

## Attracting international students: a proposal for the School of Engineering of the University of Minho

J. L. MONTEIRO<sup>1</sup>, G. PEREIRA<sup>2</sup>, R. M. VASCONCELOS<sup>3</sup>, A. G. CORREIA<sup>4</sup>, D. OLIVEIRA<sup>5</sup>

<sup>1</sup>School of Engineering of the University of Minho, [pres-Joao.Monteiro@eng.uminho.pt](mailto:pres-Joao.Monteiro@eng.uminho.pt)

<sup>2</sup>School of Engineering of the University of Minho, [vp-guilherme.pereira@eng.uminho.pt](mailto:vp-guilherme.pereira@eng.uminho.pt) (corresponding author)

<sup>3</sup>School of Engineering of the University of Minho, [vp-rosa.vasconcelos@eng.uminho.pt](mailto:vp-rosa.vasconcelos@eng.uminho.pt)

<sup>4</sup>School of Engineering of the University of Minho, [vp-antonio.correia@eng.uminho.pt](mailto:vp-antonio.correia@eng.uminho.pt)

<sup>5</sup>School of Engineering of the University of Minho, [sec-pres-diana.oliveira@eng.uminho.pt](mailto:sec-pres-diana.oliveira@eng.uminho.pt)

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### Abstract

In a competitive global environment, higher education institutions (HEI) are pushed to design and implement refined strategies to strive, counting on the quality of education, the excellence of research and the ability to effectively transfer knowledge to society. Bearing in mind that an organized strategy would boost the international visibility and brand promotion of the School of Engineering of the University of Minho (EEng), leveraging its position in the ranking of HEI quality and reputation, and taking into account the motivations regarding the increase of the number of international students (scientific recognition, international scientific cooperation networks, attraction of high potential students and revenue), this paper portrays the evolution of the internationalization pattern of the School of Engineering of the University of Minho, presenting the most significant progress regarding international networking in both research and educational activities, which has contributed to increase the international visibility of the School. Moreover, the paper draws on theoretical frameworks of services marketing and HEI marketing, namely concerning the motivations to study abroad, to support the goal of increasing the number of international students at the School. Furthermore, new strategies are proposed to achieve broader international academic contact networks and establishing even more international collaborative initiatives.

### 1 Introduction

Celebrating its 39<sup>th</sup> anniversary in 2014, the School of Engineering of the University of Minho (EEng) has been committed to the world of research, development and innovation, achieving a remarkable reputation as an international engineering higher education institution. The EEng offers higher education and innovative research opportunities on classical engineering areas as a cornerstone of education in the Engineering domain. Notwithstanding, the School also devotes its efforts to innovative ground-breaking scientific areas, the so called “new engineering”, involving new manufacturing technologies, more efficient processes, advanced design, energy and sustainability. With nine departments (responsible for different scientific and pedagogical engineering areas) and eleven research centers, the School wishes to promote knowledge and innovation working towards the reinvention of future and providing effective solutions to the societal challenges of our days: environment, energy, reindustrialization, sustainability, bioengineering, etc.

Considering an international competitive network of high quality and reputable higher education institutions (HEI), and currently facing governmental funding constraints in part due to a financial crisis across the country, the EEng has nonetheless been able to step up to the challenge and promote cross-institutional initiatives to boost the multidisciplinary of its research and education projects.

The European University Association (EUA) has recently analyzed Portuguese higher education and recommended that Portuguese HEI adopt strategies to increase their internationalization

efforts, namely by considering legal conditions allowing the recruitment of foreign students, by increasing the number of international academics and researchers, by increasing operational competence in English and by developing a lusophone Massive Open Online Courses (MOOC) platform [1].

The Portuguese universities affiliated to CRUP (Council of Rectors of the Portuguese Universities) have also been recommended to adopt a joint strategy particularly to attract international students leveraging the internationalization of the Portuguese higher education [2], a concern which is also strategically considered in the University of Minho's (UMinho) Strategic Plan for 2020 [3].

In fact, the number of international students enrolled in higher education projects outside their countries of origin – 4.3 millions in 2011 according to the OECD [4] – shows that students are looking for opportunities to continue their academic paths in foreign destinations. Undoubtedly, this trend constitutes an opportunity for HEI to boost their international cooperation network, not only by attracting more international students, but also using this as a lever to design and implement further international cooperation projects and increase their worldwide visibility and reputation.

The following section will show the evolution of the internationalization pattern of the School of Engineering of the University of Minho, presenting the most significant progress regarding international networking in both research and educational activities, which has contributed to increase the international visibility of the School.

## 2 Internationalization at the EEng

Globalization and internationalization are not the same: globalization comprises the “economic, political and societal forces pushing 21<sup>st</sup> century higher education toward greater international involvement” whereas internationalization involves choices and strategies designed and implemented to cope with globalization and maximize the benefits of global actuation [5] [6].

The UMinho is committed to its role in the global community and has consistently been able to attract international academics and other stakeholders, collaborating with renowned institutions worldwide. Each academic year, around 50 UMinho faculty members develop activities in foreign universities. Over the years, the UMinho has signed more than 300 cooperation agreements with foreign universities and research institutes, covering around 90 countries all over the world.

The International Relations Office (SRI – *Serviço de Relações Internacionais*) of the UMinho plays a very relevant role in coordinating, monitoring and supporting the development of all initiatives related to the internationalization of the University, especially as far as academic cooperation and mobility are concerned. The EEng has counted on the SRI's strategic support in managing exchange programs and internationalization opportunities for faculty, students and staff, which has greatly contributed to the success of cooperation activities already established.

Despite being a considerably young institution, the UMinho has already achieved high reputation in the international higher education institutions' network. In 2012, the UMinho reached a position on the Times Higher Education World University Rankings (351-400<sup>th</sup> position), where only two Portuguese universities, UMinho included, are placed. In 2013, the UMinho has also achieved the 76<sup>th</sup> position on the Times Higher Education 100 under 50 University Ranking 2013, a ranking of the top 100 universities under 50 years old which in a short period of time have reached a global level of excellence in education and research. The UMinho's profile in Times Higher Education emphasizes the institution's commitment to internationalization. Although the University of Minho is not ranked in the first 100 institutions in the area of Engineering & Technology, this is a goal the EEng intends to contribute towards in the near future.

The rankings are established through performance indicators in four main areas of the HEI mission: teaching, research, knowledge transfer and international outlook. According to the THE World University Rankings methodology, the internationalization in the HEI mission areas refers to the degree in which the HEI collaborates with international partners, namely the number of foreign students and faculty and international publications. This paper will now explore the EEng's own internationalization path contributing to the excellence results achieved by the UMinho.

The EEng represents around 30% of the UMinho in terms of number of students and of number of 1<sup>st</sup> cycle, Master degree or PhD courses. However, in terms of research projects, the projects developed at the EEng account for around 70% of the total funding and number of research projects of the UMinho.

The EEng has also been consistent with its internationalization results, showing significant progress regarding international networking in both research and educational activities, which has contributed to increase the international visibility of the School.

The EEng carries on participating in several bilateral initiatives and European projects.

The School coordinates the international Erasmus Mundus Master Course SAHCS - Structural Analysis of Monuments and Historical Constructions since 2006 and the Erasmus Mundus Master Course EuRheo - European Masters in Engineering Rheology since 2008.

The EEng coordinates also, since 2006, the MIT-Portugal Program Focus Areas Engineering Design and Advanced Manufacturing-EDAM and Bioengineering. Furthermore, the EEng is involved in collaborations with the University of Texas at Austin since 2007, in the framework of the UTAustin-Portugal Program, particularly concerning the entrepreneurship areas (UTEN - University Technology Enterprise Network) and the focus area Advanced Computing. The EEng was also involved in cooperation activities with Carnegie Mellon University, from 2008 to 2010, in the framework of the CMU-Portugal Program, namely through the focus areas Technology, Innovation and Policy and also Information Processing and Networking, promoting two Doctoral Programs – Telecommunications and Informatics – in cooperation with the Portuguese universities of Aveiro and Porto, which are still part of the School's curricular offer.

From 2010 to 2013, the EEng has promoted 31 cooperation agreements with foreign universities and scientific research institutes, resulting in global cooperation activities, namely exchange programs for students, faculty, researchers and staff, joint research projects, double-degree and joint-degree programs and organization of joint conferences and workshops.

There are several collaboration models currently undergoing, such as:

- i) Programs leading to a degree from UMinho: foreign students enrolled in the EEng's courses; Master Courses and Doctoral Programs (comprising a period of student mobility at the EEng) lectured in other countries by the EEng's faculty, in collaboration with local institutions (Timor, Cape Verde, Brazil) and distance learning courses.
- ii) Joint degree programs: exchange agreements with several European universities for joint degrees in Doctoral Programs. Furthermore, joint and double degree agreements are currently being discussed with several foreign universities in the framework of Integrated Master Courses and 2<sup>nd</sup> Cycle Master Courses.
- iii) Collaboration programs: Short Courses, Master Courses and Doctoral Programs lectured in other countries by the EEng's faculty, although not leading to a degree of the UMinho (Angola, for example).

Currently, the EEng is drafting a new proposal to increase the number of curricular units taught in English, not only to improve its own students' language skills (preparing them for a globalized market place) but also enabling the EEng's educational programs to be more attractive to foreign publics. As far as the Doctoral Programs are concerned, all Behavior and Innovation Options (which are compulsory for any student) are already taught in English.

The EEng has also successfully incorporated an already existing MOOC in the framework of the curricular unit "Innovation", which is included in the first academic year of all Doctoral Programs. The course entitled "Planning Change and Innovation", by Professor David O'Sullivan, from the National University of Ireland, Galway, was taught through an online platform made available to students. Nonetheless, in the second edition of the course, an initial tutorial and three further support sessions were held by an invited lecturer at the School, collaborating with Professor O'Sullivan. All course activities were managed through the online platform, from assessment papers to debate forums, using videos, reading notes and slides. All students are required to set their self-pace and use the social learning platform.

Considering e-learning, the EEng offers a full Master Course taught through distance learning methods: Master Course in Properties and Technology of Polymers.

Boosting the global reach of its activities, the School promotes also mobility programs of students and faculty, in the framework of several mobility programs, supported by the International Relations Office (SRI) of the UMinho. Tables 1 and 2 present the main results of mobility exchanges in the past 4 years.

*Table 1. Mobility of students (outgoing/incoming) per academic year*

	2009/2010	2010/2011	2011/2012	2012/2013
<b>Outgoing</b>	114	140	118	124
<b>Incoming</b>	80	173	246	213

*Table 2. Mobility of faculty (outgoing) per academic year*

	2009/2010	2010/2011	2011/2012	2012/2013
<b>Outgoing</b>	26	31	17	26

As far as research projects are concerned, international funding currently accounts for around 30% of total funding at the EEng. Table 3 presents the evolution of national and international funding (both public and private) for the last 4 years, explicitly portraying a decrease of private funding, both at national and international levels.

*Table 3. Funding of research projects (EEng)*

	<b>Public Funding (w/ EU support)</b> <b>(thousand €)</b>		<b>Private Funding</b> <b>(thousand €)</b>	
	National Programs with EU funding	International Programs with EU funding	National	International
<b>2010</b>	20301	10315	576	803
<b>2011</b>	28990	13327	521	438
<b>2012</b>	31407	18407	467	261
<b>2013</b>	38020	14074	412	212

From 2010 to 2013, the EEng's research centers have been involved in more than 50 international research consortia, which accounts for around 50 million Euros in terms of funding volume. As far as research projects funded by European organizations are concerned, the researchers have led around 70 projects in this period, representing over 15 million Euros in terms of funding.

During this period, the research centers have been collaborating with several renowned international and European institutions, to name a few: Massachusetts Institute of Technology (MIT), University of Texas at Austin (UTA), Carnegie Mellon University (CMU), Autex, Textile ETP, Tokyo Women's Medical University, EMBL European Molecular Biology Laboratory, EBI European Bioinformatics Institute, Fraunhofer Institute, IATA-CSIC, Technical University of Denmark, Aalborg University, Wageningen University, Institute of Chemical Process

Fundamentals, Pasteur Institute, VTT, Technical University Delft, University of Groningen, Katholieke Universiteit Leuven, University of Galati, École Polytechnique Fédérale de Lausanne, CEMEF École des Mines de Paris, Warsaw University of Technology, Wrocław University, Technical University of Liberec, University of Ostrava, University of Cranfield, University of Southampton, Queen Mary University of London, Technical University Chalmers, University College of London, Imperial College, Politecnico di Milano, University of Padua, University of Ferrara, University of Salerno, IMDEA, Universidad de Valladolid, Universidad Politécnica de Barcelona, Universidad Autónoma de Barcelona, Universidad Politécnica de Madrid, Universidad de Vigo, European Organization for Quality, German Research Center for Artificial Intelligence, CIRP The International Academy for Production Research, Networked European Software and Services Initiative, Hasso Plattner Institut, CERN, Foundation for Research and Technology – Hellas.

During this period, several research projects have also been developed in cooperation with companies from all over the world, such as Bosch, Groz Beckert, MATERIALISE NV, Kedrion, Cell Med, Specialni Polimeri Ltd., Tinfer, S.L., Color-Center, S.A., Technologie Biomediche Srl, Inotex Spol. S R.O., Perca Ltd., Fidia Advanced Biopolymers s.r.l., Swerea IVF AB, SAMO s.p.a., INNOVENT e. V., Q-Sense AB, Histocell S. L., Porifarma BV, STUDIO ASSOCIATO GAIA SNC, ATRAHASIS SRL, NanotecMARIN GmbH, SIMPLEWARE LIMITED, DOCK 11 GmbH, ARSTIC AUDIOVISUAL SOLUTIONS SL, MEDOVENT GmbH, Altakitin Corp, Softeco Sismat Srl, DUPONT, Fromageries BEL, Wetsus, Adisseo France SAS, Deltares, Altreonic, Galois, FORD Automotive, TOTAL, BASF, DSM, Bekaert, TNO DIANA, S&P Clever Reinforcement Company, Sika and several others.

As far as international publications are concerned, for the past 4 years, the EEng's researchers have published over two thousand papers in international publications ISI/SCImago (Table 4).

Table 4. International publications ISI/SCImago

2010	2011	2012	2013
382	528	632	645

The EEng's research projects have contributed to effective transfer knowledge to society, in the form of new production methods or new products and services, which in the past 4 years led to the registration of 70 new patents, from which 27 are international patents (Table 5).

Table 5. National and International patents

	2010	2011	2012	2013
International	7	11	4	5
National	14	5	15	9
Total	21	16	19	14

The EEng's researchers have presented more than 3 thousand papers in international conferences over the last 4 years (Table 6).

Table 6. Papers in international conferences

2010	2011	2012	2013
699	991	820	731

From 2011 to 2013, the EEng's researchers have been responsible for or participated in organizing committees of 63 international conferences, 34 of them held in Guimarães or Braga, Portugal, the cities where the UMinho's campuses are located.

These internationalization efforts have consistently contributed to increase the international visibility of the School, resulting in an urge to implement organized marketing strategies to take further action in terms of notoriety and reputation of the School worldwide.

One of the consequences (and, then again, results) of broadening the actuation area of a HEI is the attraction of international students.

In 2013, the EEng received around 6000 students for its 1<sup>st</sup> cycle, Master courses and Doctoral Programs, from which around 400 are of foreign nationalities, accounting for approximately 7% of the total number of students in the academic year of 2013/2014, for all cycles of study.

According to the Portuguese Directorate-General of Statistics for Education and Science (DGEEC), almost 29.000 foreign students were enrolled in Portuguese HEI in the academic year of 2011/2012 [7]. From these, students from Brazil and other countries of the CPLP (Community of Portuguese Language Countries) and the Mediterranean countries geographically closer to Portugal account for the higher percentage of enrolled international students.

The motivations of HEI to adopt marketing strategies in general and to attract international students in particular will be under detailed analysis in the following section.

### **3 Marketing Higher Education Institutions**

Product marketing principles are not to be applied to services due to specific characteristics of the latter, as these constitute intangible and perishable activities, which do not result in material possession. Services are delivered in an interactive process with the ultimate goal of satisfying the customer [8].

Research in educational marketing is essentially drawn from the theoretical framework of services marketing [9]. Kotler & Fox [10] define marketing for educational institutions as the analysis, planning, implementation and control of carefully designed programs to promote voluntary value exchanges with target markets and to reach institutional goals. According to the authors, marketing involves adapting the offer from the institution to respond to the needs and wishes of the target markets, using efficient price, promotion and place to inform, motivate and respond to those markets. A marketing-oriented educational institution will be able to determine the needs and wishes of its target markets (not only students, but also other relevant stakeholders) and satisfy them by adapting its marketing mix: in services marketing, the 7 P's – product, price, place, promotion, people, process and physical evidence [10], [11].

By defining a marketing strategy, the HEI will be able to [10]:

- Decide to maintain, improve or cancel any particular educational offer;
- Create new programs and market opportunities;
- Analyze its main competitors;
- Position the HEI in relation to its competitors;
- Select target markets and plan their marketing mix.

By using marketing tools, a HEI is therefore able to reach a competitive advantage in comparison with its partner institutions, allowing them to differentiate their educational offer and related activities from fellow competitors. Constant monitoring and definition of strategies will in turn lead the HEI to understand the wishes and needs of its target market, adapting its global service offer, increasing in turn the perception of quality and satisfaction of its customers [11], [12], [13].

The internationalization of HEI and the constant global competition have led institutions to define strategies and implement programs in order to attract more students, more funding and establish broader collaborative research networks, thus increasing their visibility and reputation worldwide.

Altbach & Knight [5] discuss the main motivations HEI have identified for academic internationalization:

- a) Profits: universities define several international strategies such as collaborations with local institutions, alliances or branch campuses not only aiming at financial profits (by charging higher fees or increasing the number of students) but also considering improving research and knowledge capacity as well as to increase cultural awareness and provide students with the learning outcomes of an international experience;
- b) Demand Absorption: demand for higher education has been increasing and lack of opportunities or capacity itself in origin countries leads to a search for opportunities abroad;
- c) Traditional Internationalization: activities such as international programs or study-abroad experiences are not substantially oriented towards financial profit, but nonetheless contribute to increase competitiveness and reputation;
- d) European Internationalism: as part of regional integration and cooperation initiatives for Member States, programs such as ERASMUS have been implemented for several years. The Bologna process seeking harmonization of academic systems could also be referred to as an initiative of internationalization;
- e) Developing-Country Internationalization: developing countries are interested in attracting international students to local HEI as a way to improve their ratios related to quality, reputation and income.
- f) Individual Internationalization: self-funded international students account for the largest percentage of international mobility, leading to conclude that they are the largest source of income for international education institutions.

On one hand, for underdeveloped or developing nations, seeking international cooperation opportunities might be considered as an effort not to fall behind in terms of not only economical but also academic progress, as studies have associated the mobility of students to foreign countries to weak political, social, economic and academic weaknesses of the countries of origin [14]. On the other hand, for developed countries, establishing partnerships with the latter may allow them to embark on different types of internationalization activities, such as offshore campuses, joint degree programs, aiming at increasing not only profits associated with these marketable initiatives but also to expand their influence area [5].

Internationalization through study abroad is a means for HEI to promote their students' cultural awareness, global competences and intercultural communication skills [15].

Several studies have focused on college choice process and decision factors, not only regarding choice of an HEI at the home country, especially in Australia, Scotland or United Kingdom [13], [16], [17], [18], but also at international level.

The student's motivation to choose a foreign institution to proceed with his/her academic path has been referred by several authors in the framework of the push/pull models [19], [20], [21], [22], [23]. The "push" factors refer to economic or political issues in origin countries which lead students to leave their countries; the "pull" factors are characteristics of the destination country or, particularly, the destination institution, working together to attract students, such as cultural, economic and political situation of the destination country, reputation and quality of destination institution, international recognition of granted degrees or the location of the destination HEI [21], [22], [23]. Both factors, either positive or negative, act as an influence to the student: whereas there may be repulsive factors pushing the student to leave the origin country, other positive factors act as attraction stimuli [6].

When looking for international destination HEI, the student is most likely to select those which overall market image best relate to the student's goals and aspirations [24].

Several factors may influence the students' choice of a destination HEI: academic reputation and overall perceived quality of the destination HEI; educational offer, including the number and variety of available programs and scientific research areas; cost, including tuition, cost of living,

accommodation and extracurricular activities; the degree of information made available by the destination HEI and its adequacy to the students' needs; the location of the destination HEI; employability rates; and influence of others, namely family, friends or supervisors [13], [16], [17], [18], [20], [22], [23], [24], [25], [26], [27], [28], [29].

A research study by Nyaupane et al. confirms that "social ties", particularly close friends who live in a foreign country, influence the students' decision regarding a destination country to a great extent [30]. The experience of present or former fellow students is also considered of the utmost importance as an information source, as potential students value this information as being trustworthy and consider the possibility of immediate feedback and clarification [16], [27], [31].

In fact, service consumers are more likely to consider promotion and communication strategies focused on interpersonal communication when it comes to information search and trust on provided information, seeking to reduce the risk associated to the choice process in a rather intangible environment [27], [31]. Word-of-mouth is also considered one of the most powerful promotion tools a HEI could strategically use, as the perception of the institution's reputation is largely associated with its consumers' evaluation [23].

Knowing which factors mostly influence the attraction of students may assist HEI to redefine strategies and therefore increase the success of their internationalization strategies by adequately responding to the various stakeholders' requirements.

Indeed, the participation in collaborative international networks presented in section 2 of this paper and the contacts and cooperation activities established through these networks have led to the increase of the number of international students at the EEng (Table 7). In the academic year of 2011/2012, the number of international students represented 5% of the total students enrolled at the EEng, whereas in 2013/2014 it represents almost 7%.

Table 7. International students at the EEng

	2011/2012	2012/2013	2013/2014
<b>1<sup>st</sup> cycle and Integrated Master Courses</b>	103	86	82
<b>2<sup>nd</sup> cycle (Masters)</b>	144	114	120
<b>3<sup>rd</sup> cycle (PhD)</b>	82	77	178
<b>Total</b>	329	277	380

The consequences of the increase of international students at the EEng are notorious: attraction of high potential students and researchers; creation of more collaborative research projects and activities; potential of increasing the number of outgoing students; increasing the international visibility of the EEng and thus promoting its participation in international research project consortia and attracting international funding.

The EEng wishes to maintain and explore the growing trend of attracting cooperation opportunities abroad, namely the increase of the number of international students enrolled in the School's education projects. The following section will look at further strategies which are being designed and implemented at the School of Engineering in order to boost the results of the internationalization of the EEng.

#### 4 Further strategies for internationalization of the School

The University of Minho is currently discussing a structured policy for internationalization activities under a strategic framework, defining main target areas and education and research programs in cooperation, including promotion initiatives, specific market targeting strategies, improving the welcoming experience of international students and faculty as well as mobilizing the whole academic community towards an organizational culture devoted to internationalization.

In the context of a broader general policy at the UMinho, the School of Engineering wishes to act as a test bed for the main internationalization strategies, currently considering several strategic actions to achieve broader international academic contact networks and establishing even more international collaborative initiatives, boosting the attraction of international students.

The EEng plans to increase the involvement of professors/researchers in European projects with international consortia and increase the number of joint doctoral programs in cooperation with international HEI.

As proposed in the Strategic Plan of the EEng for 2020 [32], the School is currently discussing an increase of the number of curricular units taught in English for all study cycles. The EEng also plans to fully teach all Doctoral Programs in English within three years.

Attention is also been paid to countries which are less sought after in terms of academic partnerships, but whose populations lack higher education training and would be interested in taking part of the UMinho's international network. We refer not only to the PALOP (African Portuguese Speaking Countries) but also to other developed and developing countries with a strategic interest in entering Portuguese speaking labor markets of high potential, such as Brazil or Angola.

In fact, as one of the world's most spoken languages, Portuguese can be considered as a valuable asset in the world's economy today. If, on the one hand, the School intends to broaden a curricular offer in English language to respond to a higher demand, on the other hand a complementary curricular offer in Portuguese language is considered as a strategic position to fill in niche market demand in higher education (such as oil, gas and renewable energies in Portuguese speaking countries).

Drawing on the successful results of the first MOOC implemented at the EEng, the School wishes to proceed with creating a broader offer of MOOCs, namely as compulsory projects within the curricular units for all Doctoral Programs.

By involving foreign faculty and students in its Doctoral Programs, the EEng is also promoting research-based international collaboration, as joint degree programs or exchange periods within PhD courses often create cornerstones for broader collaborations in research, development and innovation. The School intends to further capitalize on these strategic opportunities.

International visibility and recognition is a relevant issue regarding brand promotion and quality awareness. Therefore, the EEng plans to promote the School overseas. This will be achieved through direct institutional visits and direct contacts established with partner institutions, presenting the competencies available at the School. A number of missions led by the Dean and the Presidency team to several countries are also being planned.

The role of academics acting as representatives of the School of Engineering in their own countries must also be strategically considered. The School plans on boosting the role of international faculty and Alumni as the Ambassadors of the EEng abroad, as word-of-mouth is proven to be one of the most effective ways of communication and promotion. They would act as individual marketing points at their home institutions, involving their own academic networks and providing relevant information to those interested in establishing closer cooperation with the EEng, either in terms of education opportunities or research partnerships.

Despite international students being received at the University of Minho by the International Relations Office (SRI), the office's welcoming programs are especially dedicated to students participating in institutional mobility programs, such as Erasmus, etc. Students wishing to individually engage in post-graduation course at the EEng often face difficulties when contacting administrative services. A recent study being developed at the EEng in the framework of one of the authors Master Thesis has concluded that students often refer to the need to implement organized welcoming strategies and a liaison office which would help them trigger these difficulties. Aiming at responding to the need identified and in order to improve the welcoming experience of the international student, the School is considering implementing a pilot project, namely an internal welcoming office (i.e., an International Student Ombudsman).

It is also utterly important to understand the students' satisfaction after they complete their degrees or after experiencing a mobility period at the EEng. Other studies have focused on the assessment of former experiences of international students in the framework of exchange programs [33]. The EEng also wishes to implement such as assessment project aiming at identifying improvements which could lead to a higher satisfaction of international students.

We could argue improving communication with international students through the School's official website is relatively simple. Therefore, the EEng's website is being revised for several weeks now, currently in its final stage of revision, to adapt all communication to English language and complement the existing information with more details relevant to international students, namely linking this website to information on campuses' location, accommodation, websites for each Doctoral Program, etc.

The EEng wishes also to increase cultural awareness of the national students' and general community by organizing activities involving international students with the local community. Other researchers have suggested the success of such strategies in terms of improving communication skills of students by allowing an exchange of cultures but also of different backgrounds, promoting multidisciplinary learning experiences and involving the whole of the academic community in welcoming foreign students [34], [35].

## 5 Conclusion

The EEng has currently achieved a remarkable international reputation regarding its education and research projects, contributing to the UMinho's relevance in the global HEI network. However, further internationalization strategies are needed in order to broaden the cooperation network and attract high potential students and researchers, boosting the EEng's visibility worldwide. It is of the School of Engineering's strategic interest to establish joint cooperation opportunities which could have a global impact on its education and research results. Providing a global actuation environment encourages the academic community to engage in excellence education and research cooperation networks worldwide, boosting the School's recognition as an international reference institution, contributing to the UMinho's overall visibility and reputation. The EEng is keen on making the most out of joint international synergies by combining the excellence and expertise of its partners with those of its own researchers in order to successfully face challenges ahead.

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