STRATEGIC PLAN 2019 - 2029
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I. PHILOSOPHY AND INSTITUTIONAL APPROACH

A. VISION

1.1 At GCREAS we believe that accrediting higher education in engineering should consist mainly of ensuring the quality of the learning outcomes of engineers, defined from the point of view of the society as a whole, and with internationally homogeneous standards; and not only in measuring the quality of the engineers education inputs, defined from the point of view of the suppliers of said education, and subject to exclusively national standards. In GCREAS we profess that, although the quality of the engineering concerns all actors of the society as a whole, what best represents that general interest is the profession itself; this is the sector closest to the balance of supply and demand in the engineering quality equation. For these reasons, and because of its multilingual and multicultural nature, GCREAS is the Caribbean international accrediting agency that pioneers the alignment with the principles held by the main signatory organizations of the Washington Agreement on the subject of the quality assurance of education in all branches of Engineering.

B. MISSION

1.2 The GCREAS system has the objective of ensuring the quality of engineering in the countries of the Greater Caribbean through the accreditation of education programs in the various branches of the profession. Therefore, GCREAS promotes the competition, competitiveness and international mobility of the graduates of these programs who enter the professional practice in the region, as they should improve the capacity of these countries for technological innovation and for attracting foreign industrial investment in those countries, thus contributing to the regional public welfare.

C. CORPORATE VALUES

1.3 The GCREAS model of quality accreditation, which embodies and gives specificity to its own vision and corporate mission, is based on the following principles:

1. Results-oriented accreditation approach

1.4 GCREAS embraces the concept that ensuring the quality of engineering cannot consist of simply controlling the quality of the inputs and outputs of the educational process (a criterion that has traditionally measured the quality of engineering programs) but also, and mainly, it must be based on ensuring the quality of the effects of teaching: (the so-called "learning outcomes", which ultimately refer to the quality of the engineers themselves). This essentially means that, although it is understood that the direct product and the immediate focus of the System is the quality of the engineering programs,
GCREAS professes that: (i) this product has no meaning in itself, and can only be justified to achieve a higher level effect; that is: the engineers who graduate from such programs with sufficient quality to perform adequately in the surrounding society and economy; and (ii) this result must ultimately be measured and validated separately, without simply "inferring" the quality of the inputs during the educational process.

1.5 By adopting this approach, GCREAS adopts the modern global trend in the evaluation of judging actions and organizations not only by the direct outputs that they deliver in their immediate institutional scope, but mainly by the outcomes that they induce in society as a whole; as well as other results in the so-called results chain, as defined by international consensus within the OECD.

1.6 GCREAS assumes this conceptual approach to ensure the quality of engineering following the pioneering steps of ABET, an institution that fronted the idea of the primacy of the effects of teaching in the field of engineering accreditation; when in 1996, through the so-called Engineering Criteria 2000, better known in the engineering education community simply as "EC200", it began to progressively eliminate the exclusive emphasis on "introspective" observation of the programs, traditionally used to accredit the engineering education, and introduced the evaluation of externally observable "learning outcomes" within its standards and accreditation procedures.

2. Emphasis on the demand for quality of higher education

1.7 In close relation to the previous principle, GCREAS adopts the notion that the quality of higher education should be based mainly on the “demand” side of said quality. For this reason, the system is not an organization that represents only the "providers" of higher education services (universities, government agencies). The system was developed, from the start, with the active participation of all the parties involved organically in the topic of the quality of engineering, including schools or professional associations; the private employer sector; national accreditation agencies; the governmental authorities of higher education, science and technology; as well as public and private universities.

1.8 This approach does not negate the validity of the "internal criteria" of educational programs for the evaluation of quality, such as the comparison of the expected products (educational objectives) with the obtained products, efficiency and rationality in the use of resources to obtain said products, etc.; as stipulated by the models of prominent academics in the area of educational evaluation. In terms of higher education, the educational objectives and the evaluation criteria defined internally conform to the universally recognized principle of University Autonomy. However, no matter how valid the objectives and evaluation criteria are defined internally, GCREAS adopts the notion that being autonomous does not mean that universities and higher education programs should be isolated from their social context. The Agency considers universities and higher education programs as a system -of higher education- within another more complex system -the social system- and recognizes the open nature of the former, and its
permanent interface and exchange with the latter. Thus, GCREAS postulates that an approach driven by the demand of higher education quality can only materialize in the context of this constant interface and exchange with the social context, through which the educational inputs (reflected in the curriculum, instructions, faculty, policies, practices, etc.) and their products (reflected in the student's experience in and out of class, etc.) induce other superior effects in real engineering practice (as reflected in student learning, employer ratings, etc.) and this chain of results revolves on itself, feeds the education programs and launches the process in a repetitive way.

1.9 This iterative feedback process has been at the base of the evolution experienced by the accreditation of engineering, from the input-output model, towards a more results-oriented model led by ABET towards the end of the 20th century. This evolution did not originate "internally", but rather in the external context of the universities, and placed the need to evaluate learning outcomes as a response of society to the higher education community at the center of its priorities, thus inducing the response of the higher education and accreditation community that ultimately resulted in EC2000. Consequently, for GCREAS, the quality of engineering education programs is ultimately based on the ability of these programs to respond to social demands on the preparation of engineers; so that they can contribute to society through their real professional practice; this is a capacity that must be ensured by internal controls in the educational process itself (inputs, products), but which can ultimately be judged only by external criteria, established in the social and economic context (effects) or learning outcomes.

2. Primacy of the profession

1.10 While ensuring the appropriate social response and the institutional response on the quality of engineering requires the participation of all types of organizations organically involved or affected by the problem, such as those participating in GCREAS, the system recognizes all schools and professional associations as "Primus inter pares" among those involved in the Organization. That is, for GCREAS, the schools or professional associations in each member country are the most critical actors in ensuring that education programs respond to the results demanded by society, and that society finds appropriate responses in terms of engineering quality. Therefore, by following the model of leading accreditation agencies such as CEAB and ABET, GCREAS is primarily a "profession-controlled" institution; especially with regard to the quality evaluation and the accreditation process carried out by the system.

4. Multi-lingual and multi-cultural character

1.11 Being a regional organization in the Greater Caribbean, GCREAS is as multilingual and multicultural as the Greater Caribbean. The system does not intend to impose its accreditation model and activities in any particular organization or country; but considers that the entire Caribbean basin provides the best scale and critical mass for regional exchange and the mobility of the engineers that the organization promotes, as well as to
guarantee a long-term, self-sufficient, independent, private and profession-controlled system of accreditation. On this premise, GCREAS by vocation is open and welcomes the incorporation into the system of any relevant organization of all the countries belonging to the region.

5. **Orientation towards the Washington Agreement**

1.12 Since its inception, GCREAS has stipulated its intention to seek membership in the Washington Agreement. In this sense, the System aims to align its nature, criteria, standards and operating procedures using a model that’s compatible with this membership.

### II. STRATEGIC GUIDELINES

#### A. SITUATIONAL DIAGNOSIS

2.1 The main problem facing GCREAS in order to achieve its vision and realize its institutional mission, as well as the fundamental strategic challenge that gave rise to the agency, can be summarized as follows: *the relatively low competition and competitiveness of engineers from countries in the Caribbean region.*

2.2 In most of the region’s countries, the competence and competitiveness of engineers are limited by the lack of internationally recognized accreditation of their professional training. In fact, there is a relatively low effective demand from universities in the region for international accreditation of engineering quality, which largely contributes to the absence of adequate national incentives for this type of quality accreditation.

2.3 Furthermore, the lack of recognition of the quality of engineers outside the borders of each country is the product in principle of the traditionally lack of familiarity with the issue of international engineering accreditation, as well as its critical importance for competitiveness in today's globalized labor market, by the key participants in the region. This lack of familiarity also explains, to a large extent, the fact that the quality criteria applied in each country tend to be exclusively national and do not necessarily converge towards common standards.

2.4 Finally, the aforementioned limited competitiveness of engineering in the Caribbean, as well as the relatively few competences for technological innovation, has serious consequences by limiting not only the international mobility of engineers, but also the possible attraction of foreign investment, whose agents are increasingly interested in the quality of engineering currently present in the countries where they plan to make long-term investments.

#### B. STRATEGIC OBJECTIVES
1. **Long-term goals**

2.5 With the current strategy, the set of long-term goals that are intended to be achieved are associated with the objective image of GCREAS: that it becomes a Caribbean region with more competitive, internationally mobile engineers, and capable of attracting more investment capital in infrastructure and technology for the development of the region. To achieve these strategic goals, observing the principles set forth in the CORPORATE SECURITIES section, GCREAS will pursue medium-term objectives associated with: (i) institutional self-sufficiency; (ii) regional collaboration (South-South) on quality promotion; (iii) improvement of knowledge and experience on quality assurance; and (iv) changes in the regional demand for accreditation function.

2. **Medium-term goals**

   a. **Institutional self-sufficiency**

2.6 The Agency understands that a quality design in terms of accreditation services, such as the one that GCREAS has, is the first and essential condition for improving engineering education within any country in the region. But it also recognizes that the successful operation of an accreditation agency is, ultimately, a matter of financial self-sufficiency. With the exception of countries such as Mexico or Colombia, Caribbean countries generally lack the appropriate market size to individually generate the operations necessary to sustain self-sufficient accreditation systems. However, the Caribbean region represented by GCREAS can, as a whole, generate sufficient market scale to achieve the self-sufficiency necessary to sustain an independent, non-profit private system.

2.7 As such, although GCREAS will at all times observe an institutional behavior in accordance with its corporate values, according to which the accreditation systems should not generate profit benefits, the Agency will seek to reach a minimum operational margin above its break-even point, precisely to be able to operate autonomously, on the basis of the aforementioned regional scale.

   b. **Regional collaboration in the promotion of engineering quality**

2.8 GCREAS will promote South-South collaboration among the Caribbean countries, and in the context of the existing strategic alliances between the United States and Canadian engineering accrediters (ABET and CEAB) and the Regional System of Engineering Accreditation of the Greater Caribbean, of which the countries that request the present operation are members. The expected results of this collaboration are: (i) the promotion of technological innovation and productivity, based on the development of quality human capital in the field of engineering; (ii) improvement of the cooperation and regional integration necessary to promote adequate ecosystems of knowledge and innovative practices in the matter; (iii) support for triangulation with other countries necessary for
the exchange of experiences and, if necessary, regulatory harmonization; and (iv) strengthening the capacity of the States, within their respective regulatory environments, to better promote the quality of engineering education and attract foreign investments focused on innovation.

c. **Improvement of knowledge and experience of quality assurance**

2.9 Within the context of the regional efforts described above, GCREAS will focus on generating a critical mass of highly knowledgeable and motivated professionals to act as leaders and champions of quality assurance working inside universities, government agencies, and the industry throughout the region, with a clear awareness of the central role of engineering in development.

2.10 The Agency will ensure that the knowledge and motivation achieved through the collective effort are shared by those who promote quality from the internal engineering programs (*assessment*) as well as those that promote such quality as external peer reviewers (*evaluation*).

2.11 Likewise, GCREAS will make sure that the promoted practices are disseminated and established in the context of adequate policies to encourage quality in engineering, promulgated by the public and private sectors of the region’s countries.

d. **Changes in the function of regional demand for international accreditation**

2.12 GCREAS realizes that the demand for accreditation can be specifically and separately promoted, in the sense that accreditation markets can be stimulated by "upward changes" in accreditation demand functions; whether they are induced by public policies of promotion and awareness, or by incentives that point out and accentuate a positive correlation between quality assurance and income or financial sustainability.

2.13 Based on the previous premise, GCREAS will seek to translate the recognized need for quality by academic institutions in the Caribbean, into an effective demand for international accreditation of engineering programs. In this sense, the Agency will stimulate a multinational effort similar to the one achieved on the supply side of accreditation, to stimulate it on the demand side of the market.

### III. STRATEGIC POINTS OF ACTION

3.1 In the implementation of the current strategy, GCREAS develops a set of activities grouped into four strategic axes related to: (i) Disclosure of knowledge about accreditation; (ii) Promotion of homogeneous evaluation standards; (iii) Promotion of quality incentives; and (iv) Extension of international quality assurance.

#### A. DISCLOSURE OF KNOWLEDGE ON THE SUBJECT OF ACCREDITATION
3.2 An important part of the continuous actions of GCREAS is to help the problem of assurance of engineering education quality to be better understood by the key participants in the Caribbean region.

3.3 As part of this strategic axis, the Agency has designed and annually organizes a series of training and mentoring workshops, as well as other training activities, both online and physically, aimed at training deans, directors, coordinators, teachers, and academic planners in the various branches of engineering taught at Caribbean universities on the problems, techniques and practices in terms of: (i) Internal Assessment; and (ii) External evaluation of the quality of the associated education programs.

3.4 Also as part of this strategic axis, GCREAS executes the "Accreditation Leadership" program, which annually convenes academic authorities, teachers, government officials and industry leaders in the countries of the Greater Caribbean, to participate in international symposia, aimed at sharing practices and competencies in areas that are critical to the quality assurance of engineering education and raise awareness about the role of quality engineering for innovation and competitiveness in the global economy.

3.5 GCREAS considers the continuous updating of knowledge and practices of internal assessment of Engineering programs as an essential part of the dissemination effort. In this sense, the Agency implements activities that are aimed at developing a cadre of leaders and advocates of quality assurance, with the ultimate purpose of integrating an online network for knowledge exchange and a community of practices within the academic world, governments, and the industry in the Greater Caribbean.

3.6 GCREAS also considers as an essential part of the dissemination effort, the continuous updating of knowledge and practices of external evaluation of Engineering programs. In this sense, the Agency promotes knowledge exchange activities among peer evaluator members of the Community of Practice on the evaluation of engineering programs in the region, with the purpose of international accreditation. The exchange emphasizes evaluation routines and norms that allow improving the focus on learning outcomes for maximum development impact in the Greater Caribbean; as well as best practices in self-study, reporting and substantiation, and the main trends in accreditation policies and procedures.

B. PROMOTING HOMOGENEOUS EVALUATION STANDARDS.

3.7 GCREAS actively promotes within the countries of the Caribbean the importance of adhering to quality standards beyond those established domestically, and in line with international standards of engineering quality. The activities within this strategic axis will aim to reduce the diversity of national standards on the subject and to disclose the importance of international quality uniformity.

3.8 In this sense, the Agency will participate in a selected group of peer evaluators, from academia and the industry both inside and outside the Caribbean, in international
symposiums on the competencies needed to evaluate engineering programs, based on the standards of the accreditation agencies that signed with the Washington Agreement. This participation complements the normal high-level training activities that GCREAS organizes annually on the best practices for the evaluation of engineering education.

3.9 Likewise, within this strategic axis, GCREAS promotes the creation of a registry and community of practice of certified specialists to integrate an evaluation team, with superior knowledge on areas that are critical for the accreditation of engineering, substantially equivalent to those of the world-class accreditedors, like ABET from the USA and CEAB of Canada. As an eventual result of this effort, GCREAS seeks to launch an international network of mentors and promoters of external evaluation and quality accreditation in universities, as well as defenders and sponsors of engineering quality in companies and organs of the private sector in the Greater Caribbean.

C. PROMOTING QUALITY-ORIENTED INCENTIVES.

3.10 GCREAS strives to collaborate in the design and establishment of public policies within the Caribbean countries that incentivize the international quality accreditation of higher education in Engineering. The actions within this strategic axis are aimed at ensuring that the demand of universities for international accreditation of engineering is increased in the medium and long term.

3.11 Within this strategic axis, the Agency also promotes the discussion on incentive systems to improve the quality of engineering education throughout the world; promoting forums, workshops and other international meetings of corporate and government leaders that help guide the study and better understanding of these systems and, subsequently, collaborate in disseminating the results for the use of public and private institutions of Caribbean countries.

3.12 By promoting the study and international debate of the topic, GCREAS seeks to help design and implement a better policy framework and incentive system to promote the quality of engineering education in the Greater Caribbean region, strengthening awareness on the subject in private profit organizations such as public institutions involved in higher education issues in engineering, science and technology, and improving their institutional capacity to intervene in the subject.

3.13 Furthermore, GCREAS promotes the generation of technical documents, including the conclusions of studies on incentives, as well as recommendations for policy formulation and strategic planning by the governments of the Greater Caribbean, aimed at promoting the quality of engineering education in the region through the accreditation of programs substantially equivalent to that granted by the signatories of the Washington Agreement.

D. EXTENSION OF INTERNATIONAL QUALITY ASSURANCE
3.14 GCREAS is actively working to ensure that more engineering education programs in the Caribbean are accredited internationally, so that engineers in the region can expand their competencies for technological innovation, strengthen their competitiveness in global markets, improve their international mobility, and help increase the capacity of their respective countries to attract investment capital for development.

3.15 As part of the normal quality assurance activities of the engineering programs in the Caribbean, the Agency also strives to develop among the participants, leaders and advocates of quality assurance with a high motivation to promote international engineering accreditation for innovation, competitiveness and the attraction of capital in the region; as well as with superior competences for the internal and external evaluation of quality of engineering education programs in accordance with criteria, norms and procedures substantially equivalent to those applied by the signatory organizations of the Washington Agreement.

3.16 With activities within this strategic axis, GCREAS also seeks to induce a considerable increase in the number of engineering programs that request international evaluation by peers as a measure of the demand for accreditation, by colleges and universities, in the context of greater awareness and incentives for the quality of engineering education, at least within the Caribbean countries.