

YEBO!

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State of the art
PhD Internationalization



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INTRODUCTION

Context

Internationalization has matured into a core strategic pillar for all universities aspiring to global significance. It is seen nowadays as a potential for education and research as well as a way or a means to build research capacity and develop strong institutions.

The strategic importance of doctoral education in successfully implementing strategies for internationalization cannot be underestimated. Successful internationalization of doctoral education strengthens research, teaching and international outreach of universities. It is hence essential that universities have an access to the information and resources necessary to implement their internationalization strategies for doctoral education.

This is especially true for both regions involved in this project. In recent years, South Africa took several steps, such as the National Development Plan 2030, to promote its higher education internationally. Thus, it specifically aims to position the South African higher education system to be competitive, to advance the quality of higher education, to enhance intellectual diversity, and to develop strategic alliances.

With numerous initiatives, South African higher education institutions have been creating opportunities to develop their internationalization. However not all of them have followed the same rhythm of development, some were helped by their reputation, others by funding capacities, or their own institution networks.

Concerning the European Union, the institutions have implemented an internationalization of their higher education earlier than its South African counterpart.

They implemented the ERASMUS program in the 1980s and the Bologna process (1999) which increased the development of the internationalization standardizing higher education qualifications and diplomas (with the creation of the ECTS). After focusing on European internal exchange, the EU higher education institutions are now trying to truly internationalize their higher education, not just in a Western centered way. They are multiplying the mobility opportunities, collaborations and funds that can be allocated to researchers and PhD candidates interested in international activities.

In order to help the higher education institutions, involved in the project, improve the internationalization of their PhD studies, it is crucial to first determine their position in terms of internationalization as well as the common challenges that they have to face in this project and then how to address them.

This report aims to present a **state of the art** of the PhD internationalization activity of the institutions within the YEBO project:

- **Ghent University (BE)**
- **Technische Universität Berlin (GE)**
- **University of Montpellier (FR)**
- **Uppsala Universitet (SE)**
- **Vilniaus Gedimino Technikos Universitetas (LT)**
- **Cape Peninsula University of Technology (SA)**
- **Central University of Technology (SA)**
- **University of Pretoria (SA)**
- **University of Cape Town (SA)**
- **University of the Western Cape (SA)**
- **Stellenbosch University (SA)**
- **Tshwane University of Technology (SA)**

Methodology of the questionnaire

An internationalization level **questionnaire** was designed to map the existing capacity of each partner institution. A specific questionnaire has been developed by the YEBO's consortium members based on the experience of the analysis implemented within the European Project FRINDOC (Framework for the Internationalization of Doctoral Education). FRINDOC was designed as self-assessment tool to get different sections within one university to discuss these matters. It was never meant to be used as an instrument to compare different universities (or different HEI regions). While the YEBO questionnaire was adjusted to better serve these means, one still has to be very careful to draw conclusions when comparing the results of different institutions. Within the YEBO's questionnaire, very precise questions were asked targeting three categories: The International Research Capacity and Attractivity, the International Mobility Funding and the Institutional Framework.

This activity complies with YEBO's approach consisting of carrying out a needs analysis within partner institutions during the first phase of the project in order to develop adequately possible solutions to the challenges identified concerning the internationalization of PhD studies; this allowed us to additionally see which sides of internalization should be a priority for this project.

RESULTS

Results of the questionnaire

First of all, an important **conclusion** that could be drawn from this questionnaire is that every institution, European and South African, faced great difficulties in gathering the information required to answer this questionnaire, especially for the questions concerning international activities. This difficulty to map internationalization is to be taken seriously. Indeed, some of the information required in this questionnaire is part of the information taken into account when it comes to the universities ranking. Adding to this, nowadays most of the stakeholders, might it be a researcher, supervisor or PhD candidate, want to know how developed the international dimension of the institution is before involving themselves with it.

Thus, this became one of the challenges that need to be addressed. A solution that could be developed during this project could be to help structuring a more efficient management for international mobility and activities.

Other than the differences between the South African and the European universities, there are indicators of clear differences among the South African Higher Education Institutions (in the YEBO-partnership). Some of the traditional universities have similar results as their European counterparts in both the development of PhD studies and internationalization, while the majority of the Universities of Technology are still in the initial phase of these processes. However, the results of the questionnaire do not provide sufficient data for a reliable analysis of these distinctions between the South African institutions. Therefore, this report focusses on the differences between the two regions.

International Research Capacity and Attractivity

Concerning the PhD population and the way they are supervised, we can see the following distribution:

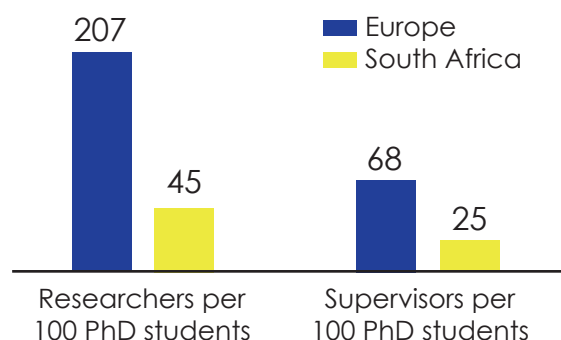


Figure 1: supervision of PhD students

The supervision availability for the PhD candidates seems to be rather vast for Europe since it gives more than 2 researchers per 1 student and **more than 1 supervisor for 2 PhD candidates**. On the other hand, for South Africa, 2 to 3 students share 1 researcher and 4 students for 1 supervisor, which is a big difference in terms of capacity.

Here is a look at the Average division of Researcher staff's time (in %):

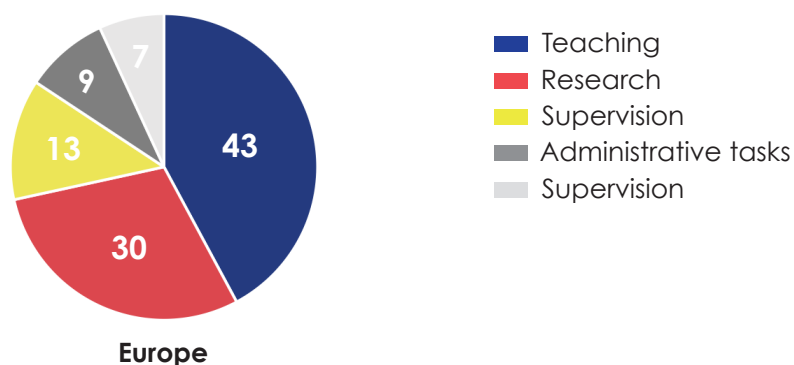
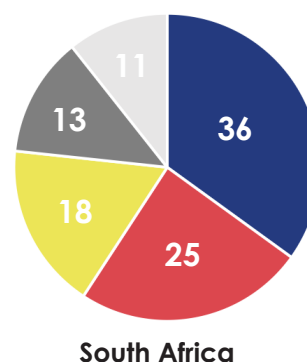


Figure 2: researcher's time allocation



The time division among the researchers of each institution was very difficult to obtain. This issue is a widely discussed one and it is pretty sensitive to ask researchers to detail it or explain the way their time is divided. Some even refused to answer.

According to the EUA about supervision, "Supervisors must have the time to meet doctoral candidates and give sufficient and timely feedback on the progress of their research. They need to have the dedication to deliver good supervision."- **Principles and Practices for International Doctoral Education**¹ .

¹ Principles and Practices for International Doctoral Education, European Universities Association, FRINDOC Project, Erasmus Mundus, 2015. Available at: http://www.eua.be/Libraries/publications-homepage-list/eua_frindoc_leaflet_08_15_web.pdf?sfvrsn=6 .

The results above cannot let us say that supervisors have indeed enough time dedicated to supervision. They seem to devote an important proportion of their time to administrative and other tasks.

Indeed, for European researchers there is a distribution of their time which comparably disadvantages the supervision of PhD candidates against students of the first and second cycle, because they are spending 1/7 of their time on supervision whereas almost half of their time is dedicated for teaching. It has to be taken into consideration the important difference in terms of numbers of enrolled students within the first and second cycle compared to the PhD candidates.

Among the other tasks done by researchers we can see: other academic services (such as writing grant and reports, marking exam papers), and services to society (e.g. as a board member, participation in activities of scientific communication, public service, civic engagement).

If we link these graphs to the number of available supervisors per 100 PhD candidates, we can see that even if Europe has more than twice the number of supervisors available in South Africa, they are individually less reachable and available to their PhD candidates.

Furthermore, European institutions had great difficulties evaluating the time their researchers spend on international activities, and only one institution answered with 5%.

For the South African institutions, almost all of them were able to give us an estimation, the average percentage is around 7%, therefore according to the data gathered, they are more active than European institutions are.

However, we suppose that the European institutions either do not have a need for an evaluation of that sort or an existing system to do so, or else, their researchers tend to be less involved in international activities or miss reporting on it. Therefore these data have to be taken into consideration accordingly to the possible bias mentioned above.

As for the time dedicated to research, we also need to take into account the number of publications. According to the results of the questionnaire, it emerged that there is an average of 220 publications for 100 researchers among South African institutions while the average for 100 researchers in Europe is of 99,73 publications, which makes it two times less than in South Africa. So even with less time dedicated to Research, it seems that South African researchers are more productive. This difference could be attributed to the government New Funding Formula (2004) that is dedicating a part of its funding to research output grant, but also to the Research Output Policy of 2015 adding three additional journals to its list of accredited journals. However, the data mentioned above should be considered not comprehensive in terms of publications for the European universities that claimed facing several issues to have an overview of the intellectual production of their researchers.

Concerning the international constitution of the staff, European institutions currently have on average 17% of international permanent researchers, quite close to South African with 16%. The integration of international staff is a first step for an institution in bringing diversity into the PhD studies and helping PhD candidates to first-hand experience of an internationalization at home.

The real difference between the two areas becomes visible when it comes to international university networks. South African institutions have twice the average number of networks than European ones have, with 31 for the first one and 17 for the second. However, when looking at the number of agreements, it is the European institutions that lead with an average of 99 cotutelle agreements against 7,5 that South African institutions have, 76 European projects against 19,5 and 39 internationally funded projects against 5,5. This kind of data can be expected since the European countries had a strategy of internationalization of their higher education for a longer time, and we cannot neglect the fact that they started with much more resources to do so.

During the academic year 2016-2017, the European universities had 30% of international students enrolled in their institutions, against 20% for the South African universities. This number is quite decent for both of the areas. What is important to see here is the origin of these international students.

South Africa tends to have a big amount (89%) of international PhD candidates from their own continent (mainly from neighboring countries). While for European institutions there are 33% of international PhD candidates that are from other European countries. Nevertheless, the mobility of people in the higher education world within the European Union has been especially strengthened by the existence of the Erasmus+ program for more than 30 years. Moreover, Europe has a large part of Asian PhD candidates (35%).

On the other hand within South African universities, Asian PhD candidates come third (3%) just after the European ones (5%), therefore these institutions would benefit from developing their cooperation with Europe and Asia by trying to attract more students from these continents.

For European institutions, African PhD candidates come third with 14% of the total PhD population. That is a significant percentage that can also be partly explained by the colonial history of many European countries, having spread abroad a common language facilitating today's researchers to go study in Europe.

For every partner university, we can now see that there are few exchanges of students between South Africa and Europe. To this, we can also add that there is a tendency to have more international students coming from bordering countries, which could be easily explained because it tends to be easier, cheaper and more accommodating for the person involved in the mobility.

On the other hand, this situation could be seen as the university not being able to gain enough recognition globally, which could be linked to the ability to attract students from farther away. In the case of South Africa, it can also be because the internationalization of higher education policy tends to want South Africa to prioritize countries in the neighborhood, then other BRICS countries, and only after that comes the rest of the world.

European and South African partner institutions have identified the needs for their PhD student regarding internationalization. They are the following:

Europe

- 1 Working in an **intercultural environment**
- 2 **Multilingualism**; becoming truly international (i.e. not only within « Western » international sphere)
- 3 **Funds** for traveling
- 4 Find a **host** for minor or major exchange and knowledge of possibilities

South Africa

- 1 Academic writing, publication skills, research design and capacity, methodology, conducting literature review, philosophy of science
- 2 General research focus or discipline specific focus on the following core themes: Doctoral education, scientific writing and publication skills, growing the researcher's skills and competences, discipline specific research development activities (such as methodology)

In one case the comment about the international PhD student involvement was :

“

PhD candidates are normally involved in internationally renowned research which is - as all academic research is supposed to be - strongly connected to other research worldwide. ... the goal is to strengthen this international involvement, with the goal of giving all PhD candidates the opportunity for a longer stay abroad during their PhD studies, especially with our strategic partner universities, to increase the number of joint degrees, make English an equivalent language in all matters on the PhD level and, compared to the status quo, ever more strategically recruit our PhD candidates internationally.

”

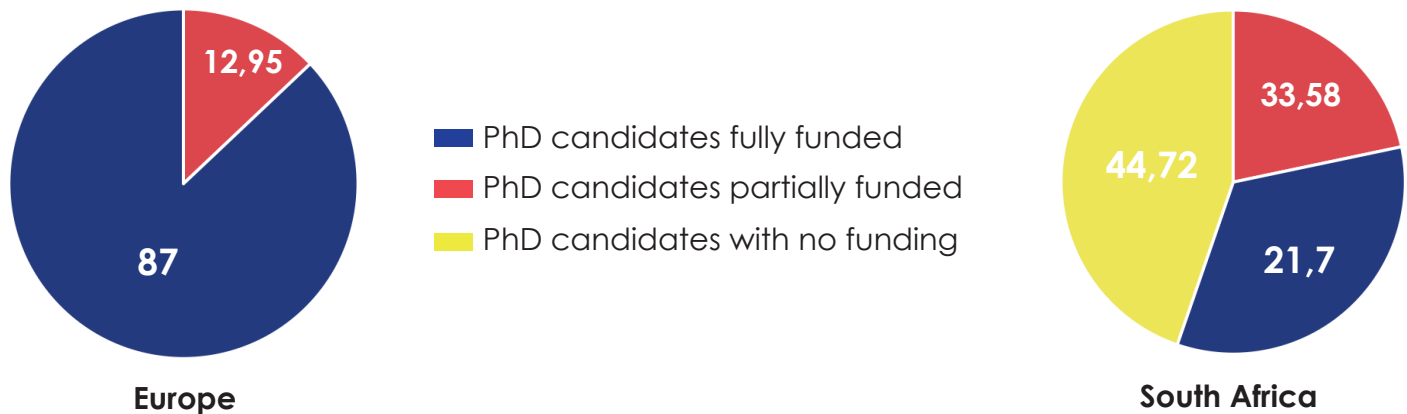
The South African partner institutions identified some specific needs for their staff development, which are as followed:

- 1 Post graduate study support programs:** funding of staff toward for mobility and access to research resources: participating in international exchange programs to undertake research-related activities through sharing of human and physical resources.
- 2 Cross cultural supervisor training** to help them supervise best their international PhD candidates but also to help them to attract and integrate international staff in their own institution.
- 3 English-language writing skills.** Access to world-class equipment and disciplinary information and literature.

With this project, the institutions aim at matching the researchers with an established international institution, in order to improve research skills and capacity and to provide access to other research resources.

International mobility / Funding Capacity

Average of the data gathered concerning the funding capacity (in %):



These graphs show an **important difference** concerning PhD students' funding between the two areas. We can now see that one of the central challenges faced by South African institutions is their ability to fund their PhD candidates. This comparison is hard to be done since there is a status difference for PhD candidates in South Africa and Europe, while in the first area they will be considered as students, in the majority of Europe they will be considered as junior researchers and paid consequently.

Moreover, on average the percentage of PhD candidates that have been **fully funded for their mobility abroad is 95% of European students** when it is **22% of South African students**. The rest is either partially funded or not at all. That is **4 times less than the average for European institutions**, which could explain why there is a **fewer number of people that attempt being mobile in South Africa**. In addition, the rating for the availability of funding for mobility of doctoral candidates is rated as **4 out of 5 for European institutions and 2,5 out of 5 for South African universities**, showing a real challenge for them to attract funding.

As said earlier, there are few exchanges of PhD candidates between Europe and South Africa. Stellenbosch University carried out an analysis concerning **The mobility of Stellenbosch students – exchanges and joint degree programs**. This study highlighted that in 2016, the number of European PhD candidates coming to South Africa (294) is 5 times superior to the number of South African going to Europe (54). In order to improve the balance between these exchanges, within this report it is recommended to institutions to increase their funding.

Also, the EUA in its **Principles and Practices for international doctoral education** stated:



In order to provide this funding, universities should look to diversify their income for example through collaboration with private companies or public bodies.



Indeed, the Stellenbosch study identifies one possible solution, as an exchange is never one sided. The number of European students coming to South Africa to study allows the creation of a more diversified environment, where one can already get some cross-cultural experience, and that would plant seeds for internationalization at home.

Moreover, as the Policy Framework for internationalization of Higher Education (published by the South African Government in November 2017) states in the article 3.5.7:



The aim must to be of mutual benefit to both a South African institution and its international partners from agreed collaboration or partnership.



Average of the data gathered concerning the international mobility capacity:

Table 1: International mobility capacity

	Europe	South Africa
Doctoral candidates that engage in long-term mobility (%)	3/5 = 0-25% 2/5 = 25-50%	0-25%
Doctoral candidates that engage in short-term mobility (%)	3/5 = 50-75% 2/5 = 25%	0-25%
% of PhD candidates who participate in international conferences	66%	8%
Number of international conferences they participated in	Less than 5	About 5
Supervisors that went abroad with international mobility experience	81%	35%

Overall, in terms of short and long term mobility, Europe and South Africa are **somewhat close with 5,6% of long term and 15,6% of short term mobility for Europe and 2% of long term and 11% of short term mobility for South Africa**. The gap in terms of international activity involvement is revealed by the percentage difference for the participation of PhD candidates in international conferences as well as by the number of supervisors going abroad. As shown in the table below, beside the **lack of time**, this gap can be explained by a **lack of funding and opportunities** on the South African side, while for Europeans the recurrent obstacles to international mobility are family and motivation.

However, another element to take into account to analyze this issue is the fact that important international conferences often take place in Europe and North America. Thus, necessitating more resources for South Africans to attend them considering the geographical distance, it is important as a world with a constant growing globalization to **“un-westernize” these events**, to distribute the organization of these events all over the world and not only in the most economically developed countries. The same causal factor is behind the gap for supervisors going abroad. South Africa’s neighboring countries are not as well structured and developed in terms of PhD and research structures as the neighbors of an European country are, so researchers have to go farther away to carry out their research adequately and once again, **the mobility abroad usually costs them more than for European colleagues**.

The recurring obstacles concerning international mobility faced by both areas are the following:

Europe	South Africa
1 Time and work schedules	1 Work schedules, opportunities (finding supervisors, research topics)
2 Family responsibilities	2 Funding
3 Motivation	3 Time
4 Funding	4 Lack of information
5 Opportunities (finding supervisors, research topics)	5 Supervisors not aware of opportunities

We can see that the obstacles are quite similar but at a different level and importance for Europe and South Africa.

Institutional Framework

It was important to analyze the international dimension to observe the way each institution was organized and see if the institutions had the required structure to help to develop the internationalization of their PhD studies. Thus, YEBO's questionnaire asked each institution to tell us what they have in place and also asked to self-evaluate the capacity of the following structures in the institution:

- **A structure to drive internationalization**
- **A structure that manages PhD studies and facilitate the internationalization of said studies**
- **A dedicated office that deals with internationalization**
- **An office dedicated to search for external funding resources**

These structures foster the unification of the management of international PhD candidates, to help them settle and handle issues from housing and visas, to allocation of resources, and international strategies. They are also allowing the institutions to evaluate the development of their internationalization and to quickly deal with the challenges and opportunities that are encountered on the way.

Considering their awareness of the importance of having an international activity, both European and South African universities already possess or at least have planned to have in the near future all the structures required to internationalize their institutions. What is interesting is that, for both areas, the rating the institutions gave to themselves is the same for the structure

that drives internationalization (3,8/5) and the dedicated office that deals with internationalization (3,6/5). Overall, European and South African institutions seem to have the same opinion concerning the efficiency of these structures within their institution.

However, it is not the case for the structure that is supposed to manage and help PhD studies with their internationalization, with 3,6/5 for European institutions and 2,8/5 for the South African ones. It seems that this structure for South African institutions could be improved in terms of efficiency. Nevertheless, the rating for the capacity to attract competitive external funding are quite similar for European (3,6) and South African (3,5) institutions, and the results of YEBO's questionnaire has identified a problem of funding in South Africa. This issue could have been caused by external factors such as other organizations providing funding for research not paying enough attention to these institutions.

The YEBO consortium took the chance in this questionnaire to ask the universities about the way national legal and administrative framework was an important support to the internationalization of PhD studies. Once again, here the ratings are not the same with 3,6/5 for the support made by European framework and only 2,3/5 for the South African framework. In order to improve the internationalization of PhD studies, it is crucial that the South African legal and administrative framework improve its consistency with the universities' needs avoiding the risk of becoming an obstacle instead of a supporting tool.

CONCLUSION

The results of the questionnaire have shown that the structure of YEBO project is in consistency with the actual needs of the South African institutions and its planned activities could significantly support the path of internationalization taken by them. Taking into account the international mobility capacity report, there is an evident difference between the regions when it comes to international mobility capacity, especially when it comes to the numbers of PhD candidates participating in International conferences (Europe - 66%, South Africa - 8,19%). International conferences are a strategic axis of the YEBO project; therefore the location of the intended conferences should be considered taking the results into account and aiming at meeting the needs of the South Africa region.

Seeing the level of funding available for the PhD studies, the number of active international agreements (general or thematic cooperation, cotutelle), European or other internationally funded projects and the difference between the two regions it is evident that the project for internationalization of the PhD studies in South Africa is in due time. The survey has also specified the areas where the training for both, the students and the staff involved, is most needed.

Taking into account that the majority of institutions face difficulties gathering the necessary information, creating or adopting some sort of a mapping tool should be a subject for further discussion.

Decisions

In addition to this questionnaire, a discussion on these data was held during the meeting at Cape Peninsula University of Technology in Cape Town in April 2018. The most relevant challenges identified through this debate on the current situation are as follows:

- 1 **Mapping data and collecting it:** both regions have issues figuring out where to find the data and who is the responsible person to contact; this shows a lack of organization in terms of management.
- 2 **Ability to attract funding:** the South African universities have a much harder time to attract funding compared to the European institutions.
- 3 **Working in an intercultural environment:** multilingualism and the capacity of becoming truly international are two aspects that were identified to be improved in order to reinforce the internationalization of PhD studies.
- 4 **Institutional reputation:** there is a rather important difference between the European and South African institutions, favoring European universities who involved in many more active agreements. This gap could be explained by the important cooperation among universities within the European Union thanks to specific programs and frameworks in place. However there is significant difference among South African institutions concerning their reputation, leading to a gap in their international agreements situation, some universities have such a reputation that they have to implement a strict selection while other struggle to get any international agreements at all.
- 5 **International profile of staff:** European and South African universities have similar results. In South Africa, researchers tend to be slightly more connected to their neighboring countries than for European researchers. These numbers greatly differ however when looking at the country of origin of international candidates. The Europe to Africa (and vice-versa) ratio is small and therefore the cooperation should be increased.
- 6 **International mobility capacity:** the difference in terms of international conferences is striking. It is agreed that what an international conference is should be better defined, not only as an event that takes place abroad, but that can also be organized at home and hosting international speakers. For South African institutions, the location of conferences is part of the low attendance problem, aside from funding. In some fields, they mainly take place in the West or in Asia, but rarely in Africa. This means traveling very long distances.

7 Management capacity: the results show that the South African institutions have a need for better internal structures: graduate school, international office, office to accompany researchers, etc.

8 Operational capacity facing tasks related to internationalization (travel arrangements, visa applications...): the South African universities need to understand what the European institutions are doing differently to implement their internationalization strategies.

Taking into consideration these challenges, YEBO project will organize several training sessions to address the specific needs of the partner institutions. The topics identified are as follows:

- **Training 1:** Intercultural skills (responsibility as a researcher in a global environment)
- **Training 2:** Doctoral school capacity (distribution of information, branding, mapping of international activities, funding management)
- **Training 3:** International Supervision (legal framework, co-tutelle, actual supervision of international PhD candidates, how to find a co-supervisor abroad)
- **Training 4:** Research capacity (academic writing, writing funding application, visibility of research, science communication)

These training sessions have been specifically designed to solve the issues identified by the questionnaire. However, even if the project YEBO aims to improve the internationalization of doctoral studies in South Africa, it is now clear that it cannot address every issue or every specific situation that each institution faces.

This is why it has been strongly recommended to any institution facing some issues not directly targeted by the project's activities to also refer to their own administration. Thus, making the institutions aware of the precise challenges that were discovered with the questionnaire, these universities can take targeted initiatives in order to improve their own situation.

The internationalization of the doctoral studies in South African will not keep improving if it is not a part of a comprehensive approach even if projects such as YEBO take the lead; institutions themselves are also responsible for their own development on this matter.

Recommendations

Therefore, some general recommendations to facilitate the internationalization have been identified for all partner institutions:

- 1 Mapping and data collection:** the internationalization activities have to be centralized in order to increase the coherence, effectiveness and the resource-efficiency of the universities. This access to the information would allow the universities to have a constant overview of the current situation, challenges and eventual new opportunities for the internationalization of the institution.
- 2 Funding:** a viable long-term strategy has to be developed to establish an internal funding and to facilitate the access to external funding for PhD research and for mobility.
- 3 Attracting PhD candidates Europe <-> South Africa:** the cooperation between Europe and South Africa has to be increased through active international agreements enhancing student mobility and other collaborative projects.
- 4 Institutional capacity and funding management:** some capacity building initiatives have to be organized in coordination with international partner institutions (training, exchanges of best practices) in order to improve the staff skills and infrastructures required to achieve an adequate internationalization.



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