

The state of international co-creation and sharing of doctoral courses in Europe

*Report on the survey results within the framework of the Erasmus + project:
Innovative Doctoral Courses for Sustainability (IDOCOS)*



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More about the IDOCOS project: <https://idocos.eu/>

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1. Introduction

The project *Innovative Doctoral Education Courses for Sustainability (IDOCOS)* was designed in the context of the Covid-19 pandemic that has exposed significant deficiencies in virtually all countries when it comes to remote learning. When universities overnight pivoted from campus-based education to digital and remote solutions, this very often meant emulating what used to happen on campus which did not necessarily mean quality online teaching and learning (T&L). Despite the challenges that the pandemic has caused, it also represents an opportunity to reconsider practices and processes and reform university education.

The pandemic has forced a more integrated use of technology and digital tools in higher education and it has become part of everyday life of students in most parts of the world. In this context, the aim of the IDOCOS project is to leverage this opportunity by proposing an innovative approach to co-creation and sharing of doctoral courses among universities in different countries. It offers a structured process and comprehensive guidance supporting the move towards more internationally co-created and shared resources for doctoral education to enhance reciprocal exchange of research capacity, resources, to increase competencies and ultimately strengthen high-quality research education through international collaboration. The deliverables of the project will serve as a proposed model for similar initiatives, yet in a flexible format that can be adapted to the different contexts in different countries. Besides delivering a methodology for co-creation and sharing doctoral courses, IDOCOS shall also deliver a cross-disciplinary demonstration course focusing on digital transformation with a link to the Sustainable Development Goals (SDGs) and the 2030 UN Agenda.

In order to inform the development of the deliverables of this project, it was essential for the project partners to be informed about the current context and the experiences undergone by the universities in Europe and to gather recent information about the situation as the pandemic has caused an accelerated use of digital technologies and tools to facilitate teaching, learning and research.

As foreseen in the IDOCOS project, the partners designed a survey targeting all higher education institutions offering doctoral education that allowed us to collect information to inform the project. As the IDOCOS project targets higher education institutions (HEIs) in Europe in particular, this report presents the information and the results for this specific region, but it was also collected for other regions in order to look for similarities and differences between trends and also to generate awareness about the current project, not only in Europe but in all regions of the world. The project partners are thus committed to share the methodology beyond the European context and to utilise synergies with other projects.

The International Association of Universities' (IAU) World Higher Education Database¹ (WHED) was used as the source for identifying institutions for the dissemination of the survey. The WHED database provides an overview of the number of institutions around the world and the proportion of these offering doctoral education and contains information on higher education institutions that are accredited or officially recognized by their own national competent bodies, offering at least a 4-year, university-level degree and have had at least three cohorts of graduated students.

The WHED contains information about more than 20K HEIs out of which 7,537 are offering doctoral education (37%). In Europe there are 3,977 HEI registered in the WHED and 65% of those are offering doctoral education. This is the highest share of institutions offering doctoral education compared to the other regions of the world. This positions Europe as a region with a high level of opportunities for international collaboration on doctoral education. Compared to Europe, Latin America, the Caribbean

¹ Whed.net

(LAC) and Africa are the regions with the lowest number of institutions offering doctoral education, namely 14% of the HEIs in LAC and about a third (28%) of the institutions in Africa.

Table 1: Number of institutions in the WHED and the proportion of those providing doctoral education

	N° of HEIs	N° of HEIs (PhD level)	% of HEIs (PhD level)
Global	20,121	7,537	37%
Africa	1,690	469	28%
Asia & Pacific	8,157	2,836	35%
Europe	3,977	2,573	65%
Latin America & Caribbean	4,012	568	14%
North America	2,285	1,091	48%

Source: WHED, September 2021

2. Methodology

The partners agreed that developing a quantitative survey using SurveyMonkey to collect the information would allow broad outreach and information from a great variety of higher education institutions. The questionnaire was designed through an iterative process among the project partners. Questions would serve to inform the development of the different project deliverables. The purpose was to propose a very succinct survey to make it easier for respondents to participate and share the necessary information while gathering key information for the project development.

The questionnaire was structured to gather background information about the current state of international collaboration in doctoral education in order to assess how this project can be framed and shaped within a broader range of international activities and in a second part to assess the extent to which co-creation and sharing of doctoral education is already implemented in the higher education institutions around Europe. Finally, it seeks to identify key incentives and challenges related to these processes in order to address them through the different deliverables.

The group discussed different outreach opportunities and decided to target different sets of respondents within the institutions, namely: 1) the leadership in charge of doctoral education for a reply on behalf of the higher education institution and 2) the PhD supervisors as they conduct the implementation of the doctoral courses.

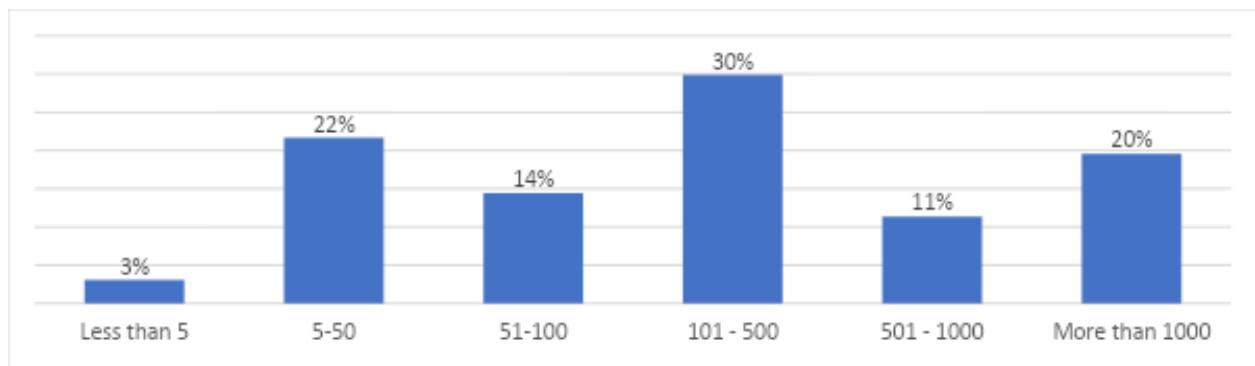
The survey design was piloted by 3 institutions that provided feedback and contributed to enhancing and validating the questionnaire. Following this process, the survey was launched and disseminated through several email and social media campaigns reaching out to the higher education institutions worldwide, using the contacts from the WHED. This report presents the results of the survey related to the institutions in Europe.

3. Data sample

The information was collected from May to September 2021. It is composed of 97 replies coming from 26 countries in Europe (see the distribution in Annex 1). The information was provided mainly by institutional leadership or representatives of leadership. The responding institutions vary in size

(fig. 1) as some institutions have less than 3 doctoral candidates and others more than 1,000. The most important share of institutions is divided between 5-50 doctoral candidates (22%), 101-500 doctoral candidates (30%) and more than 1,000 (20%). This shows that there is a good spread in the type of institutions that have responded to the survey and providing information about the current state of international co-creation and sharing of doctoral courses.

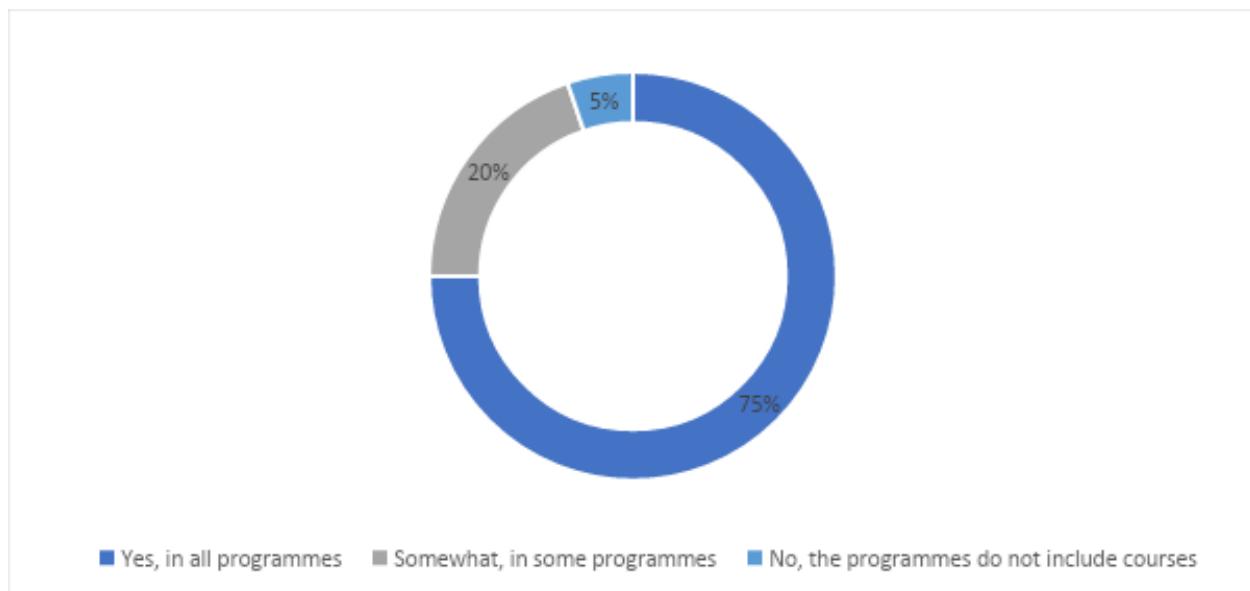
Fig. 1 Total number of doctoral candidates enrolled at the institution:



The survey targeting PhD supervisors were also disseminated widely. However the responses received were mainly from several PhD supervisors working within a limited number of institutions, so the spread of that information is therefore less representative and biased by multiple replies from some institutions compared to the institutional survey where it is one institutional reply per higher education institution. The results from the PhD supervisors were analyzed and compared to the results of the institutional survey, but it did not reveal any major differences in the findings; it rather reaffirmed the findings of the institutional survey. It was therefore decided to focus on the results of the institutional survey and only discuss the results of the PhD supervisors' survey when relevant.

Doctoral programmes are conducted differently in different parts of the world and as this project is focusing on the co-creation and sharing of doctoral courses, a question was included to assess to what extent it is common to make use of doctoral courses as it is first and foremost a research-based programme. A great majority of the respondents (75%) confirmed the use of doctoral courses is an integral part of their PhD programme. Another 20% explained that this is relevant in some programmes and only 5% of the institutions are saying that they do not use doctoral courses as part of the programmes. The latter group was directed to the end of the survey as it was deemed unnecessary for those institutions to contribute information to the full survey. However, for the remaining 95% of the institutions, it was confirmed that they do offer doctoral courses and this only reaffirms the relevance of the IDOCOS project, its aim to foster and support international collaboration around co-created and shared doctoral courses as well as that this should be appealing to a significant proportion of the institutions.

Fig. 2 Does your institution offer doctoral courses as part of the PhD programmes offered?



4. International Collaboration

Within the scope of the project supporting international collaboration around co-creation and sharing of doctoral courses, it is important to recognize that it is part of a larger process of internationalization and international collaboration in doctoral education agenda. It was therefore decided to include a limited number of questions to assess to what extent institutions are prioritizing international collaboration as well as how they do it. The results (fig. 3) first and foremost affirm that international collaboration in doctoral education is of very high importance in the majority of the HEIs (65%) and another quarter (24%) are considering it important. Only 11% consider it somewhat important and none of the institutions contest the importance by indicating that it is not important. International collaboration is therefore already a recognized priority and an integral part of the agenda in most of the HEIs.

The results of the survey furthermore show that international dual/double degree programmes are not very common among HEIs in Europe (fig.4) Half (51%) of the HEIs indicate that they do not have any and another 4% explains that it is not a possibility in their institution. Almost a third of the institutions indicate offering 1-4 dual degree programmes, 4% are offering 5-9. In 8% of the institutions this is more widely used as they offer more than 10 dual degree programmes in doctoral education. This data shows that formalized international collaboration through dual degree programmes is relatively rare and only occurs regularly between a very small share of institutions.

Fig. 3: At your institution, international collaboration in doctoral education is considered:

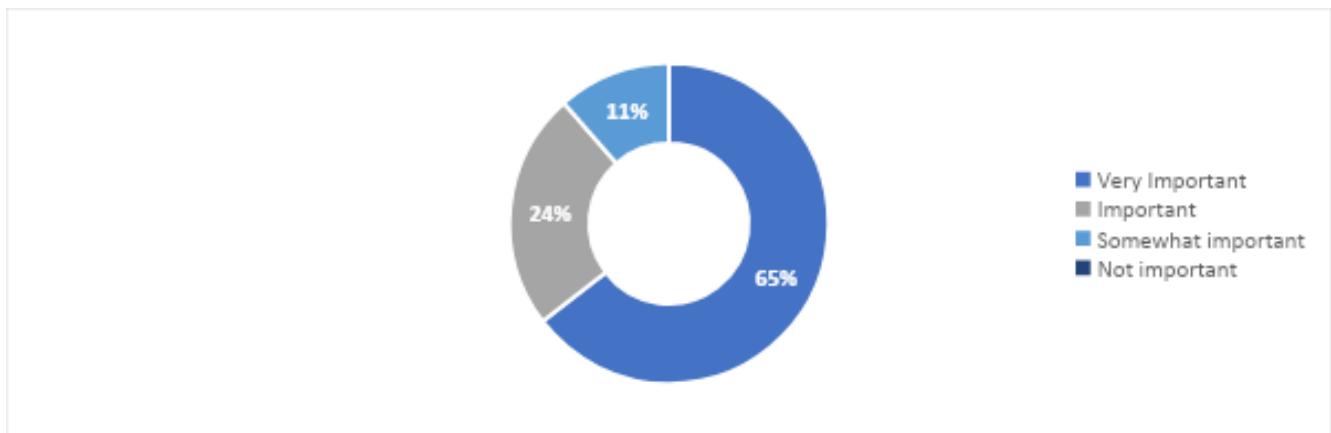


Fig. 4: How many international double/dual degree programmes for doctoral candidates does the institution offer?

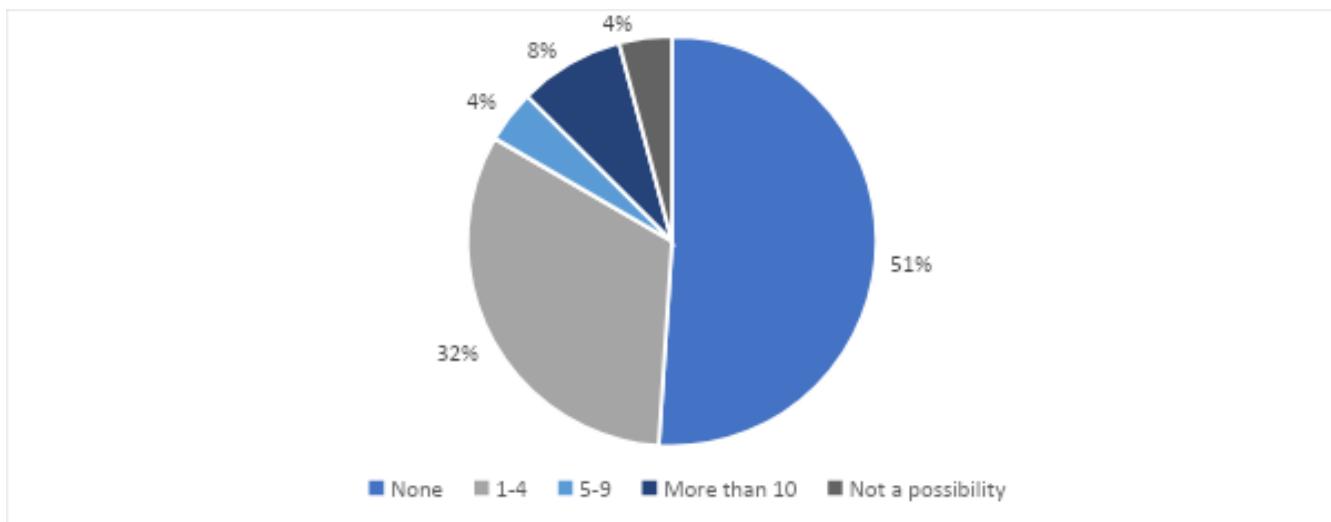
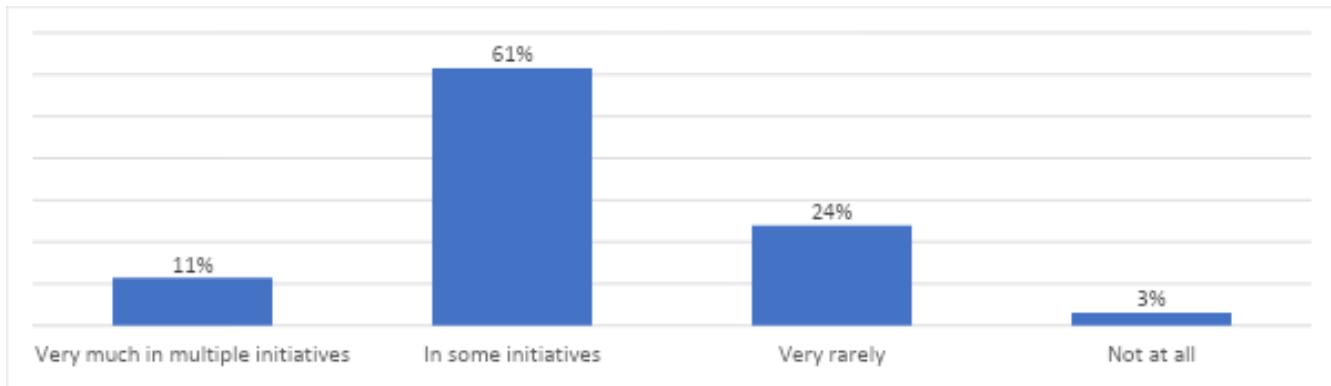


Fig. 5: Is the institution active in other international initiatives related to doctoral education?



Finally, 61% of the HEIs indicate that they are active in other international activities pertaining to doctoral education. Almost a quarter (24%) indicates that this happens rarely. Only very few (3%) respond that they are not engaged in international collaboration whereas 11% confirm that they are very much engaged in multiple international initiatives.

The institutions pertaining to the first group were asked to provide examples of the type of international activities that they are engaged in and this was submitted through an open question. The different categories that emerge from the different replies are the following:

- Joint supervision of PhD candidates (cotutelle agreements) as well as accreditation of mentors from international universities;
- Joint doctoral programmes (with or without double awards);
- University alliances (ex. EU, Nova or GCUA) where most of the alliances exemplified are collaborating around themes or disciplines;
- The HEIs refer to the fact that they are members in or part of specialized networks and associations. The collaboration could be around the different areas of disciplines, around the geographical area or related to collaboration in the implementation of international projects;
- Participation in international research training networks; contributing to or organizing research seminars or conferences;
- Academic mobility and hosting of doctoral students from other countries;
- International collaboration on research projects is also mentioned as well as jointly seeking funding for research projects;

It shows the different kinds of international collaboration that is already taking place in HEIs in Europe and in which the process of co-creation and sharing of doctoral courses could be envisaged as a complementary method to build on already existing collaboration among institutions. This could reinforce partnerships or be a means to foster a more structured collaboration among institutions that are not yet very active in the area of international collaboration.

5. Co-creation and sharing of doctoral courses internationally

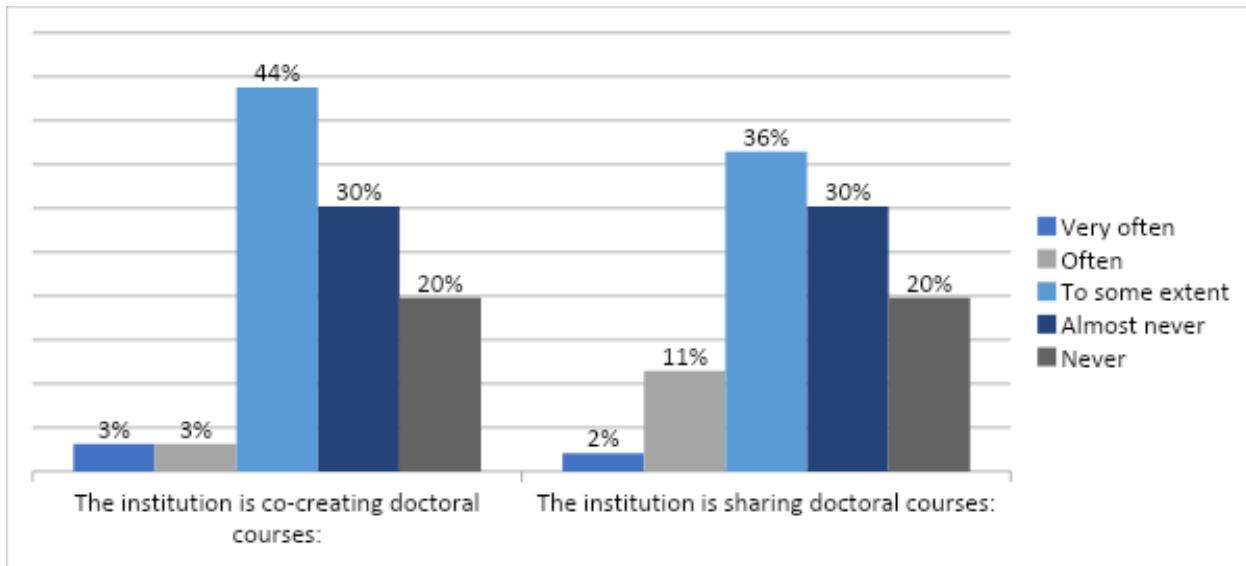
In this section, the current situation in terms of implementation of co-creation and sharing of doctoral courses internationally is depicted and furthermore outlines the key incentives as well as the major challenges for pursuing this collaboration.

5.1 Taking stock of the current state of co-creation and sharing of doctoral courses

The first question in this section was designed to assess to what extent HEIs are already co-creating and sharing doctoral courses with institutions from other countries (fig.6). The question was divided into two parts in order to allow for the institutions to assess the level of engagement in co-creation and sharing doctoral courses. It is pertinent that for both categories half (50%) of the HEIs are responding either never or almost. 44% of the HEIs indicate that they are co-creating doctoral courses to some extent and 36% are indicating the same for sharing doctoral courses. Only very few (6%) are co-creating doctoral courses regularly (very often or often). With regard to sharing doctoral courses, a slightly higher proportion of the institution (11%) is referring to the fact that they often share doctoral education.

The results of the survey demonstrate clearly that, at the time of the project, some institutions are co-creating and sharing doctoral education to some extent, while for half of the institutions it is not the case. This allows us to conclude that there is a great opportunity for a complementary international collaboration which can be expanded and pursued further and strengthened through relevant guidance and a robust methodology for institutions that propose solutions for inspiration while offering enough flexibility to correspond to various different contexts and institutions.

Fig. 6: To what extent is the institution co-creating and sharing doctoral courses with universities from other countries?



5.2 Identifying incentives for international co-creation and sharing

The survey further aimed at identifying the main advantages and incentives for international co-creation and sharing of doctoral courses (Table 2). The respondents clearly see the potential of co-creation and sharing of doctoral resources as a means to enhance the quality in education and research. In contrast the options related to financing (increase revenue, reduce cost of education) were not seen as important incentives as they rank lowest.

The other categories which were identified by more than half of the respondents as very important incentives or opportunities, are:

- Share and gain access to expertise
- Contribute to professional development through engagement with peers internationally
- Explore new influences, opportunities and discourses
- Contribute to international capacity building
- Career development
- Increase the outreach to doctoral candidates

These are all categories that link to continuous development of expertise and specialization in the disciplines in question and it is linked to a constant capacity building and career development of the concerned staff and likewise for the PhD candidates. These are all processes that are essential for the quality of the education provided.

It is positive to conclude that institutions across Europe see the enhancement of quality, specialization, capacity building and career development as the incentives behind co-creation and sharing of doctoral education as these goals are essential for developing doctoral education in all countries around the world.

Table 2: What are the main advantages and incentives for international co-created and shared doctoral courses:

	Very important	Important	Somewhat important	Not important
Enhance quality in education and research	77%	19%	4%	0%
Share and gain access to expertise	64%	33%	4%	0%
Contribute to professional development through engagement with peers internationally	61%	27%	12%	0%
Explore new influences, opportunities and discourses	59%	30%	10%	1%
Contribute to international capacity building	59%	28%	12%	1%
Career development	54%	27%	18%	1%
Increase the outreach to doctoral candidates	53%	37%	10%	0%
Position the institution as internationally engaged	49%	39%	11%	1%
Increase the relevance and broaden the lecture and course material offer	42%	52%	6%	0%
Access to new funding opportunities	37%	35%	19%	8%
Increase revenue	17%	28%	27%	29%
Reduce fragmentation of the field of study	13%	45%	34%	8%
Reduce cost	10%	23%	42%	25%

5.3 Identifying key challenges to international co-creation and sharing

In the process of supporting co-creation and sharing of doctoral courses, it is essential to understand not only the advantages and incentives, but most importantly to identify the challenges which make these processes difficult to implement (table 3). This is important to establish what aspects need particular attention in the methodology and support deliverables developed as part of the IDOCOS project.

The most important obstacle identified by the respondents is *funding* and the need for resources in order to implement this project. While the IDOCOS project cannot propose funding solutions to institutions, the methodology can help to think differently about the cost that would be associated with the co-creation and sharing of doctoral courses. If it proposes examples of co-creation and sharing at a low cost, it could change the perception of the institutions which, instead of understanding this process as linked to an increase in cost, would rather see how the same budget could be used differently in order to pursue enhanced quality.

Another issue identified *different rules, regulations and formalities* in countries. In the context of this project, it is not to review and explain national governance and regulations in different countries around the world. Yet, in Europe, there is already a well-established regional integration process : the European Higher Education Area and the Bologna Process. However, there are other instruments to support enhanced international collaboration at the global level, including the UNESCO *Global Convention on the Recognition of Qualifications concerning Higher Education* and the IAU World Higher Education Database developed in cooperation with UNESCO. Because it was identified in the survey as an important challenge, an additional section will be included in the methodology to provide guidance on this matter.

The following three categories were also identified as important challenges:

- Time required to develop co-created and shared courses
- Lack of staff capacities
- Adapting to new practices of work

All these categories are intertwined in the sense that respondents identify that it would require additional time to develop co-created and shared courses. It shows that an important aim of the proposed methodology is to simplify the process and make this type of collaboration less complex and time-consuming to pursue. It does require a change in culture or habits and it would require capacity building of relevant stakeholders in terms of how to go about it, but this is exactly the type of challenges that the methodology is aiming to address in the first place.

The results of these two questions reaffirm the need identified in the project conception that there is great gain (enhanced quality) in pursuing internationally co-created and shared projects, yet there is likewise a need to support institutions proposing solutions and a process as to how to pursue this type of international collaboration without being discouraged by lack of funding and legal frameworks. The methodology developed as part of the project can be an essential tool to propose a process that makes this mechanism of co-creation and sharing an integrated part of already existing responsibilities, tasks and related budget within the institutions.

Table 3: Main challenges and barriers to international co-creation and sharing of doctoral courses:

	Very important	Important	Somewhat important	Not important
Lack of funding	41%	40%	17%	2%
Different rules, regulations and formalities in countries	33%	40%	25%	2%
Time required to develop co-created and shared courses	28%	48%	22%	2%
Lack of staff capacities	24%	42%	19%	14%
Adapting to new practices of work	16%	40%	33%	12%
Lack of relevant partners	14%	33%	27%	27%
Technical aspects such as the use of LMS, SMS and other systems for collaboration	13%	24%	48%	14%
Language barriers	12%	22%	34%	33%
It is not a priority for the institution	10%	17%	34%	40%

5.4 Process related challenges

In addition to the previous question which allowed us to identify the key challenges related to the broader conceptual level of co-creation and sharing, it was also decided to identify and develop a series of important steps in the process of developing co-creation of doctoral courses and deciding on the level of sharing. The aim was to analyse if any of these steps were identified by the institutions as particularly challenging and therefore needing specific attention in the proposed methodology.

The replies to this question were more spread across the four different categories. Thus, to better grasp to what extent the different steps of the process are seen as important challenges versus modest challenges, the categories 'Very important' and 'Important' have been merged as well as the categories 'Somewhat important' and 'Not important'. The remaining percentages (when it does not add up to 100%) correspond to the HEIs that indicated Don't know (table 4).

As it was clear that the majority of the institutions do not already pursue co-creation and sharing of doctoral courses, the replies of this question for most of the respondents are based on their perceptions rather than actual experience. Nevertheless, this remains highly relevant, as it would be the same obstacles that may be the reason why institutions would refrain from engaging in this type of collaboration.

The results show that for the majority of the steps identified in the process, the majority of the respondents sees those as important or very important challenges which reaffirms the need to address these different steps in the methodology proposed.

Those steps in the process, identified as the most important challenges in the list, are the ability to clarify and agree on course approval, the credits/degree and its place within doctoral programmes and schools. An equally important challenge is the process of teaming up with the concerned stakeholders for the co-creation and to identify clear roles and responsibilities among these. Yet, as mentioned, most of the steps of the process that are weighted as important challenges will receive the necessary attention in the development of the methodology. It is however interesting to mention here that in the institutional replies there were a greater percentage of respondents identifying the different steps as challenging compared to the replies of the PhD supervisors where the top challenges would concern 53% of the respondents and not 70%. This could imply somewhat that at the supervisor level there is a different perception as to what extent those steps are perceived as challenges and only shows that those in charge of implementing the programmes actually see this process as slightly less challenging. Nevertheless, most of the steps are seen as important challenges and are worthwhile to address in the methodology.

Table 4: Challenges related to the process of co-creation and sharing of doctoral courses

	Sum of: Very important and Important	Sum of: Somewhat important and Not important
Clarify and agree on course approval, credits/degree and place in doctoral programmes/schools.	70%	29%
Team up with stakeholders, including students, for co-creation and sharing and define the roles and responsibilities.	70%	27%
Decide on learner support, teacher support and support for assessment, including continuous learner and supervisor feedback.	64%	34%
Evaluate course co-creation, sharing and course provision. After the course has been provided.	61%	34%
Decide on objectives and level of ambition for sharing of course content, course provision, learning data and supervisors.	60%	37%
Adapt and implement content into the agreed system and tools and execute course provision.	57%	42%
Clarify the readiness for online and blended learning and teaching.	55%	43%
Decide on the course content, learning materials and on the use of open licensing (OER and Open Science).	55%	36%
Decide on host for the course provision, Learning Management Systems (LMS), Student Management Systems (SMS) and other possible tools for co-creation and sharing, including on a possible digital supported platform.	54%	43%
Decide on (e.g. method for) course design and for adapting the course materials to online and blended course provision, including possible tools.	48%	49%
Clarify quality assurance and enhancement, e.g. choice of methodology.	46%	53%

5.5 Digital supported platform

There are many different options and levels of digital supported infrastructures that can be used in support of co-creation and sharing of doctoral courses. There is no 'one size fits all' and the main question is rather to be able to assess and decide among partners on the ambitions and the opportunities available in the context of the partner institutions and their countries. Yet, although it is clear that this is an area with many different options and possibilities, it was decided to include a question in order to assess what the HEIs are seeing as essential in order to pursue this collaboration. The question was designed in a way that it proposed very basic and low-tech options as well as more advanced and more integrated solutions that connect with other digital institutional management systems (table 5).

The results of this question show that most of the proposed solutions are considered as either very important or important. It also shows that it is less obvious to identify a certain form of digital supported solutions that are more relevant to institutions than others. When combining the sum of those indicating very important and important, more than 60% of the responses are in this category across the different options proposed within the question. The results of this question can be interpreted as openness of the institutions toward the different options proposed and there is a

need to guide institutions towards a diverse set of solutions spanning from very simple and low-tech solutions to a set of more advanced and institutionally integrated solutions. This would allow institutions to situate themselves according to their ambitions and opportunities and to assess with their partners what would be the best option for their specific collaboration. There is thus a great need for flexibility in the digitally supported platform proposed in the methodology, introducing different levels of solutions that can inspire and help guide institutions to make relevant choices according to their specific context.

Table 5: Which digital tools and platforms are essential to support international co-creation and sharing of doctoral courses?

	Very important	Important	Somewhat important	Not important
Website with the essential information and instruction related to the co-created course material	37%	41%	18%	2%
Digital platform for collaboration connected to the institution's Learning Management (LMS) and Student Management (SMS) Systems	34%	35%	20%	8%
Plain filesharing in the cloud (e.g. by Google drive, OneDrive, Dropbox or similar)	33%	41%	16%	7%
Digital Platform to advertise, list and allow search among courses	31%	36%	24%	5%
Shared Learning Management Systems (LMS) and filesharing	29%	36%	20%	5%
Digital platform to identify partners for collaboration	28%	39%	19%	10%
Learning activity data and learning analytics	20%	48%	19%	7%

6. Conclusion

The results of the survey are very valuable and allow us to depict the current state of co-creation and sharing of doctoral education and to inform how to best respond to the needs of the HEIs.

They have at the same time demonstrated that international collaboration is a high priority for the majority of institutions and that although double degree programmes in doctoral education are not very common, international collaboration is pursued in multiple other ways.

It was also established that currently it is not very common for HEIs to engage in co-creation or share doctoral courses, however the majority of the HEIs do identify that the main incentive for an institution to pursue co-creation and sharing of doctoral education is to enhance the quality of doctoral programmes which is well aligned with the ambitions of the IDOCOS project.

Finally, the survey allows to identify the main challenges observed by the institutions both at the conceptual level as well as for the actual process of engaging in co-creation and sharing of doctoral courses. These findings will inform the development of the methodology which is an essential tool to address the challenges identified; to propose solutions and to make this opportunity more widespread across institutions in Europe. The partners of the project believe that this would be the case even more so when also integrating interregional flexible and inspirational collaboration rather than a prescriptive one, in order to make it relevant for as many HEIs as possible regardless of their context and the specificities of the institutions.

The great majority of the institutions that participated in the survey has expressed interest in learning more about the project and gaining access to the project deliverables. The survey has thus also been used as a means to mobilize the higher education community and generate awareness about the project and its ambitions.

We thank all the institutions that have contributed to the survey and allowed us to use this valuable information to inform the further development of the deliverables of the IDOCOS project. Hopefully this project will contribute to ensuring that a positive outcome of the pandemic and the accelerated use of digital technologies would offer new opportunities and possibilities for international collaboration by joining forces and expertise across countries and pursuing more co-creation and sharing of doctoral courses, in pursuit of enhanced quality of doctoral education and research capacity.

Annex 1:

Nº of respondents by country	
Germany	9
Poland	8
Romania	8
Sweden	8
Russian Federation	7
Spain	7
Moldova (Republic of)	5
Ukraine	5
Bulgaria	4
Finland	4
Ireland	4
Portugal	4
Armenia	3
Austria	3
France	3
Latvia	3
Croatia	2
Czechia	2
Albania	1
Azerbaijan	1
Belarus	1
Belgium	1
Denmark	1
North Macedonia	1
Turkey	1
United Kingdom of Great Britain and Northern Ireland	1