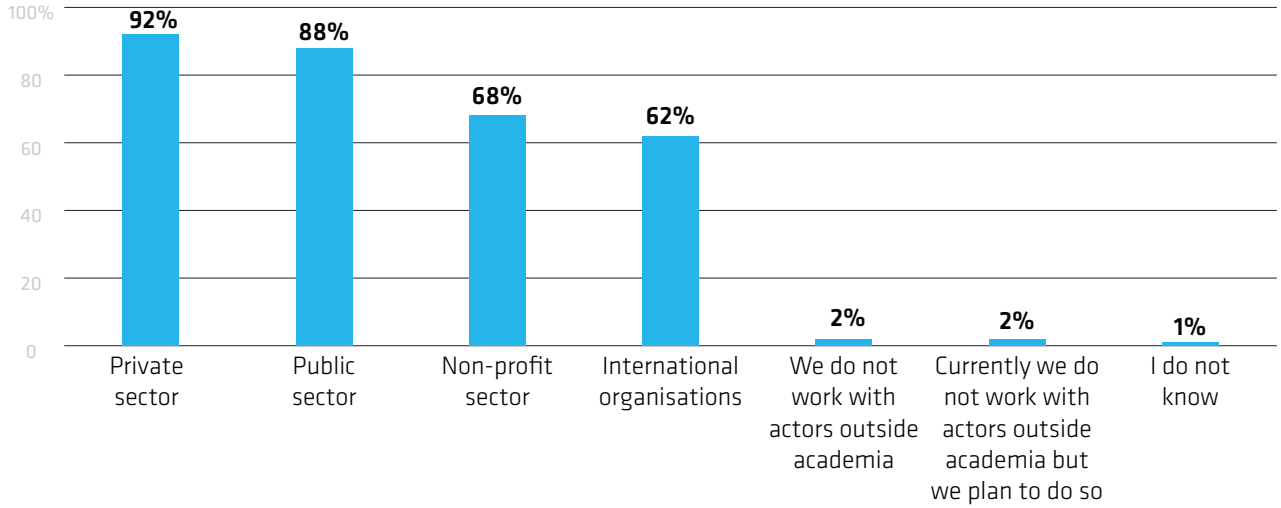
3.2 Collaboration beyond academia at doctoral level

Doctoral candidates are ideally placed to contribute through their research, research-based innovation, and expertise to tackling today's global and societal challenges, and to contribute to Europe's economic competitiveness. As the first 2025 EUA-CDE survey report found, more than 70% of doctorate holders are pursuing careers beyond academia, highlighting the importance of this career pathway for doctoral education.[32] Moreover, there is strong evidence that the competences of doctoral graduates are in high demand in society and the economy. OECD data shows strong labour market outcomes for doctoral graduates, including higher employment rates and earnings than is the case for graduates of master's programmes.[33] The OECD Education at a Glance 2025 report states: "Although earnings might not be the sole factor in driving individuals' decisions to pursue a doctorate and might not represent a positive rate of return on investment in all cases, this premium underscores the value attributed by the labour market to advanced research skills in some fields."[34] Studies emphasise the importance of exposure to society during the doctorate itself: doctoral candidates who, for instance had already been exposed to the private sector during their doctorate are more likely to pursue a career in the labour market beyond academia.[35] The data presented in this chapter also provides evidence for the work of the 2025–26 EUA-CDE Thematic Peer Group on collaboration with actors outside academia.

30 European University Association (2018): Universities and Sustainable Development – Towards the global goals. Brussels, p.1-2.
31 Stoeber Henriette and Gaebel Michael (2025): Sustainability and greening in European higher education. EUA survey report. European University Association. Brussels, p. 10.
32 Marti, Simon; and Peneoasu, Ana-Maria (2025): Doctoral education in Europe today: enhanced structures and practices for the European knowledge society. 2025 EUA-CDE survey report, part I. Geneva, p. 36.
33 OECD (2025): Education at a Glance 2025: OECD Indicators. OECD Publishing. Paris, pp. 80 and 84.
34 Ibid., 84.
35 Boman, J.; Barrioluengo, M.S.; and van der Weijden, I. (2025): Determinants of the career pathways of doctorate holders: Evidence from eight European universities. High Educ. And: Skakni, Isabelle; Kereselidze, Nata; Parmentier, Michaël; Delobbe, Nathalie & Inouye, Kelsey (2025): PhD graduates pursuing careers beyond academia: a scoping review, Higher Education Research & Development, p. 10.

The 2025 EUA-CDE survey shows that most universities are working with a wide range of actors outside academia at doctoral level. While industrial doctorates, and therefore private sector partners, might be the best-known example of such collaboration, the survey results show that almost the same share of universities collaborate with public sector stakeholders (88%) as with private sector partners (92%).

Figure 9: Which category of actors beyond academia are you working with at doctoral level? Select all that apply.
Number of respondents: 217/217



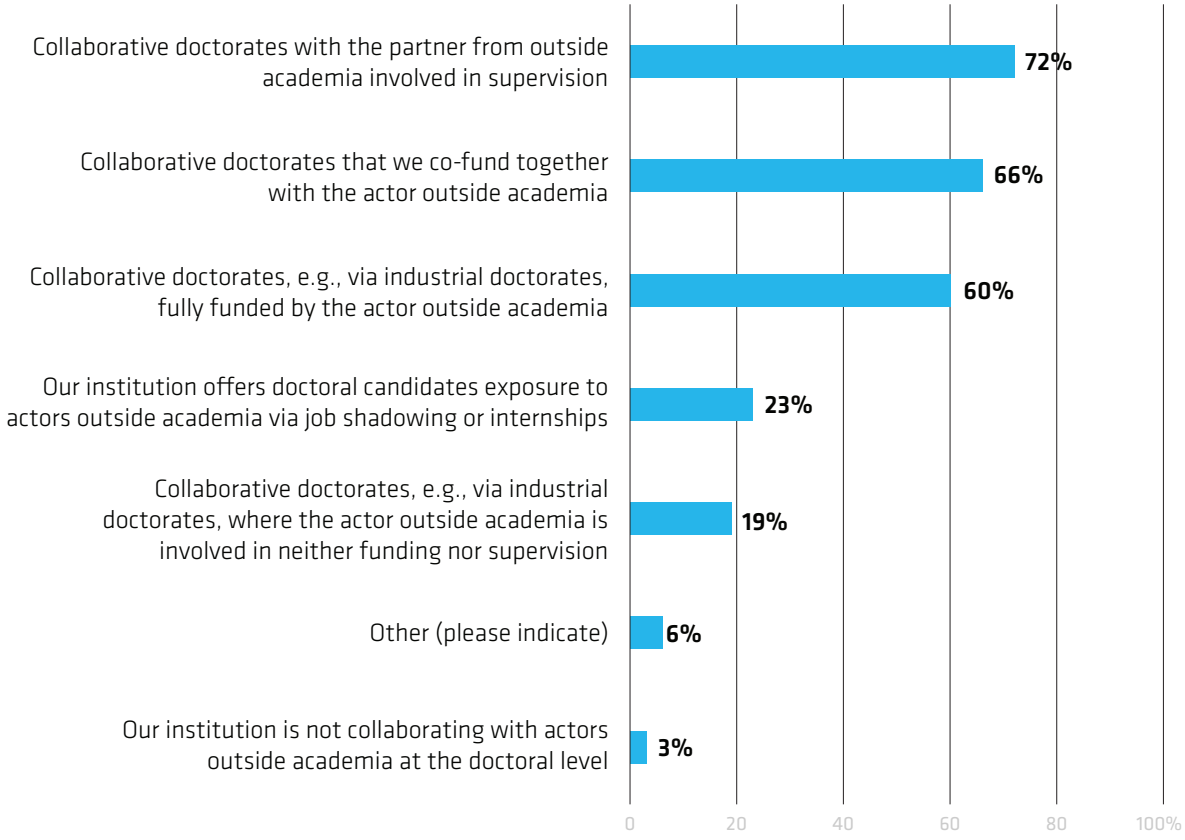
More than two thirds (68%) of universities indicated that they work with the non-profit sector and 62% of them stated that they collaborate with international organisations. The other options scored very low: universities not currently working with actors outside academia but planning to do so (2% of respondents), and universities neither collaborating with stakeholders nor planning to do so in the future (2%). Survey participants had a very high level of awareness of the topic, with just 1% selecting the option 'I do not know'. Respondents were able to choose all answers that apply. While this survey question provides a general overview on the type of actors universities are working with at doctoral level, it does not provide information on the nature and intensity of that collaboration in each sector.

However, the survey provides answers on which different forms of collaboration with actors beyond academia are relevant for universities. The results show that the most widespread format, indicated by 72% of respondents, is collaborative doctorates with the partner from outside academia involved in supervision. Two thirds of universities (66%) specified that they are co-funding collaborative doctorates together with the actor outside academia. A slightly smaller number, 60%, reported that they offer collaborative doctorates, e.g. via industrial doctorates, that are fully funded by the actor outside academia. There are also collaborative doctorates in which the actor outside academia is involved in neither funding nor supervision: 19% of universities specified that this type of collaborative doctorate exists at their institution.

While collaborative doctorates are clearly the most important form of collaboration between universities and non-academic stakeholders at doctoral level, 23% of respondents indicated that their institution offers doctoral candidates exposure to actors outside academia via job shadowing or internships. The remaining options were chosen by a limited share of respondents: 'other' ways of collaboration with actors beyond academia were reported by 6%, including mentoring

programmes, regional forums where thematic exchanges are facilitated, national funding schemes involving the private sector, and collaborations based on supervisors' networks from beyond academia. Very few respondents (3%) indicated that their institution is not collaborating with actors outside academia at doctoral level. Universities could select all the options that apply for them. This means that many individual universities do not have just one mode of collaboration but rather several ways to collaborate with actors beyond academia. However, again, we do not know how intense or frequent these collaborations are compared with fully academic doctorates.

Figure 10: Which different forms of collaboration with actors beyond academia are relevant at doctoral level of your institution? Select all that apply.
Number of respondents: 217/217



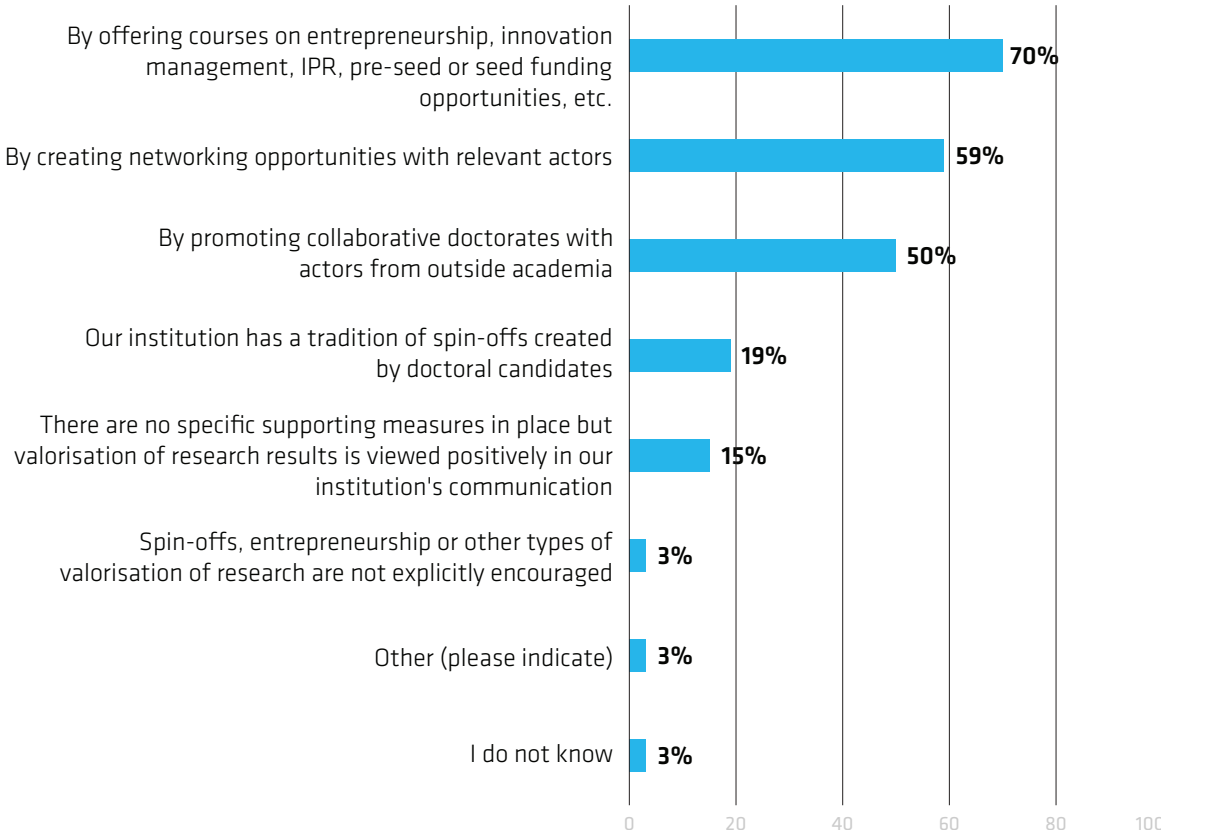
As the 2022 EUA-CDE vision paper states, "doctoral candidates must be equipped with the knowledge and skills to meet the modern demands of research and pursue their chosen career paths".[36] It also emphasises that "transversal skills should not be seen as an add-on but as a key element of the doctorate, maintaining the essential role of original research as the key feature of doctoral education".[37] While many aspects of these support measures for career development opportunities were covered by the first 2025 EUA-CDE survey report, the 2025 EUA-CDE survey also looked into how universities are supporting spin-offs, entrepreneurship, or other types of valorisation of research at doctoral level.

36 EUA-CDE (2022): Building the Foundations of Research. A Vision for the Future of Doctoral Education in Europe. Geneva, p. 12.
37 Ibid.

The most widespread approach is to offer courses on entrepreneurship, innovation management, intellectual property rights, pre-seed, or seed funding opportunities. This option was selected by 70% of respondents. More than half of the responding universities (59%) support entrepreneurship by creating networking opportunities with relevant actors, while 50% indicated that they promote collaborative doctorates with actors from outside academia. Almost one fifth of universities (19%) reported the existence of a tradition of spin-offs created by doctoral candidates.

According to 15% of respondents, there are no specific supporting measures in place, but the valorisation of research results is considered positive in their institution's communication. The remaining response options attracted relatively few responses: spin-offs and entrepreneurship are not encouraged at 3% of institutions, while 3% selected the option 'other' and stated that spin-offs, entrepreneurship, or other types of valorisation of research are supported for example by offering counselling services or dedicated office space to potential entrepreneurs, by developing a commercialisation unit, or by providing university business incubators. Awareness of this topic is high, with only 3% or respondents answering 'I do not know'.

Figure 11: How is your institution supporting spin-offs, entrepreneurship, or other types of valorisation of research at doctoral level? Select all that apply.
Number of respondents: 217/217



At the heart of successful collaborations between universities and non-academic actors lies intersectoral mobility, which means that researchers can transition between different sectors, from academia to industry, public administration, or the non-profit sector – and vice versa. Intersectoral mobility is increasingly recognised as vital for fostering innovation, enhancing career development, and addressing complex societal challenges. By enabling doctoral candidates to apply their expertise in diverse contexts, intersectoral mobility enriches their professional skill sets, while supporting the exchange of knowledge and expertise between sectors.[38]

This type of mobility significantly enhances collaboration by creating bridges between academia and non-academic sectors. When doctoral candidates transition between sectors, they gain not only technical expertise but also insight into the distinct cultures, languages, and operational practices of each environment. This deepens mutual respect and trust, which are essential foundations of effective and innovative collaboration, producing outcomes that are not only scientifically robust but also societally relevant.[39]

Asked about the existing mechanisms for making intersectoral mobility relevant at doctoral level, 58% of participants indicated that their institution is equally promoting careers inside and outside academia, while in almost half of universities (46%), intersectoral mobility is seen positively, even if it is perceived as being difficult to implement.

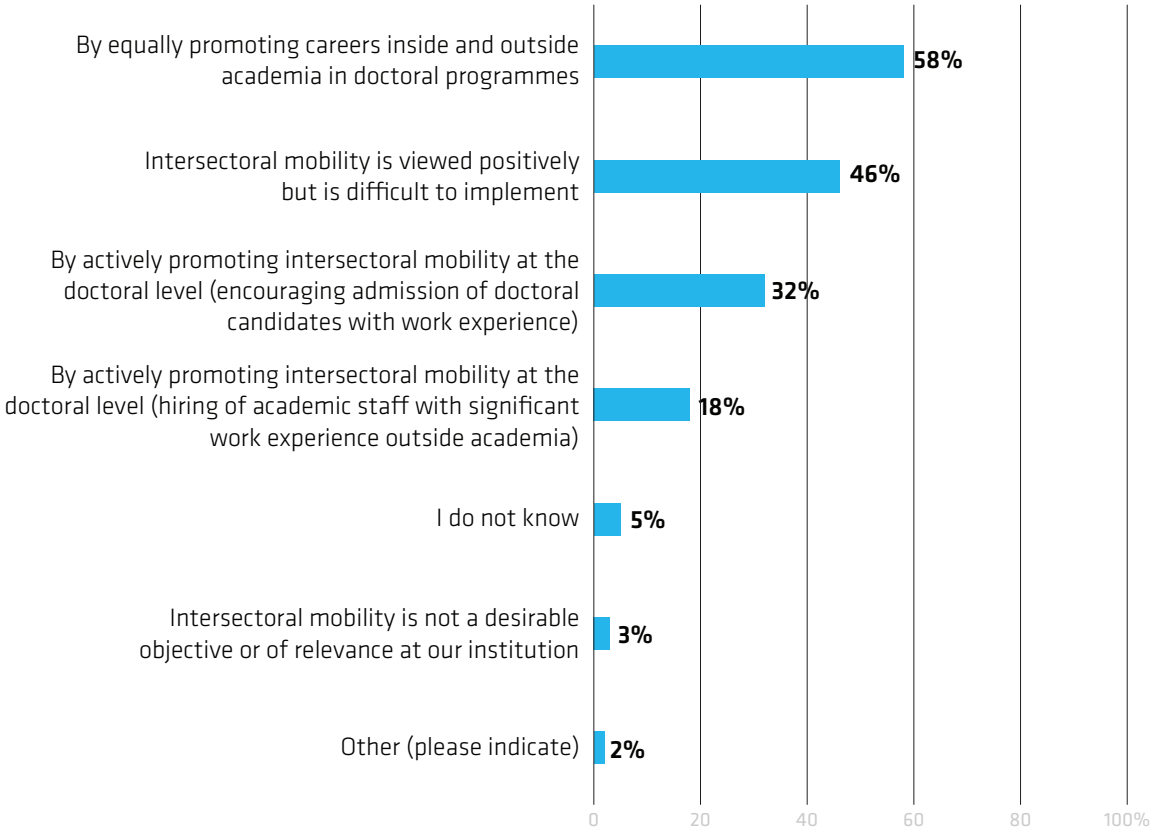
At almost one third of responding universities (32%), mobility between different sectors is actively promoted, for instance by encouraging the admission of doctoral candidates with work experience. Another strategy for enhancing this type of mobility is hiring academic staff with relevant work experience beyond academia, a practice that is in place at 18% of participating universities.

Only a small proportion of respondents chose the remaining options: 5% selected 'I do not know', 3% reported that intersectoral mobility is not a desirable objective or of relevance at their institution, while 2% mentioned the existence of other types of mechanisms for making intersectoral mobility relevant at doctoral level. These mechanisms included the design of institutional frameworks to provide doctoral candidates with opportunities to experience intersectoral activities during the doctoral journey and the existence of national funding programmes to sponsor doctoral candidates with work experience beyond academia.

38 Hristov, Hristo; Slavcheva, Milena; Jonkers, Koen; and Szkuta, Katarzyna (2016): Intersectoral mobility and knowledge transfer. Preliminary evidence of the impact of intersectoral mobility policy instruments. Joint Research Centre. Brussels, p.5.

39 Borrell-Damian, Lidia; Morais, Rita; and Smith, John (2015): Collaborative doctoral education in Europe: research partnerships and employability for researchers: report on DOC-CAREERS II project. European University Association. Brussels, p.55.

Figure 12: How is intersectoral mobility made relevant at doctoral level of your institution? Select all that apply.
Number of respondents: 216/217



3.3 Contributing to Europe's competitiveness

R&I at European universities plays a pivotal role in enhancing the continent's competitiveness and long-term prosperity, as emphasised in recent high-level reports by Enrico Letta, Mario Draghi, and Manuel Heitor. In his report on the European Single Market, Enrico Letta, former Prime Minister of Italy, puts forward the idea that a fifth freedom should be introduced to allow for the free circulation of research, innovation, and education – and the respective workforce to strengthen Europe's capacity in these areas – and to innovate.[40] In his report 'The Future of European Competitiveness', the former President of the European Central Bank and former Prime Minister of Italy, Mario Draghi, identifies innovation as the most powerful tool available for closing Europe's persistent productivity gap, particularly by accelerating the green and digital transition and reducing dependency on foreign technologies.[41] He argues that Europe's prosperity will depend on its capacity to translate scientific and technological developments into industrial renewal and economic dynamism and highlighted the important role of

40 Letta, Enrico (2024): Much more than a market. Speed, security, solidarity. Empowering the Single Market to deliver a sustainable future and prosperity for all EU Citizens. Brussels, p.7.
41 Draghi, Mario (2024): The future of European competitiveness. Publications Office of the European Union. Luxembourg, p.28-32.

universities in these efforts: "Universities and other research institutions are central actors in early-stage innovation, generating breakthrough research and producing new skills profiles for the workforce".[42] However, his report also states that "there are not enough academic institutions achieving top levels of excellence and the pipeline from innovation into commercialisation is weak".[43] One of the key findings of the Draghi report is that the EU must invest massively in measures to revive its competitiveness.

Similarly, the 'Align, Act, Accelerate' report, developed by an independent expert group chaired by former Portuguese Minister of Science, Technology and Higher Education Manuel Heitor, insists that only through increased and more coherent investment in R&I can Europe remain globally competitive.[44] The report also emphasises that R&I drives competitiveness by fostering industrial transformation and strengthening Europe's ability to respond to societal and global challenges. Influenced by these reports, the European Commission published a Competitiveness Compass in early 2025 setting out the initiatives it plans to ensure Europe's competitiveness.[45]

Against the backdrop of these recent studies, the 2025 EUA-CDE survey asked for participants' views on the contribution of doctoral education to Europe's prosperity and competitiveness based on their institutional experience. Almost all university representatives – 97% of respondents – were fully or partly of the opinion that doctorates generate new knowledge and research results from which the wider society can benefit, thus enhancing Europe's competitiveness. On a similar level, 94.5% fully or partly agreed that doctorates already provide the society and economy with the skills on the labour market necessary to improve Europe's competitiveness. Only 5.5% of participants did not fully share this view. The assessment of the positive contribution of doctoral talent to the labour market is confirmed by OECD data, which, as mentioned in the previous subchapter, shows strong labour market outcomes for doctoral graduates.[46]

Nevertheless, 91% fully or partly consider that doctorates could make an even greater contribution to Europe's competitiveness by promoting closer collaboration with actors beyond academia. At a slightly lower level, 81% of respondents fully or partly agreed that doctoral education could play a bigger role in Europe's competitiveness if programmes focused more on doctoral candidates' career preparation beyond the academic sector; almost one fifth of participants (19%) partly or fully disagreed with this statement. Thus, it can be seen that the share of institutions that recognise the doctorate's contribution to Europe's competitiveness is only slightly higher than the share of universities that believe more could be done. A report published by EUA in October 2025, also sees additional opportunities for universities to make a greater contribution to Europe's competitiveness and outlines the framework conditions required for this.[47]

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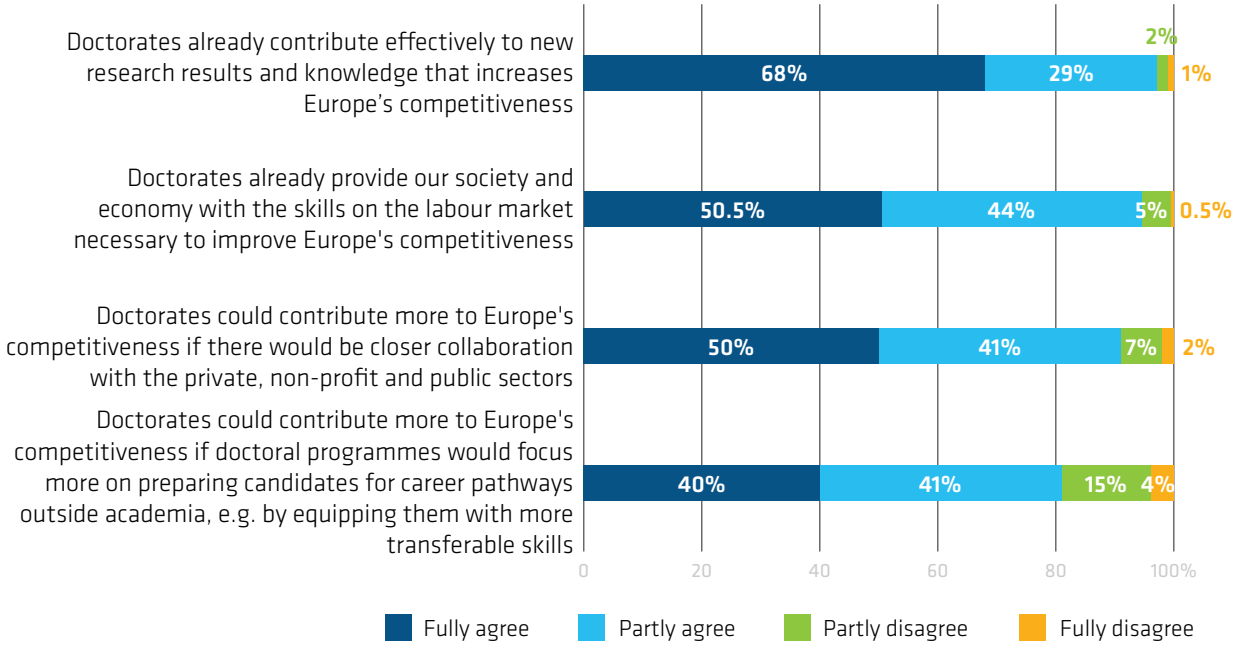
42 Ibid., p. 28.
43 Ibid.
44 European Commission (2024): Align, act, accelerate – Research, technology and innovation to boost European competitiveness. Publications Office of the European Union. Luxembourg, pp. 36 and 42.
45 European Commission (2025a): Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. A Competitiveness Compass for the EU. Brussels.
46 OECD (2025): Education at a Glance 2025: OECD Indicators. OECD Publishing. Paris, pp. 80 and 84.
47 Claeys-Kulik, Anna-Lena; Jørgensen, Thomas E.; and Kukuruza, Liliya (2025): Universities and competitiveness. A big picture view on the EU's new policy paradigm and the implications for universities. European University Association. Brussels, p. 28-30.

Figure 13: To what extent can the doctorate and doctoral education contribute to Europe's prosperity and competitiveness in your institution's view and experience?
Number of respondents: 210/217-214/217



4 The rise of general-purpose AI and the doctorate

4.1 How doctoral candidates are using AI

Universities and doctoral candidates are facing disruptive technological change: few innovations have affected higher education and research so broadly and so profoundly as the rapid development of AI, made possible by large language models (LLMs) and the neural processing units that increasingly accelerate AI tasks.[48] However, only limited research is available on the adoption and use of AI by doctoral candidates in Europe.[49] Research includes mostly case studies or sector-specific topics on the adoption of AI, for instance in medical laboratories.[50] Key research of relevance to the use of AI in doctoral education includes the 2025 Massachusetts Institute of Technology study on the impact of using an AI assistant for essay-writing tasks, the findings of which "raise concerns about the long-term educational implications of LLM reliance and underscore the need for deeper inquiry into AI's role in learning".[51] However, other studies emphasise the potential of human-AI teaming, where AI augments scientific creativity and rigor.[52]

While the 2022 EUA-CDE vision paper touches on AI, its focus is on digital technologies more broadly: it states that "doctoral schools serve as a place where the opportunities and challenges of new digital technologies are embraced in the pursuit of research goals and in their own enabling frameworks".[53] The 2025 EUA-CDE survey aims to provide answers on how universities navigate these challenges and opportunities at doctoral level, albeit that this is limited to one

48 European University Association (2025a): Artificial intelligence tools and their responsible use in higher education learning and teaching. Brussels. And: IBM (2025): What is a neural processing unit (NPU)? https://www.ibm.com/think/topics/neural-processing-unit (accessed: October 2025).

49 Oliveira, J.; Murphy, T.; Vaughn, G.; Elfahim, S.; and Carpenter, R. E. (2024): Exploring the Adoption Phenomenon of Artificial Intelligence by Doctoral Students Within Doctoral Education. New Horizons in Adult Education and Human Resource Development, 36(4), pp. 248–62.

50 Cadamuro, Janne et al. and on behalf of the European Federation of Clinical Chemistry and Laboratory Medicine Working Group on Artificial Intelligence (2025): A comprehensive survey of artificial intelligence adoption in European laboratory medicine: current utilization and prospects. Clinical Chemistry and Laboratory Medicine (CCLM), 63(4):692-703.

51 Kosmyna, Nataliya; Hauptmann, Eugene; Yuan, Ye Tong; Situ, Jessica; Liao, Xian-Hao; Beresnitzky, Ashly Vivian; Braunstein, Iris; and Maes, Pattie (2025): Your Brain on ChatGPT: Accumulation of Cognitive Debt when Using an AI Assistant for Essay Writing Task. arXiv preprint. arXiv:2506.08872.

52 Prasad, D., Khandeshi, A., Sartin, S. et al. Will AI become our Co-PI?. npj Digit. Med. 8, 440 (2025).

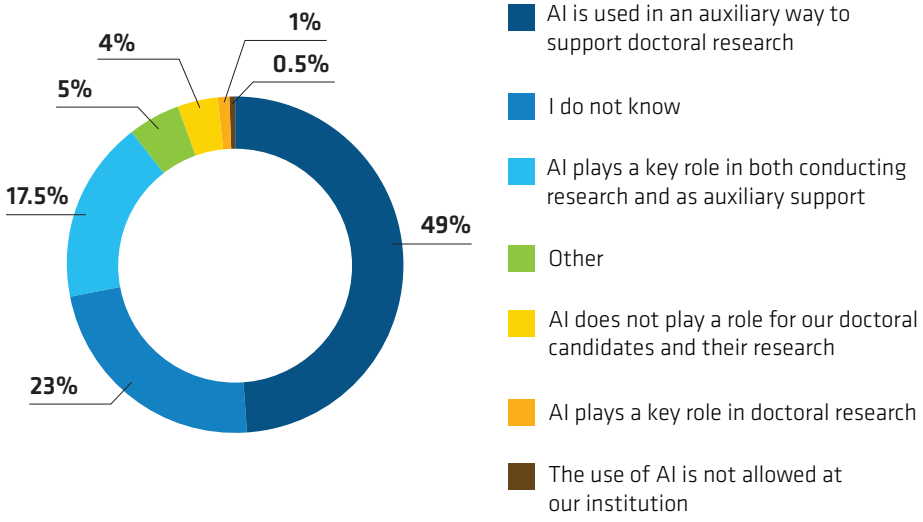
53 EUA-CDE (2022): Building the Foundations of Research. A Vision for the Future of Doctoral Education in Europe. Geneva.

key area of digital technologies, namely AI. The analysis includes a focus on how universities assess the adoption and use of AI by doctoral candidates. Furthermore, it explores how AI is being perceived by doctoral education leaders, how universities manage it, and what they do to support doctoral candidates. Such support is crucial, as the doctorate constitutes a key formative period for early-career researchers – a period that will shape their future as they advance in their careers in academia and beyond.

The survey asked doctoral education leaders about the adoption of AI by doctoral candidates and how AI is primarily being used. Three quarters of respondents estimated that doctoral candidates use AI either for actual research or in an auxiliary way. A closer look reveals that almost half of the total of respondents, 49% of universities, indicated that AI is used in an auxiliary way to support doctoral research, while 17.5% stated that AI plays a role both in conducting research and as auxiliary support. A further 1% stated that AI plays a key role in conducting doctoral research alone (no auxiliary use).

However, almost a quarter of universities (23%) indicated that they do not know the extent to which their doctoral candidates are using AI, a possible indication of why little is currently known about the use of AI at doctoral level. Few respondents identified with the remaining options: AI does not play a role for doctoral candidates and their research (4%), the use of AI is not allowed (0.5%), and 'other' (5%).

Figure 14: To what extent are doctoral candidates at your institution using AI for their research?
Number of respondents: 216/217



The results show what could be intuitively assumed: as this survey came just over two years after the launch of the first general-purpose AI applications, which do bring new ways of providing auxiliary support for research, for instance assisting writing or online searching tasks, we observe that this type of use is considered to be the most widespread. At the same time, the use of AI in the conduct of research includes the use of AI in the actual research process and also research on AI itself, activities that preceded the launch of general-purpose AI.

4.2 Perception and management of AI at doctoral level

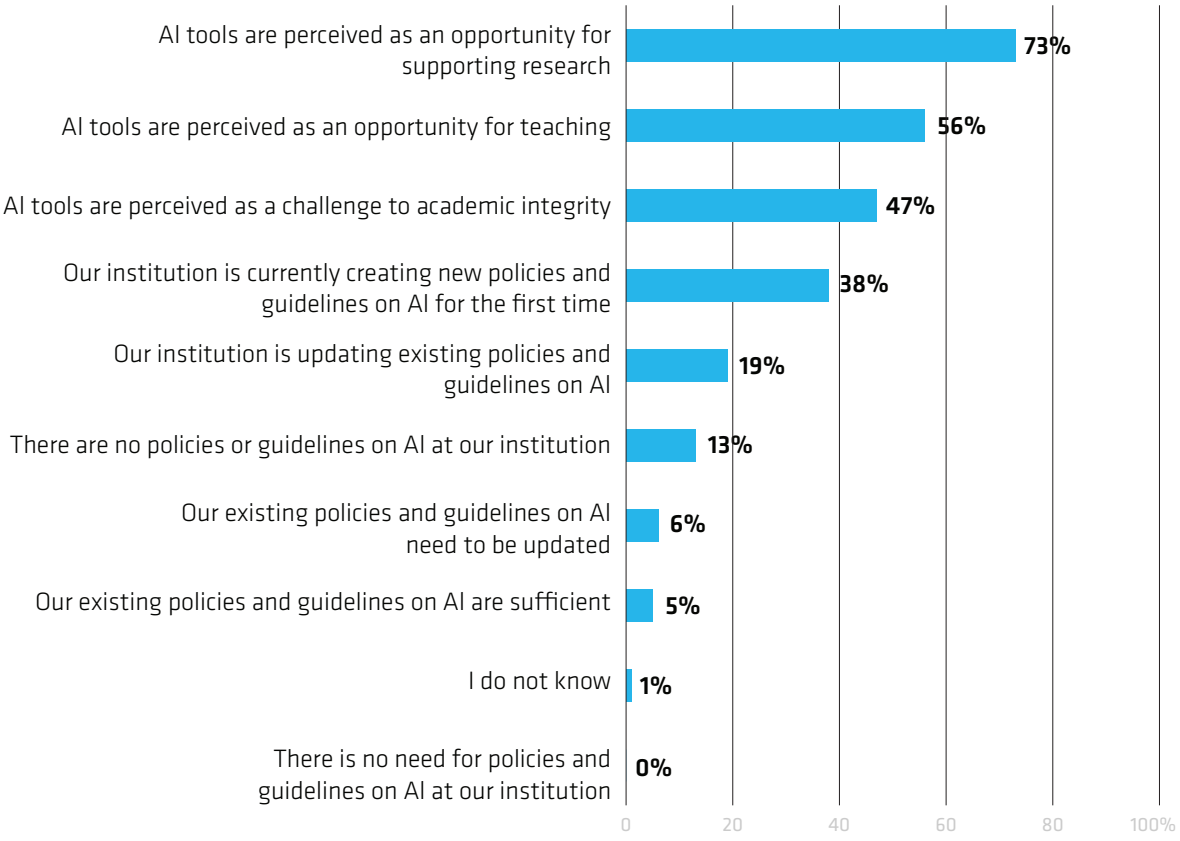
The perception of AI by the institutions shows that doctoral education leaders see more opportunities than challenges as they navigate the rise of general-purpose AI. Almost three quarters, 73% of universities, stated that they perceive AI as an opportunity for supporting research. More than half, 56%, reported seeing it as an opportunity for teaching. Slightly fewer than half, 47%, stated that they think AI poses a challenge to academic integrity.

The dynamism and technological acceleration in the development of general-purpose AI that followed the release of the generative AI chatbot ChatGPT in November 2022 becomes evident when we examine how universities have reacted to AI at doctoral level. The largest group, 38% of universities, reported that they are currently in the process of establishing new policies and guidelines on AI for the first time. Almost a fifth of respondents, 19%, are already updating existing policies and guidelines. More than one in eight universities – 13% of respondents – indicated that they currently have no policies or guidelines on the use of AI in place at their institution. A further 6% of universities specified that their existing policies or guidelines need to be updated. No institution indicated that there is no need for policies and guidelines on AI. These results impressively show what the technological acceleration entails: more than two years after the release of ChatGPT, no universities indicated that there is no need for policies and guidelines on AI, while only 5% of respondents think that their existing policies and guidelines on AI are sufficient. These results give an insight into the potential scale of the challenges faced by universities in Europe in governing AI at doctoral level. It is noteworthy that only 1% chose the option 'I do not know', which indicates a very high awareness of perception and management of AI – in contrast to the lower level of awareness regarding the use of AI by doctoral candidates.

When it comes to policies and guidelines on AI, the results at doctoral level show a similarly dynamic pattern as that observed at the overall institutional level by the 2024 EUA Trends report, conducted in spring 2023.[54] The fact that not more universities have policies and guidelines in place at doctoral level than was the case one and a half years earlier at the overall institutional level is further evidence of the dynamic and challenging environment in which universities find themselves today.

54 Respondents were asked a similar question about the degree of implementation of internal policies on AI as in the EUA-CDE survey. While only 14% had internal policies in place, 31% indicated that this was the case to some extent and a further 31% mentioned that they were planning to implement policies. Some 18% stated that they had no policies in place and 6% did not provide information. Gaebel, Michael; Zhang, Thérèse; and Stoeber, Henriette (2024): Trends 2024: European higher education institutions in times of transition. European University Association. Brussels, p. 29.

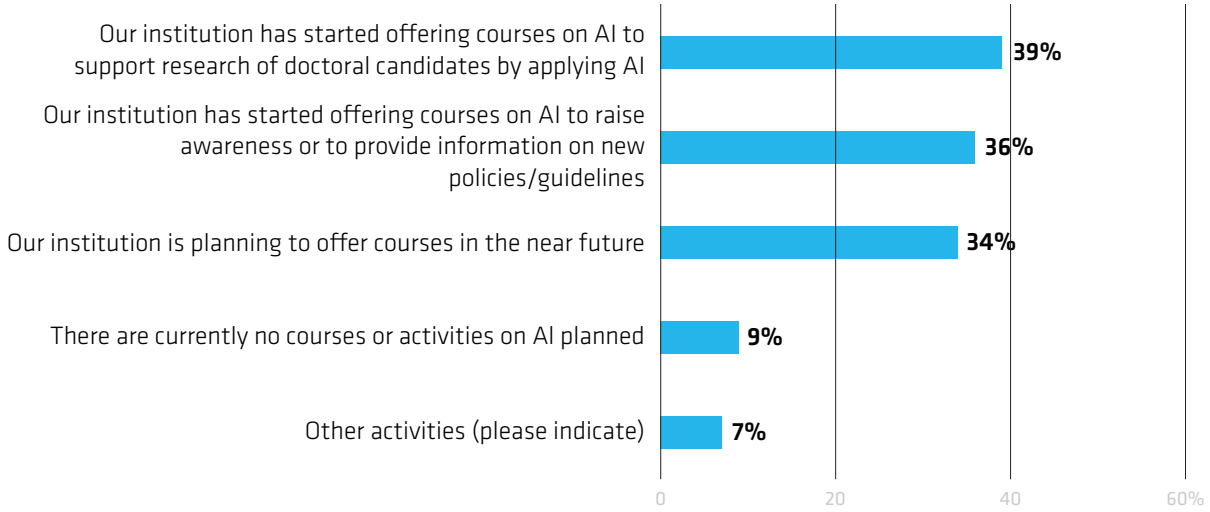
Figure 15: How is your institution reacting to the rapid development of AI? Select up to three options.
Number of respondents: 217/217



4.3 Support for doctoral candidates in the field of AI

The 2025 EUA-CDE survey also measured how universities are supporting doctoral candidates' use of AI. Only slightly more than a third of respondents, 36%, indicated that they offer courses on AI to raise awareness or to provide information on new policies and guidelines. Almost two in five universities, 39%, are providing courses on AI to support the research of doctoral candidates by applying AI. Just over a third of universities, 34%, are planning to offer courses in the near future. A smaller group, 7%, are offering other activities, in many cases similar to courses, such as conferences, workshops and seminars, curated communities of practice, or study programmes. Some respondents indicated that AI is a topic in related courses, such as academic writing, or part of a research integrity course. Others indicated that doctoral candidates have to include a declaration on generative AI in their thesis. However, fewer than a tenth of respondents (9%) indicated that they are not currently planning to offer any courses or other activities for doctoral candidates on AI.

Figure 16: Is your institution offering courses or other activities on AI as part of doctoral education? Select all that apply.
Number of respondents: 214/217



5 Reforming research assessment and careers

5.1 Doctoral education and the reform of research assessment

There is widespread agreement among Europe's universities and research funding organisations that the assessment of researchers needs to be reformed.[55] Universities and their academic staff contribute to society in many different ways. While new knowledge is created, taught, and disseminated within universities and beyond, it is commonly acknowledged that research assessment systems still fail to recognise properly the diversity and richness of activities developed by academics.[56]

The 2019 EUA Open Science and Access survey report provided a comprehensive overview of the state of research assessment at European universities and showed that the vast majority of responding institutions used quantitative publication metrics and qualitative peer-review for the evaluation of researchers and their output.[57] Given that assessment processes relied (and still predominantly rely) on a very narrow set of indicators, which were known to result in a 'publish or perish' culture, a community-driven co-creation exercise was initiated to look closely into the issue. This process, in which EUA has played a key role, resulted in the drafting of an Agreement on Reforming Research Assessment, which established a shared direction for changes in assessment practices.[58] To enable this reform, the Coalition on Advancing Research Assessment (CoARA) was established in 2022. Through collaborative action, exchange of knowledge, and mutual learning, CoARA's mission is to support all members in adopting more inclusive and sustainable assessment practices.

55 Declaration on Research Assessment (DORA) (2013): San Francisco Declaration on research assessment. Putting science into the assessment of research. San Francisco.

56 Berghmans, Stephane; Gaillard, Vinciane; and Morais, Rita (2022): Why European universities are getting involved in reforming research assessment. EUA expert voices. Brussels. https://www.eua.eu/our-work/expert-voices/why-european-universities-are-getting-involved-in-reforming-research-assessment.html (accessed: October 2025).

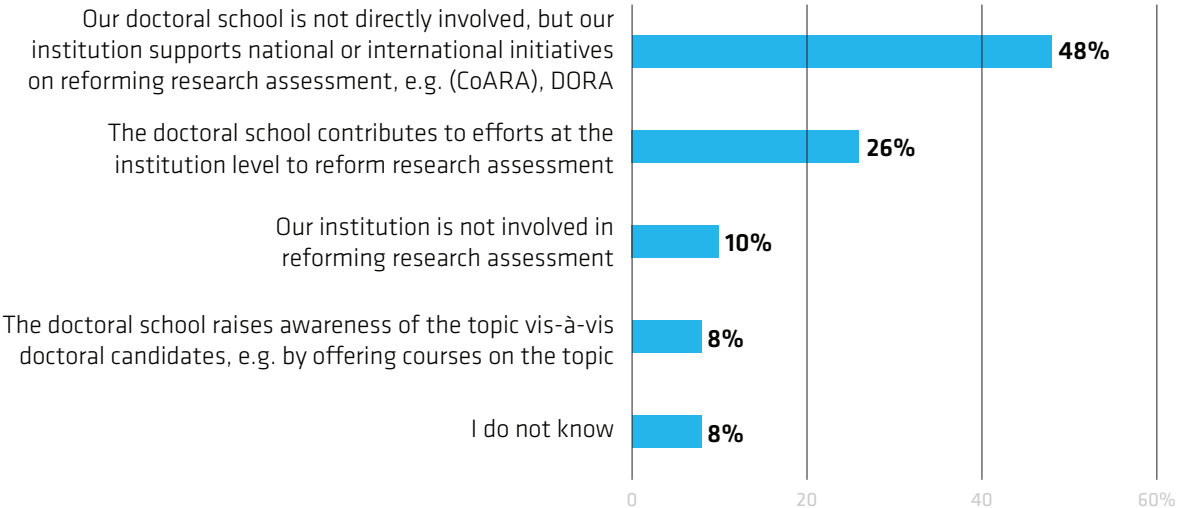
57 Saenen, Bregt; Morais, Rita; Gaillard, Vinciane; and Borrell-Damian, Lidia (2019): Research Assessment in the Transition to Open Science. European University Association. Brussels, p. 24.

58 Coalition for Advancing Research Assessment (CoARA) (2022): Agreement on Reforming Research Assessment.

Within this context, doctoral education has a central place in the reform agenda advanced by CoARA, as doctoral candidates and researchers are among those most directly affected by current assessment systems and the ongoing changes.[59] The doctoral journey is a formative period that plays a decisive role in shaping the professional identity and practices of early-career researchers. This socialisation process will have a multiplier effect, as today's doctoral candidates will go on to train and mentor the next generation of researchers. Doctoral schools and similar structures are uniquely placed to translate the principles of the reform into practice. Although not in a position to redesign the assessment system as such, they can serve as a space for reflection in which exchange is made possible. They can also serve as a place in which supervisors are equipped to guide doctoral candidates better in this complex development and can pilot support structures that reward openness, collaboration, and societal engagement.[60]

Given the relevance of doctoral education in this process and the ongoing discussions on the reform of research assessment, it is important to understand the involvement of the doctoral education community on this topic. The 2025 EUA-CDE survey shows that only about a quarter of doctoral schools (26%) are directly involved in the work on reforming research assessment. However, almost half of respondents (48%) indicated that while their doctoral school is not directly involved in the work on reforming research assessment, their institution is supporting national or international initiatives, such as CoARA. Only 8% of responding universities stated that they are raising awareness of the topic vis-à-vis doctoral candidates, for instance by offering courses. One in ten universities mentioned that their institution is not involved in reforming research assessment and 8% of respondents reported that they are not aware of the state of play at their university when it comes to the reform of the research assessment.

Figure 17: What best describes your doctoral school's involvement in the work on reforming research assessment?
Number of respondents: 217/217

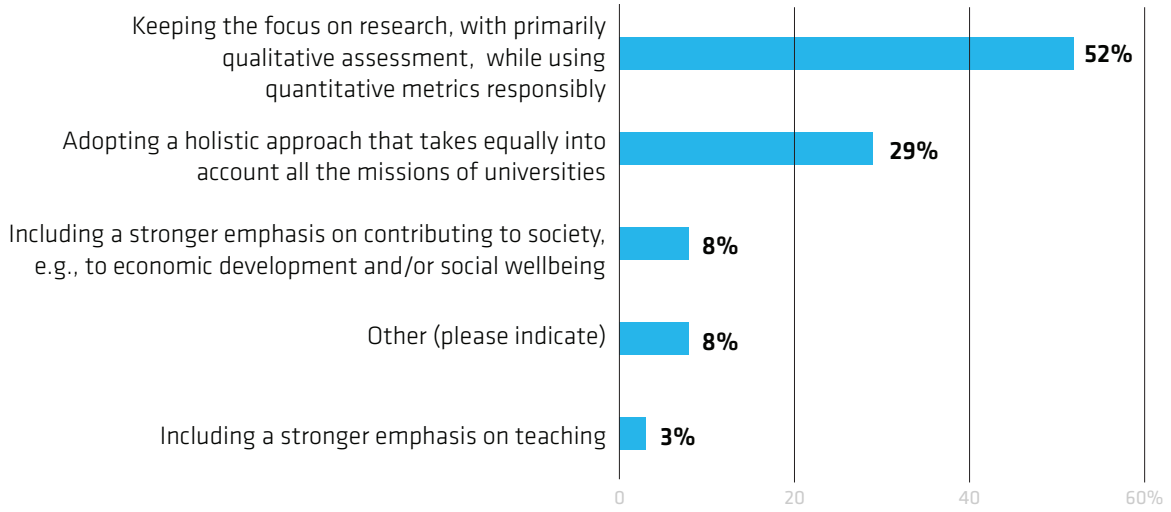


59 Higher Education Authority (HEA), National Research Integrity Forum (NRIF), National Open Research Forum (NORF), National Framework for Doctoral Education (NFDE) Advisory Forum and CoARA National Chapter (2024): Reform of research assessment: impact on doctoral students, p.4, https://www.iua.ie/wp-content/uploads/2025/05/HEA-NORF-NRIF-Workshop-for-PhD-students-and-supervisors-Reform-of-Research-Assessment_FINAL.pdf

60 Hasgall, Alexander (2020): Changes of academic career assessment. Eurodoc blog. Brussels. https://eurodoc.net/news/2020/alexander-hasgall-on-the-changes-of-academic-career-assessment (accessed: October 2025).

Further exploring this topic, institutions were asked about their view on key elements for the reform of research assessment at doctoral level. More than half of respondents, 52%, mentioned that it is important for universities to keep a focus on research when it comes to the research assessment, with primarily qualitative assessment and the responsible use of quantitative metrics. Slightly fewer than a third of institutions (29%) stated that they are in favour of a holistic approach that takes into account all three missions of universities. Some 8% are in favour of a stronger emphasis on contributing to society, for instance to economic development and/or social wellbeing, while 3% would prefer a stronger emphasis on teaching. The remaining 8% of respondents selected the option 'other' and stated that they are not aware of these aspects or their institution is not yet involved in this reform process.

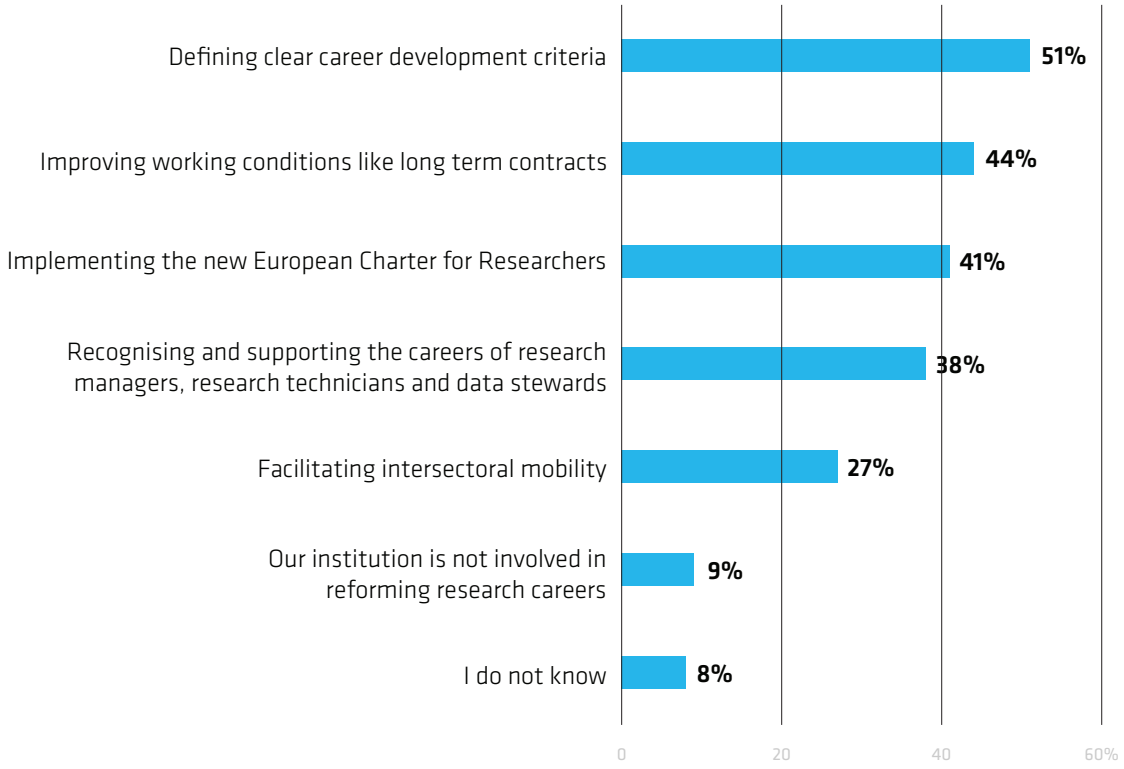
Figure 18: Which aspects are central to your institution for reforming research assessment at doctoral level?
Number of respondents: 208/217



5.2 How to reform careers

In the 2025 EUA-CDE survey, universities were asked about the focus of their efforts when it comes to the reform of research careers. Slightly more than half of respondents (51%) mentioned the definition of clear career development criteria, while 44% are focused on the improvement of working conditions. Similarly, about 41% of universities are dedicated to the implementation of the new European Charter for Researchers as part of their activities on the reform of research careers and 38% are placing an emphasis on the recognition of research managers', technicians', and data stewards' careers. In terms of the share of respondents, these widespread activities are followed by the facilitation of intersectoral mobility, with 27% of respondents having selected this option. Almost one in ten respondents (9%) indicated that their institution is not involved in reforming research careers and 8% are not aware where their institution concentrates its attention with regard to these reforms.

Figure 19: What is the focus of your institution's efforts to reforming research careers? Select all that apply.
Number of respondents: 213/217

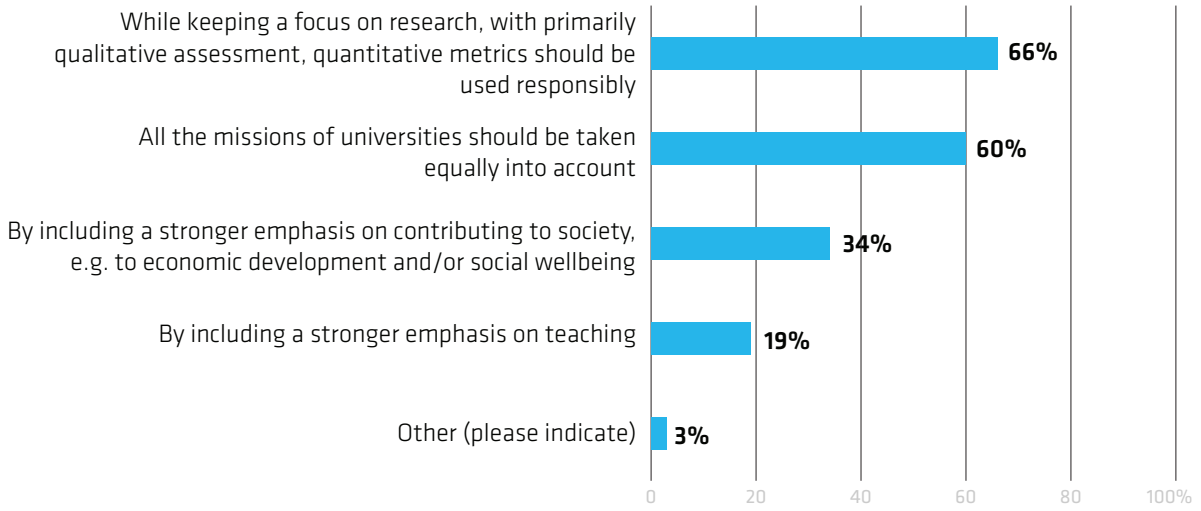


The 2025 survey also aimed to identify the institutional perspective on how academic careers should be assessed. The majority of respondents (66%) reported that it will be important to keep a focus on research, with primarily qualitative assessment, while at the same time using quantitative metrics in a responsible way. A slightly lower percentage of respondents (60%) mentioned that their institution is in favour of considering all the three missions of universities equally for the assessment of academic careers.

A third (34%) of respondents stated the assessment of academic careers should include a stronger emphasis on contributing to society, while 19% specified that a stronger focus on teaching should be part of the assessment of academic careers at their institution. A very small proportion (3%) selected 'other'.[61] Respondents could select all options that applied.

61 Respondents who selected the option 'other' mentioned for instance that it would be necessary to keep the focus on research, while including a stronger emphasis on teaching and contributing to society, or that it would be important to include the qualitative assessment of the supervision and place more emphasis on institutional citizenship.

Figure 20: How should academic careers be assessed from your institution's perspective? Select all that apply.
Number of respondents: 210/217



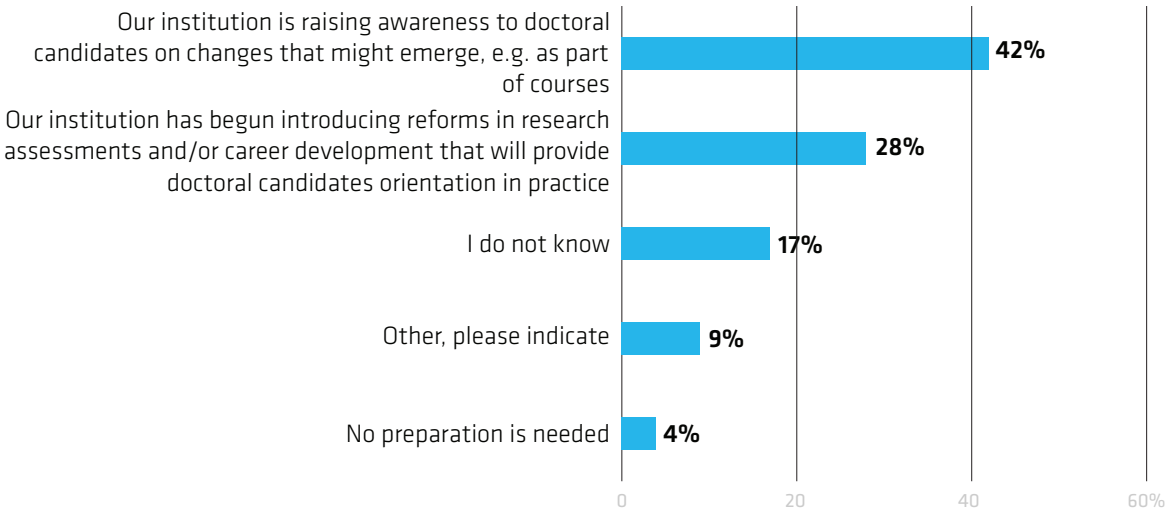
5.3 Preparing doctoral candidates for reforms

The ongoing reform of research assessment will inevitably bring new challenges for doctoral candidates, who will find themselves in a research environment that may differ greatly from the one in which their supervisors built their careers, and who will therefore have to navigate a complex landscape of evolving criteria and expectations. In a context where no one can predict what research and publication practices will look like in the next decade, it is essential that universities provide ongoing support and preparation, helping doctoral candidates to make informed decisions and placing them in a strong position to navigate the evolving assessment environment.

The 2025 EUA-CDE survey specifically focused on this aspect, exploring how universities are currently supporting and preparing doctoral candidates for the reform of research assessment and academic careers.[62] Just over two in five respondents (42%) indicated that they do so by raising awareness on the possible changes, e.g. through course offers. Just over a quarter, 28%, reported that their institution has started to introduce reforms related to research assessment or academic careers that will provide doctoral candidates with orientation in practice. Almost one in five participants, 17%, indicated that they are not aware of how their institution is supporting doctoral candidates for this reform. Fewer than a tenth of respondents, 9%, specified that their university is offering 'other' activities for doctoral candidates' preparation. Most of the respondents that selected this option stated that the reform of research assessment is still in the initial phase, and therefore no preparation is yet necessary, or that no preparation or support is currently offered at their university. Only 4% considered that doctoral candidates do not need any preparation or support in relation to the changes that the reform of research assessment and academic careers might bring.

62 Gornitzka, Åse; and Stensaker, Bjørn (2024): Making research assessment reform work for the next generation of researchers. EUA-CDE doctoral debate blog. https://www.eua-cde.org/the-doctoral-debate/340-making-research-assessment-reform-work-for-the-next-generation-of-researchers.html

Figure 21: How is your institution preparing doctoral candidates for changes related to the reform of research assessment and academic careers?
Number of respondents: 212/217



It is noteworthy that awareness of how institutions prepare doctoral candidates for reforms of research assessment and careers is lower than the awareness of universities' involvement in reforming research assessment and the focus of institution's efforts to reform research careers.

6 Doctoral education and European funding programmes

6.1 Funding instruments for doctoral candidates and doctoral education

The first report of the 2025 EUA-CDE survey showed that the European framework programme for R&I is playing an important role in funding doctoral candidates, behind the level of funding from universities' own resources, from research funding agencies, and government funding, but ahead of that from the private sector.[63] Given the important role of the EU framework programme in funding doctoral candidates, the discussions on the European Commission's proposal of July 2025 for the 10th framework programme for R&I (FP10) for 2028–2034 are of particular relevance to the doctoral education community.

A closer look at the funding instruments of the current 9th framework programme for R&I, Horizon Europe, further illustrates the importance of the different sources in funding doctoral candidates or doctoral education activities. While some instruments are clearly leading the list, it is important to note that most Horizon Europe funding instruments play a role at doctoral level. The 2025 survey results show that MSCA is a key funding instrument of Horizon Europe at doctoral level, with 84% indicating it as one of the most important funding instruments for their institution. The particularly high relevance of MSCA for doctoral candidates and doctoral education activities was also highlighted in EUA's response to the European Commission's proposal on FP10. Given its importance for early-career researchers, EUA called for safeguarding the crucial role of MSCA's distinctive contribution to nurturing Europe's next generation of researchers.[64]

European Research Council (ERC) projects also play a significant role, with 63% of universities mentioning that this funding instrument is one of the most important ones in funding their doctoral candidates. Slightly more than a third of respondents, 34%, specified that Partnerships are among the most important instruments in funding doctoral candidates or doctoral education activities at their institution. Almost a quarter of participating institutions, 23%, mentioned that collaborative projects under pillar II of Horizon Europe, which focuses on global challenges and European industrial competitiveness, are among the most important instruments at doctoral level.

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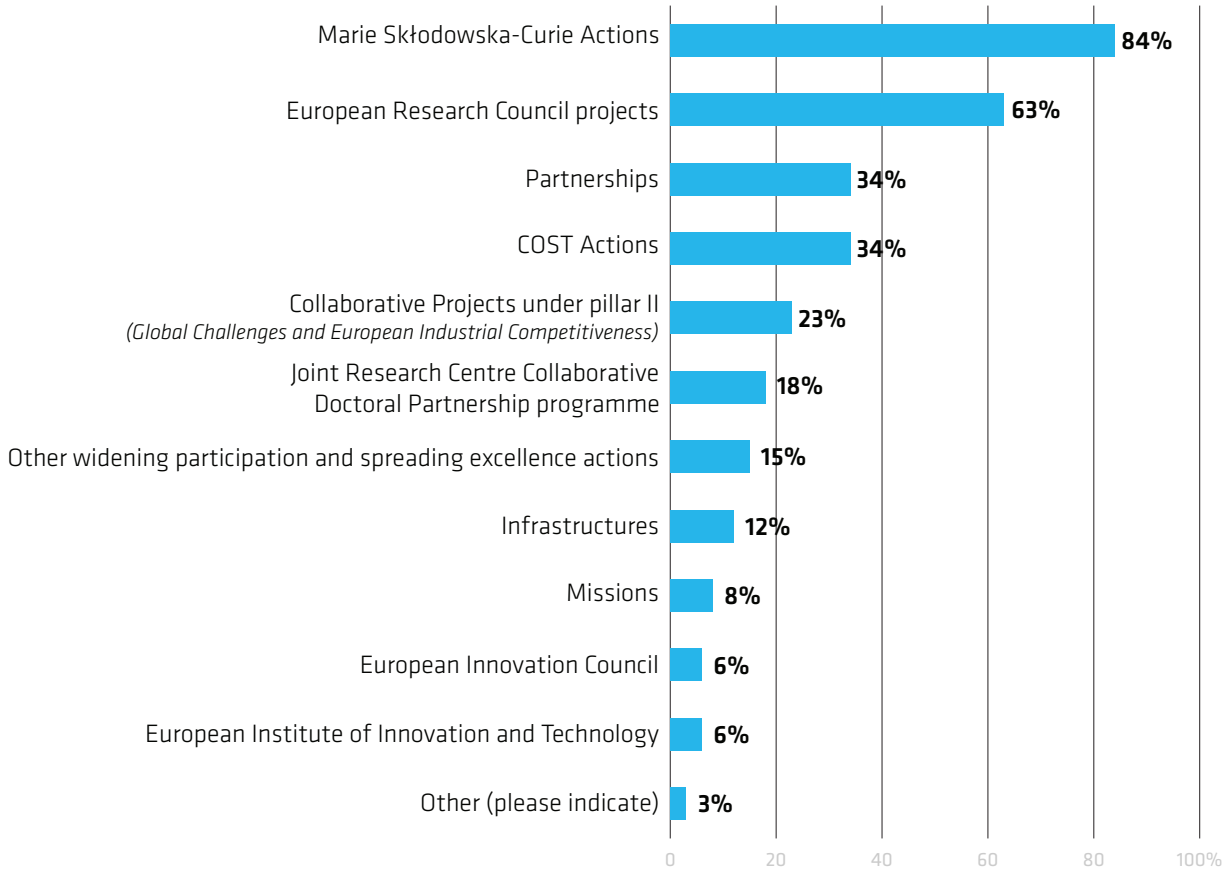
63 Marti, Simon; and Peneoasu, Ana-Maria (2025): Doctoral education in Europe today: enhanced structures and practices for the European knowledge society. 2025 EUA-CDE survey report, part I. Geneva, p. 21.

64 European University Association (2025c): Horizon Europe 2028–2034: EUA analysis of the European Commission's proposal. Brussels, p.8.

Figure 22: Which funding instruments of the EU framework programme for R&I (Horizon Europe) are, in your experience, the most important ones for funding doctoral candidates or doctoral education activities at your institution? Select all that apply.
Number of respondents: 217/217



COST Actions were selected by 34% of respondents, with 15% indicating that "other widening participation and spreading excellence actions" are key when it comes to funding doctoral candidates and doctoral education at their universities. The Joint Research Centre collaborative doctoral partnership programme was mentioned by 18% of respondents.

Almost one in eight universities (12%) specified that research infrastructures was one of the most important funding sources for their doctoral candidates or doctoral education activities. Less often mentioned, but still relevant, are EU Missions in Horizon Europe, the European Innovation Council, and the European Institute of Innovation and Technology, which range from 6% to 8% in terms of most important funding instruments.

The EUA-CDE survey also looked at how to improve or expand funding instruments at doctoral level. Almost three quarters of respondents (72%) think there should be more funding instruments at national level. The high number of respondents who called for more funding instruments for the third Bologna cycle at national level can be seen in the context of a persistently low investment in R&I in many European countries, which on average is 2.2% of

GDP instead of the longstanding European Research Area target of 3%.[65] Two thirds of respondents, 66%, are of the opinion that there should be more instruments supporting doctoral education, e.g., for setting up dedicated doctoral programmes or support for centralised services, such as transferable skills courses. About 63% of respondents indicated that more funding instruments for collaborative doctorates are currently needed, again confirming a view that there is room for improvement in this area. Almost a third (31%) consider that funding instruments at European level should be further expanded compared with national ones, a high number given the priority that most universities give to more investments at national level. About one in ten respondents (11%) reported that the national funding agency has no funding instruments dedicated to doctorates, but that it would be necessary to introduce these. Almost one in ten respondents (8%) selected the option 'other' and mentioned a broad range of topics.[66] The remaining options were selected by very few respondents: only 5% think the current distribution of instruments at national and European level is well balanced, and just 1% believe that there is no need for additional funding instruments. Respondents could select all that apply.

Table 2: In what way could funding instruments for the doctoral level be improved or expanded at national or European level? Select all that apply.
Number of respondents: 213/217

There should be more funding instruments at the national level	72%
There should be more instruments that support doctoral education, e.g., setting up dedicated doctoral programmes or support for centralised services, like transferrable skills courses	66%
There should be more funding instruments for collaborative doctorates with actors outside academia, e.g. with private sector or non-profit and public institutions	63%
Instruments at the EU level should be further expanded compared to national ones	31%
Our national research funding agency has currently no instruments that are dedicated to funding doctorates but it would be important to introduce these instruments	11%
Other (please indicate)	8%
The current distribution of instruments at the national and EU level is well balanced	5%
There is no need for additional funding instruments	1%

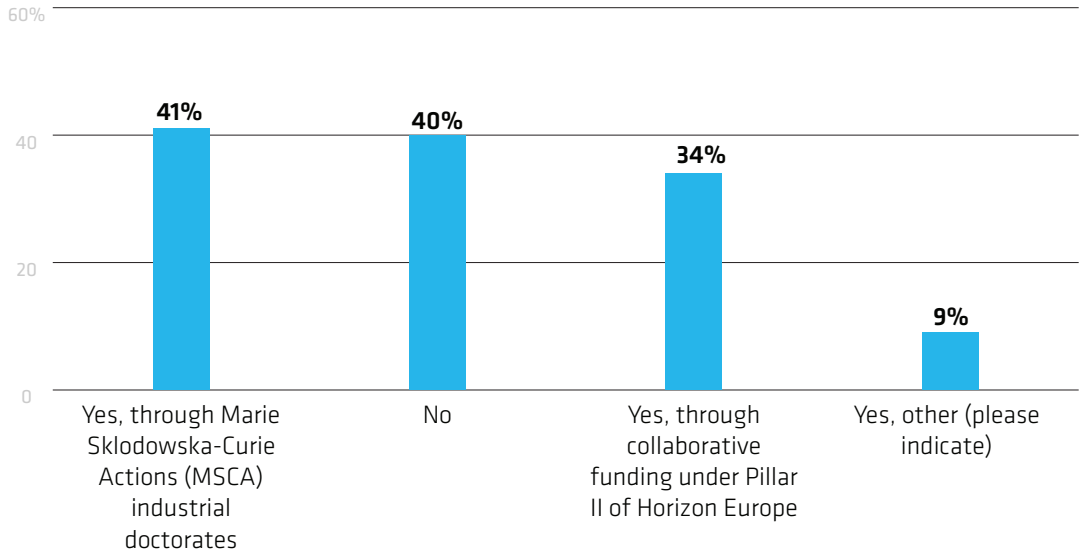
65 European Commission (2024): Align, act, accelerate – Research, technology and innovation to boost European competitiveness. Publications Office of the European Union. Luxembourg, pp. 36, 40, and 43.

66 The following topic were mentioned under 'other': All funding schemes should emphasise training and career development; we consider that access to funding instruments / programmes for doctoral candidates at UAS should be equal as for doctoral candidates in universities especially at the national level; more funding for research in general and for early stage researchers for fundamental research as part of national research policy; funding instrument to further include research networks for PhD candidates; funding for the arts and design; mobility funding for research stay abroad; there should be more funding instruments available for early stage researchers – particularly for recently graduated doctoral candidates; instruments at EU level should be further expanded; at a national level, increasing individual-led doctoral programmes, PhD scholarships, and mid-scale PI-led projects would help meet high demand, offering more accessible, flexible options without requiring large-scale partnerships would be beneficial. Doctoral-level funding should be improved to keep pace with rising living costs, making recruitment easier; the funding for individual doctorates should be increased and prolonged; funding only covers three years, Swedish research education requires four years; need for stable funding opportunities; cross-border applied doctoral research is not well funded, if UAS and industry is involved; there needs to be an EU move to standardise Doctoral Schools to reach stronger positions; I do not know.

Survey participants were also asked whether doctoral candidates at their institution were funded by EU projects that include private companies. More than two in five (41%) respondents indicated that doctoral candidates at their university are funded through MSCA industrial doctorate projects and 34% said that this was the case through collaborative funding under pillar II of the framework programme. Almost one in ten (9%) indicated other EU programme instruments, such as the COST programme, the EIC Pathfinder, the NextGenerationEU fund, and the MSCA doctoral networks.

A large percentage of respondents, 40%, indicated that there are no doctoral candidates at their university who are funded either by MSCA industrial doctorates or pillar II Horizon Europe projects that include private companies, pointing to a large proportion of Europe's universities that are currently not reached by these instruments at European level. This suggests that there is, indeed, room for more collaboration with the private sector via EU funding instruments – also given the fact that most universities do offer collaborative doctorates with the private sector.[67]

Figure 23: Are doctoral candidates at your institution funded by EU projects that include private companies? Select all that apply.
Number of respondents: 210/217



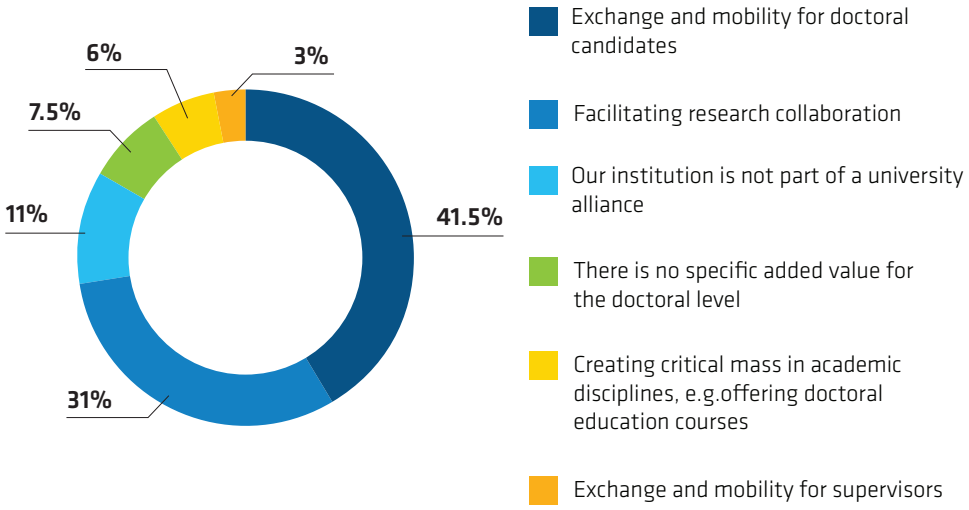
67 Cf. chapter 2.2. above.

6.2 European Universities alliances under Erasmus+

In recent years, European Universities alliances under the Erasmus+ programme have increasingly become a driver of collaboration, enabling institutions to share expertise, pool resources, and expand opportunities for both students and staff. Beyond fostering interinstitutional collaboration, they also provide structured frameworks through which institutions can apply for EU funding instruments such as Erasmus+, Horizon Europe, and any other relevant EU funding resources. By pooling resources and expertise, university alliances aim to foster interdisciplinary R&I, expand mobility opportunities, and advance the societal impact of research, among many other objectives, through joint initiatives and activities. Despite these benefits, there are still challenges related to transnational university cooperation in Europe, as highlighted in previous work by EUA on this subject.[68]

The 2025 EUA-CDE survey results show that most respondents (89%) indicated that their institution is part of a European Universities alliance under the Erasmus+ programme. Asked about the most significant added value that their university alliance offers at doctoral level, 41.5% mentioned exchange and mobility for doctoral candidates. Slightly fewer than a third, 31%, indicated that their participation in a university alliance is facilitating their research collaboration at doctoral level. Some 7.5% of universities reported experiencing no added value for the doctoral level in their university alliance. A smaller percentage of universities (6%) indicated that their university alliance is helping them to create critical mass in academic disciplines, for instance by offering doctoral education courses together. Only a few universities (3%) mentioned that they are offering exchange and mobility for supervisors through their university alliance.

Figure 24: If your institution is part of a university alliance (under the European Universities Initiative of the Erasmus+ programme), what is the most significant added value this offers at doctoral level?
Number of respondents: 215/217



68 European University Association (2024): The next leap forward for transnational cooperation – Supporting sustainability and impact within and beyond European Universities alliances. Brussels, p.1.

7 Conclusions

The analysis of the survey results shows how the current environment in which doctoral education finds itself affects institutional policies. A key finding of this survey report answers the main question raised in the introduction: The changes of recent years are indeed having a significant impact on universities at doctoral level. In particular, the survey questions that capture topics of geopolitical change and technological acceleration demonstrate that universities are facing a highly dynamic environment and a challenging task to adapt. This is exemplified in the case of policies and guidelines in the area of research security as well as AI. While some institutions have not yet taken measures, a considerable share of universities are creating policies and guidelines for the first time or are already revising their existing ones, highlighting the dynamic situation in which they find themselves. Furthermore, the survey results show that although universities already make a significant contribution to society and the economy at doctoral level, there is still room for closer collaboration with societal actors.

The thematic questions raised at the beginning of this report are answered in the following sections.

- **Academic freedom:** Almost all survey respondents stated that academic freedom at doctoral level is protected nationally or in academic practice – or both – at their institution. Nevertheless, a large proportion of the universities that responded are in favour of new measures at European or national level to protect academic freedom further in the area of the doctorate. A large proportion of universities have also put measures in place to protect academic freedom and institutional autonomy when collaborating or receiving funding from actors outside the university. The high general awareness as well as the institutional policies that universities have put in place when it comes to aspects of academic freedom shows that universities are pursuing ways laid out in the EUA-CDE vision paper, which called on doctoral education to promote a dialogue about the different dimensions of academic freedoms and raise awareness about where any of these are at risk.

- **Research security:** The majority of universities have taken active measures to strengthen research security at doctoral level or are at various stages of either creating or updating existing policies and procedures. The fact that many institutions are creating measures for the first time or are in the process of revising existing policies or guidelines demonstrates the dynamic nature of this more recent policy topic and the potential challenges in navigating it. Awareness of the topic of research security is good overall, although not as

high as in the case of the state of academic freedom. However, the majority of universities already support their doctoral candidates when it comes to research security.

- **Supporting researchers at risk:** Most universities that participated in the survey are supporting researchers at risk at doctoral level. The largest percentage of institutions have developed their own schemes, while others participate in SAR or MSCA initiatives. Similar to the case of research security, the level of awareness is good, although a noticeable proportion of respondents are not familiar with the state of the topic at their institution.

- **Global and societal challenges:** A large proportion of universities have measures in place to support the SDGs at doctoral level, in line with the way forward as formulated in the 2022 EUA-CDE vision paper, which called on universities to embrace the SDGs as a context for doctoral education. Universities are tackling SDGs in various ways and awareness for the topic is relatively high. At the same time, institutions are refraining from prescriptive approaches and instead are supporting awareness through their course offers or by promoting doctoral research related to SDGs.

- **Collaboration beyond academia:** Collaborative doctorates are the most widespread way of collaborating beyond academia at doctoral level. Different models exist that are fully, partly, or not funded at all by actors outside academia. In most cases, these actors also participate in supervision. Although we do not know the intensity of these collaborations, i.e. the share of collaborative doctorates among all doctorates, the results show that universities do not work only with the private sector, but that almost the same number of institutions are also involved in collaborative doctorates with the public sector. In addition, a large share of universities are also working with non-governmental and international organisations on collaborative doctorates. There is a very high level of awareness among respondents when it comes to collaboration with sectors outside academia. Universities viewed courses, networking opportunities, and collaborative doctorates as the best ways to support spin-offs, entrepreneurship, or other types of valorisation of research at doctoral level. When it comes to making intersectoral mobility relevant at doctoral level, the largest percentage of respondents think that promoting careers equally inside and outside of academia is the best way.

- **Contributing to Europe's competitiveness:** Almost all respondents fully or partly agreed that doctorates generate new knowledge and research results from which wider society can benefit, thus enhancing Europe's competitiveness. Similarly, most universities agreed fully or partly that doctorates already benefit society and the economy by equipping graduates with the necessary skills and competences that are valuable on the labour market. This assessment is consistent with OECD data indicating very good labour market outcomes for doctoral graduates.[69] However, while universities think that doctorates already contribute a great deal to advancing European society and competitiveness, they also still see opportunities to foster stronger ties with actors beyond academia at doctoral level and think that doctoral education could play a bigger role in contributing to Europe's competitiveness if programmes did more to prepare doctoral candidates for careers outside the academic sector. Thus, the share of institutions that recognise the doctorate's contribution to Europe's competitiveness is only slightly higher than the share of universities that see even greater potential to contribute more.

69 OECD (2025): Education at a Glance 2025: OECD Indicators. OECD Publishing. Paris, pp. 80 and 84.

- **Artificial intelligence:** While many aspects of the use of AI at doctoral level remain unknown, the 2025 survey results shed light on the high level of AI adoption, especially for widespread use of AI as auxiliary support at doctoral level. However, a relatively high number of survey respondents indicated that they do not know how their doctoral candidates are using AI. At the same time, we learn that doctoral education leaders see more opportunities than challenges when it comes to the use of AI. The assessment of how universities react to the challenges posed by AI demonstrates a very dynamic picture. No survey participants believe that there is no need for policies and guidelines on the use of AI, while only a small proportion of universities think their existing guidance is sufficient. At the same time, a larger percentage have created guidelines for the first time. This situation shows the scale of the challenge that universities are facing in adequately regulating the use of AI at doctoral level. We see a similar picture when looking at how universities are supporting their doctoral candidates when it comes to AI. While some universities offer courses on the use of AI in research or to raise awareness of AI guidelines, many universities do not currently offer such support. Due to the fact that only three survey questions covered AI, we know little about how exactly universities are regulating AI in their policies and guidelines, although we know that almost half of universities view AI as a challenge to academic integrity at doctoral level. There is evidence that universities find themselves in a challenging environment when managing AI and supporting their doctoral candidates. Thus, the survey results show that the goal stated in the 2022 EUA-CDE vision paper for doctoral schools to embrace the opportunities and challenges of new digital technologies in the pursuit of research goals and in their own enabling frameworks has not yet been fully met when it comes to AI, although we see a high awareness of opportunities and challenges and dynamic developments when it comes to providing enabling frameworks such as policies, guidelines, and support for doctoral candidates.

- **Reform of research assessment and careers:** Respondents are following the discussions on the reform of research assessment and careers, although most doctoral schools are not directly involved in shaping policy. The majority of respondents are in favour of keeping a focus on research while including more qualitative aspects and using quantitative metrics responsibly when it comes to reforming the assessment of researchers as well as careers. Another significant percentage of institutions are in favour of including all three missions of universities in the respective assessments, especially when it comes to reforming careers. Most universities undertake efforts to reform research careers at their institutions and try to define clear career development criteria and to improve working conditions. Similarly, the implementation of the new European Charter for Researchers is an important focus for reforming research careers. While many universities make efforts to inform and support doctoral candidates about the possible changes ahead, there is a relatively low awareness of how institutions are preparing doctoral candidates for reforms of research assessment and careers. While the implementation of the agreement on advancing the research assessment is progressing relatively slowly, it can also be observed that the involvement of doctoral schools in this process is limited. This fact raises questions for the development of the reform, given the crucial role that doctoral education plays during the formative years of researchers.

- **European funding programmes:** The survey results show that most funding instruments of Horizon Europe are – to varying degrees – relevant for the funding of doctoral candidates and doctoral education activities. MSCA is clearly the most important funding instrument at European level, a result that is in line with the scheme's focus to support the development of early-career researchers. However, Horizon Europe funding instruments that are addressing postdoctoral or experienced researchers – such as ERC grants or projects of Horizon Europe's pillar II – also play an important role as they are funding a considerable number of doctoral candidates who play a crucial role in these projects. Universities ask for more funding opportunities for doctoral candidates at national level, a request that correspondents to the low average funding level by European countries compared with the ERA objective of 3% of GDP.[70] In addition, universities see potential for more funding opportunities for collaborative doctorates with actors beyond academia. There is also evidence that a large percentage of universities are not reached by existing EU funding instruments that support collaborative doctorates.

- **European university alliances:** Most of the universities participating in the 2025 EUA-CDE survey are members of a European Universities alliance under Erasmus+. They view university alliances as key vehicles to foster exchange and mobility at doctoral level, as well as to foster research collaboration.

General conclusions: This survey report analysed five key policy areas in doctoral education: academic freedom, advancing SDGs and Europe's society and competitiveness, navigating AI, reforming research assessment and careers, and European funding instruments and related policies. Exploring the state of play of these policies and how they play together highlights the central role that doctoral education plays as a linchpin in the formation of future researchers and innovators – and therefore in developing and enhancing Europe's R&I base. The central role that the doctorate plays as a formative period in the lives of researchers underscores the importance of how these policies are set at doctoral level for the R&I system as a whole.

This report covered a broad range of topics in just 24 survey questions. Thus, it is inevitable that in many cases it does not provide answers to important aspects related to the five broad areas it covers. However, it provides a baseline that can be explored in further analyses. In that sense, it also serves the objective of guiding EUA-CDE's future work by identifying key areas in which, for instance, awareness is still less pronounced in the community or, as in the case of AI and research security, by highlighting a very dynamic and potentially challenging policy environment. Another area that needs to be examined more closely is the collaboration between universities at doctoral level and actors outside academia, a topic that is currently being investigated by an EUA-CDE Thematic Peer Group. In the case of the latter topic, this survey report shows a familiar pattern from the first 2025 EUA-CDE survey report, which found that universities do prepare their doctoral candidates for careers outside academia – where most of them will go – but more could be done.[71] Finally, the survey results help EUA-CDE to speak with a strong voice for doctoral education when it comes to important policy areas at European level, especially in the case of the ERA Policy Agenda 2025-2027 and the preparation of the next generation of European funding programmes for research, innovation, and education.

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70 European Commission (2024): Align, act, accelerate – Research, technology and innovation to boost European competitiveness. Publications Office of the European Union. Luxembourg, pp. 36, 40, and 43.

71 Marti, Simon; and Peneoasu, Ana-Maria (2025): Doctoral education in Europe today: enhanced structures and practices for the European knowledge society. 2025 EUA-CDE survey report, part I. Geneva, p. 46.

Annex

Table 3: Representativeness of the EUA-CDE survey: number of doctorate awarding higher education institutions (HEIs) and respective number of doctoral candidates covered by the 2025 EUA-CDE survey compared to total number of HEIs and number of doctoral candidates included in the European Tertiary Education Register (ETER).*

	ETER		EUA-CDE survey cases in ETER		Representativeness	
	Doctorate awarding HEIs	Number of doctoral candidates	Number of HEIs	Number of doctoral candidates	Share of doctoral awarding institutions	Share of doctoral candidates
Andorra	1	19	1	19	100%	100%
Austria	31	19975	5	5786	16%	29%
Belgium	12	20982	6	14205	50%	68%
Croatia	10	4485	2	815	20%	18%
Cyprus	9	1719	1	157	11%	9%
Czech Republic	29	21620	3	7994	10%	37%
Denmark	16	9354	2	2143	13%	23%
Estonia	7	2353	2	1444	29%	61%
Finland	14	19196	7	13277	50%	69%
France	107	61083	11	13356	10%	22%
Germany	191	108303	20	28687	10%	26%
Greece	24	32873	2	1602	8%	5%
Hungary	27	10486	8	4893	30%	47%
Iceland	4	704	1	680	25%	97%
Ireland	16	10005	9	9125	56%	91%
Italy	89	37909	26	18775	29%	50%
Latvia	22	2032	2	1122	9%	55%
Lithuania	15	1215	1	180	7%	15%
Luxembourg	1	1029	1	1029	100%	100%
Malta	3	331	2	205	67%	62%
Netherlands	19	11176	4	3896	21%	35%
Norway	24	11946	9	9654	38%	81%
Poland	101	25165	10	7748	10%	31%
Portugal	27	24413	7	11922	26%	49%
Romania	46	21324	9	7203	20%	34%
Serbia	17	11727	1	6763	6%	58%
Slovakia	29	6482	2	384	7%	6%
Spain	75	97749	18	35234	24%	36%
Slovenia	20	3457	3	2804	15%	81%
Sweden	33	20041	6	5158	18%	26%
Switzerland	13	27268	3	6897	23%	25%
Türkiye	202	109540	6	8713	3%	8%
United Kingdom	139	112465	5	5430	4%	5%
Total	**1373**	**848426**	**195**	**237300**	**14%**	**28%**

ETER data 2021; France year 2019
*Missing ETER data for respondents of the survey: Austria (1), Germany (6), Georgia (3), Kazakhstan (1), Lithuania (3), Montenegro (1), Norway (2), Switzerland (2), Ukraine (3).

The ETER dataset does not include the following countries with participants in the 2025 EUA-CDE survey:
Georgia (3 universities), Kazakhstan (1 university), Montenegro (1 university), and Ukraine (3 universities).

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The EUA Council for Doctoral Education (EUA-CDE) was launched in 2008 at the initiative of the European University Association, responding to a growing interest in doctoral education and research training in Europe. An integral part of the European University Association, it is now the largest European network in this field, covering more than 280 universities and institutions working on issues related to doctoral education and research training in 39 countries.

Since its creation, EUA-CDE has been leading the transformation and strengthening of doctoral education in Europe. Building on the outcomes of EUA's work on doctoral programmes and research careers, EUA-CDE has been the driving force behind the implementation of the Salzburg Principles and Recommendations and the promotion of doctoral education as a main intersection between the European Higher Education and Research Areas (EHEA and ERA).