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Programmes: Impact and Perspectives*

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Developing Programme Accreditation and EUR-ACE in Spain

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Summary

This paper deals with the process that has led ANECA, together with the IIE, to apply for the authorization to award the EUR-ACE label for engineering programmes meeting ENAEE's standards.

The paper illustrates the motivation of both partners to establish a joint venture in this topic, the accreditation system in Spain and the planned accreditation procedure to be applied to those engineering programmes seeking the EURACE label.

Developing Programme Accreditation and EUR-ACE in Spain

Last July 25th, the National Agency for Quality Assessment and Accreditation of Spain (ANECA) and the Institute of Engineering of Spain (IIE) signed an agreement for collaboration in developing the quality assessment of Engineering programmes, focused mainly in with the promotion of the EUR-ACE quality label in Spain.

This agreement puts together the National Accreditation Agency and the main representative body of the engineering profession in Spain. The origin for signing such contract lies in the fact that the IIE considered of crucial importance the improvement of the academic engineering education, especially in the context of the Bologna process, where the number of engineering schools and faculties had increased notably. Due to this reason, IIE had the initiative in 2011 to find the way to offer the EUR-ACE label to the Spanish University System, in order to keep the high professional standards of the engineering profession in Spain. This is why they contacted the National Accreditation Agency in order to sign an agreement for developing the EUR-ACE accreditation system in Spain. This agreement led, on July 30th, to submit the application to ENAEE with the aim of being authorized as an agency able to award the EUR-ACE label.

ANECA is a public Foundation created in 2002 by the Ministry of Education, Culture and Sport with the approval of the Council of Ministers, pursuant to the 2001 Organic Law on Universities (LOU). ANECA has been functioning as a comprehensive accreditation agency with authority throughout the Spanish national territory. Apart from the evaluation of individual academic staff (civil servants and non-civil servants), its main responsibility has been to evaluate and perform accreditation of study programmes in all disciplinary/professional areas at all levels (Bachelor, Master and PhD).

ANECA's mission is to promote quality assurance (QA) in the higher education area in Spain for its continuous improvement and enhancement, through guidance and orientation, evaluation, certification and accreditation, thereby contributing to the consolidation of the European Higher Education Area and accountability to society. ANECA's vision is to be recognised as a model for good practices at both national and international levels in the field of quality assurance in higher education, which implements its mandate (pursues its mission) in accordance with the principles of independence, fairness and transparency, and the European Standards and Guidelines for Quality Assurance in EHEA (ESG), with a clear focus on service to society.

ANECA is member of all International networks for quality assurance (European Association for Quality Assurance in Higher Education (ENQA), European Consortium for Accreditation, (ECA), Ibero-American Network for Accreditation of the Quality of Higher Education (RIACES), International Network for Quality Assurance Agencies in Higher Education (INQAAHE), being present in most of their Boards of Directors. Additionally, ANECA belongs to the European Quality Assurance Register for Higher Education, being one of the first three agencies who were listed in the register since 2007.

The "Instituto de la Ingeniería de España – IIE" (Engineering Institute of Spain) is a private and totally independent not-for-profit Association declared as "Public Usefulness Entity" under the Spanish legislation. Founded on January 15th 1905, is the Spanish legal federation of the following 9 official long-cycle engineering Spanish associations: Aeronautical Engineers Association of Spain; National Agronomist Engineers Association; Spanish Civil Engineers Association; Federation of Industrial Engineer Associations of Spain; National Association of I.C.A.I. Engineers; National Mining Engineers Association; Forestry Engineers Association; Naval and Oceanic Engineers Association of Spain; and the Spanish Association of Telecommunications Engineers.

Through these nine Associations, the Engineering Institute of Spain brings together more than 100,000 long cycle engineers from the various specialities, who carry out their activities in the different Autonomous Regions of the Nation, in the private as well as the public sectors. IIE's statutory objectives are the following:

- To foment and contribute to the progress of Engineering, placing it at the service of comprehensive development and the common good of society.
- To increase the prestige of international engineering, by promoting and collaborating within the specific fields.
- To integrate and coordinate the action of the different members of the Institute in all the fields where it is appropriate.
- To represent Spanish Engineering as a whole in similar international engineering organizations, collaborating with them.
- To represent and defend Engineering profession facing the Public Administration, or any type of public or private entities, be they public or private, and even the Justice in all its competencies.
- To promote and contribute to optimize the Engineering Education, as well as training.
- And any other functions or purposes that are granted to by the legal system, given in the future, delegated by its members, or that arise implicitly from its Statutes.

The Institute of Engineering, IIE, is member of different international organizations, such as the World Federation of Engineering Organizations (WFEO), the European Federation of National Engineering Associations (FEANI), the Pan-American Union of Engineering Associations (UPADI) and the European Council of Associations of long cycle Engineers (CLAIU-EU), as well as the European Network for Accreditation of Engineering Education (ENAAE).

The accreditation system in Spain

ANECA deals with the accreditation of programmes in all academic disciplines – not only engineering programmes – and at all levels (Bachelor, Master and Doctoral programmes). Programme accreditation in Spain is organized as a 3-step process:

- An ex-ante evaluation (called “Verification” or initial accreditation) is compulsory before a new programme may be started; this procedure is similar to ex-ante accreditation in other countries, like Germany; once positively “verified”, programmes are incorporated into the official Register of degrees with validity throughout the Spanish territory;
- A follow-up procedure (called “Monitoring”) throughout the time span for which the verification has been granted;
- An ex-post evaluation (to which the word “Re-accreditation” is reserved), which corresponds actually to a accreditation in other national systems; The first formal “accreditation” decisions will be made from 2014 (i.e. 4 or 6 years after the first “Verifications”).

The ex-ante procedure (“Verification”) analyses those aspects that, in advance, may guarantee the feasibility and quality of the proposed study programme. It is based on an analysis of the degree proposal prepared by the university. The follow-up review focuses on an assessment of the implementation of the programme, on the basis of evidence that the degree is being offered in accordance with the prior specifications for it and the commitments taken by the university during the ex-ante procedure and that all recommendations made by ANECA are being considered. Finally, the ex-post accreditation procedure is based on evidence that students have completed the programme successfully and the degree offers quality and is viable in the future; the ex-post accreditation requires a self-assessment report by the university and a site-visit by a team of experts; the purpose of the procedure is to ensure that the study programme has been conducted in agreement with the project that was presented and approved ex-ante. All panels performing an accreditation visit include a student. The same committee will perform the three steps of the assessment process (accreditation ex-ante, follow-up and accreditation ex-post) for each degree in order to ensure consistency throughout the process.

In total ANECA has assessed through the verification process over 5.000 study programmes (2,110 Bachelor, 2,860 Master and over 400 Doctoral programmes).

The context of Engineering Accreditation in Spain

Although ANECA is not specialized in, or restricted to the accreditation of engineering programmes, the Agency has a long standing experience with setting and applying standards in all areas, including Engineering Education. Engineering education in Spain

presents a number of specific aspects with which ANECA and its partner organisation, the IIE, are very familiar:

- In Spain, the completion of an engineering degree confers full professional status to the degree holder; no further training or studies are required before the graduate can access the engineering profession;
- Hence, engineering education in Spain is also shaped through the dialogue with professional bodies. Each academic level of engineering and each main area of specialization has its own requirements (set out in a governmental instruction) and its own professional organisation; these various are the members of the *Instituto de la Ingeniería de España* (Spanish Institute of Engineering, IIE), who is ANECA's partner organisation within the EUR-ACE framework;
- Until the introduction of the Bologna reforms there were two levels of engineering degrees in Spain, that were run in parallel rather than as in stages: the degree of "*Ingeniero Superior*" that required 5 years of study provided at "*Escuelas Técnicas Superiores*" (Higher Engineering colleges), while the degree of "*Ingeniero Técnico*" required 3 years of studies at "*Escuelas Técnicas*" (Technical Engineering colleges). This structure has now been replaced by the Bologna degree structure, with Bachelor-level degrees and Master-level degrees; the first type of academic degree gives access to the "*Ingeniero Técnico*" profession, whereas the Master degrees allow the performance as "*Ingeniero Superior*".
- Engineering studies are a high prestige branch in Spanish Higher Education system; it attracts some of the best graduates of secondary education, which implies a certain level of selection (with significant differences according to the areas of specialization and the university concerned) among applicants.

Engineering Accreditation and the EURACE label: the planned procedure

There are two main motivations underlying the application by ANECA in agreement with the IIE to be authorized as an agency able to provide the EURACE label in Spain.

One is that both organisations look for quality improvement as a core part of their mission and activities. ANECA's statutes emphasise that the Foundation's main objective is to contribute to improving the quality of higher education in Spain by means of guidance, evaluation, certification and accreditation activities. IIE's Articles of Association stresses the association's role in impulsing and underpinning progress in engineering education, "putting it at the service of global development and the well-being of society". The importance of quality assurance and quality improvement for both partners is explicitly referred to in the partnership agreement between them. The collaboration between the quality assurance agency and the main representative body of the engineering profession will offer a unique opportunity for the improvement of engineering programmes, both from the academic and the professional viewpoint, through the application of the ENAEE's Principles.

The other main motivation of both partners is to provide to Spanish universities an organized and effective way to seek and obtain the EUR-ACE accreditation for their engineering programmes at Bachelor and Master level. Hitherto, no such way existed in

Spain: IIE has been a member of ENAEE but without a full developed model for the implementation of EUR-ACE accreditation, while ANECA has been accrediting programmes in all disciplines, including engineering, but without being able to provide the EUR-ACE seal to those accredited programmes asking for it. This situation has placed Spanish engineering schools/faculties at a disadvantage with respect to their counterparts from several other European countries. It has also created a handicap for Spanish engineering students and graduates, who could not demonstrate to a host university or an employer in another country that their education/training was in line with the EUR-ACE standards.

Two specific committees have been created in the framework of the agreement between ANECA and the IIE:

- For the development of the EURACE Accreditation system in Spain, a Joint Committee ANECA-IIE has been set up, consisting of two representatives from the aforementioned institutions. The Chair of the Joint Committee shall be appointed by common agreement between the respective management of IIE and ANECA. This Committee is the strategic and decision making body of the signed agreement. Its role contemplates the following actions:
 - Develop the joint initiative for awarding the EURACE label in Spain,
 - Establish the functioning rules for the EURACE Accreditation commission, based on the proposal of the Technical Committee,
 - Define the fees to be paid by the programmes seeking the EURACE label.
 - Solve any difference that may arise during the validity of the agreement.
- The design of the EUR-ACE accreditation system shall be developed by a Technical Committee ANECA-IIE, which shall consist of experts from both institutions who are appointed by each one. This Committee is the operational body of the signed agreement and is in charge of:
 - Design the accreditation procedure to award the EURACE label in Spain,
 - Make a proposal to the Joint Commission of the functioning rules for the EURACE Accreditation commission
 - Estimate the economic prevision of awarding the seal and take care of the expenses control of the process.

The assessment procedure to award the EURACE label in Spain is planned to be as follows. Once an engineering programme asks for accreditation, two options will be provided: ask merely for national accreditation, or submit the application for national accreditation together with the EURACE label request.

In the case that the engineering programme asks for the EURACE label, the two processes (national accreditation and ENAEE accreditation) are developed in the same procedure, although several differences will be met regarding the composition of the review panel, the extension of the site visit, the assessment committees that will consider the programme and the focus of the assessment.

The composition of accreditation teams for the EURACE label will consist of five members:

- an academic with experience in ANECA programmes, who will act as president of the panel,
- another academic from the specific field of the programme being assessed,
- a professional from the specific field of the programme being assessed,
- a student with expertise in assessment procedures,
- a secretary who will be a person from ANECA staff.

For the award of the EUR-ACE accreditation, the professional member will be appointed upon nomination by the “*Instituto de la Ingeniería de España (IIE)*”, in accordance with the terms of the agreement between the IIE and ANECA. This professional member is compulsory for the engineering programmes asking for the EURACE label, while for the programmes asking for national accreditation is not compulsory.

All members of the panel will be trained for the conduction of the accreditation process with specific training regarding ENAEE requirements on a one day and a half training course.

The extension of the site visit: national accreditation site visits normally last between two days and two days and a half while EURACE accreditation site visits will last between three days and three days and a half.

Different assessment committees will evaluate externally the engineering programme asking for the EURACE label:

- The review panel that will perform the site visit as mentioned above. The output of the review panel will be the *Review panel report*.
- The EURACE Accreditation Commission will be the body responsible for the final decision about the award (or denial) of the EUR-ACE label and its communication to the applicant. The EURACE Accreditation Commission will include the following members:
 - 50% of academics nominated by ANECA
 - 50% of professionals proposed by the “*Instituto de la Ingeniería de España*” (IIE) in accordance with ANECA-IIE agreement; one of these will act as Chair of the Commission.

Up to 20% of appointed members could be experts from outside Spain – ideally members of other ENAEE authorised agencies. Additionally, a person from ANECA staff will act as secretary of the Commission. In total, EURACE Accreditation Commission will consist of 16 experts, maximum.

The programme will be considered for EURACE awarding assessment only if it has achieved a positive national accreditation. According with the national procedure, the accreditation decision will be based on the examination of the self-assessment report, the review panel report and other supporting documents, by the following commissions:

- The Knowledge Area Assessment Committee (CER), which proposes the assessment of study programmes and analyses its compliance with the national accreditation criteria. The output of the CER will be the *CER report*.
- The Report Issuing Committee (CEI), which checks the assessment proposals submitted by the various Knowledge Area Committees in order to ensure the consistency and coherence between the assessment reports prepared by them and to harmonise the application of the criteria. The Agency has 3 Report Issuing Committees, one for each level (bachelor, master and doctoral degrees). Each CEI comprises the chairpersons of the various Knowledge Area Assessment Committees active at the degree level in question. The output of the CEI will be the *accreditation report*.

For programmes of other countries (specially from Latin America) or programmes that would not like to ask for national accreditation together with the EUR-ACE seal, the process will skip the national procedure as shown in the chart below:



As far as the focus of the assessment is concerned, special attention will be paid to the programme outcomes required by ENAEE. Therefore, the six specific areas highlighted in Section 1 of the document “EUR-ACE Framework Standards for the Accreditation of Engineering Programmes (Knowledge and Understanding; Engineering Analysis; Engineering Design; Investigations; Engineering Practice, and Transferable Skills) will be specifically assessed during the procedure to award the EURACE label.

Concluding remarks

While engineering education has traditionally been one of the most attractive and successful strands of Spanish higher education, IIE and ANECA expect EUR-ACE accreditation to allow universities to demonstrate their quality outside Spain, for their own benefit and above all for the benefit of their students and graduates. Both partners have designed for Spain a two-tier system for the accreditation of engineering programmes, with national accreditation as a basic requirement and EUR-ACE accreditation for those programmes that meet in addition all the ENAEE standards, i.e. positioning EUR-ACE as a seal of “higher” quality. This is also reflected in the name chosen for the procedure (ACREDITA Plus), which clearly conveys the message that EUR-ACE accreditation is something more than what is required at national level.

Hence, ANECA and IIE are convinced that through their agreement and joint participation in the EUR-ACE scheme they will be able to better serve Spanish students, universities and employers. In due time the Spanish structure for EUR-ACE may also become attractive for engineering programmes offered in other countries, in particular Latin America. In this way, ANECA together with IIE expects to fill a vacuum for the full deployment of EUR-ACE and to make a significant contribution to the further development and promotion of EUR-ACE in Europe and the world.

References

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