Report of the Panel for the external review of the Commission des Titres d'Ingénieurs (CTI) for the renewal of its full membership of the European Association for Quality Assurance in Higher Education (ENQA)

26th of June 2014

TABLE OF CONTENTS

1.   *Executive summary*

The present report is the result of the external review of the *Commission des Titres d'Ingénieurs* – CTI, undertaken in April 2014 for the renewal of the Agency's full membership of the European Association for Quality Assurance in Higher Education (ENQA).

The purpose of this document is to advise the ENQA Board on the compliance of the Agency with the membership criteria. The panel considers that CTI fully complies with criteria

2.1 (Use of Internal Quality Assurance Processes),

2.2 (Development of External Quality Assurance Processes),

2.3 (Criteria for Decisions),

 2.5 (Reporting),

2.7 (Periodic Reviews),

 2.8 (System-wide Analyses),

 3.1 (Use of External Quality Assurance Procedures for Higher Education),

 3.2 (Official Status),

3.3 (Activities),

3.4 (Resources),

3.5 (Mission),

3.6 (Independence) and, finally

3.8 (Accountability Procedures).

The panel also considers that CTI substantially complies with criteria

2.4 (Processes fit for Purpose),

 2.6 (Follow-up Procedures) and

 3.7 (External Quality Assurance Criteria and Processes used by the Agencies).

On the basis of the documents provided and interviews, it is thoroughly recommended by the panel to the ENQA Board to renew the full membership of CTI for five years.

2. *Glossary*

AERES: Agence pour l'Evaluation de la Recherche et de l'Enseignement Supérieur (France)

BNEI: Bureau national des Elèves Ingénieurs (France)

CDEFI: Conférence des Directeurs des Écoles Françaises d'Ingénieurs (France)

CEFDG: Commission d'Evaluation des Formations et Diplômes de Gestion (France)

CNCP: Commission nationale des certifications professionnelles (France)

COS: Conseil d'Orientation Stratégique (CTI's strategic advisory board)

CPGE: Classes Préparatoires aux Grandes Ecoles

CTI: Commission des Titres d'Ingénieurs

ECA: European Consortium for Accreditation (Europe)

ENAEE: European Network for the Accreditation of Engineering Education

EUR-ACE®label: European quality accreditation label for engineering programmes

EQAR: European Quality Assurance Register for Higher Education (Europe)

Grandes Écoles: Higher education Institutions (public or private) which are entitled

by the Ministry of Higher Education to award degrees (usually Masters), most often

in Engineering or Business

HEI: Higher Education Institution

IESF: Ingénieurs et scientifiques de France (France)

IQA : Internal Quality Assurance

IUT: Institut Universitaire de Technologie

QROSSROADS: ECA's European programmes database (Europe)

R&O : Reference and Orientations document

3.   *Introduction*

6.1. *Background and outline of the review process*

a) *Background*

ENQA requires the Quality Assurance Agencies members to undergo an external cyclical review once every five years in order to verify that they fulfil the membership provisions.

In November 2004, the General Assembly of ENQA agreed that the third part of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) should be incorporated into the membership provisions of its (then) Regulations (now Statutes). Substantial compliance with the ESG thus became the principal criterion for membership of ENQA. The ESG were subsequently adopted at the Bergen ministerial meeting of the Bologna Process in 2005.

The third part of the ESG covers cyclical external reviews of quality assurance and accreditation agencies. CTI is a full member of ENQA since 2005 and underwent its first external review in 2009 and was granted   full membership of ENQA and then to EQAR in 2010. As requested in the process, the Agency provided a follow-up report to the 2009 recommendations in 2011.

The main findings of the 2009 review regarding the third part of the ESG were that CTI was fully compliant with the criteria 3.1 (Use of External Quality Assurance Procedures for Higher Education), 3.2 (Official Status), 3.3 (Activities), 3.5 (Mission), 3.6 (Independence), 3.7 (External Quality Assurance Criteria and Processes used by the Agencies), 3.8 (Accountability Procedures) and substantially compliant with the criterion 3.4 (Resources).

b) *Terms of Reference*

The "Guidelines for external reviews of quality assurance agencies in the European Higher Education Area" stipulates that there are two types of reviews:

1. Type A - the sole purpose of which is to fulfil the periodic external review requirement for ENQA membership
2. Type B - a review which has a number of purposes, only one of which is to fulfil the periodic external review requirement of ENQA membership.

The CTI review is a Type A review, and evaluates the way in which and to what extent the Agency fulfils the criteria for the ENQA membership and thus the "European Standards and Guidelines" (ESG).

c) *Panel members*

In order to undertake the review, ENQA nominated a group of six experts composed of:

• Barry O'Connor, Registrar and Vice-President for Academic Affairs, Cork Institute of Technology, Ireland – Chair

• Vanessa Duclos, Officer - Institutional and International Relations Unit, National Agency for Quality Assessment and Accreditation (ANECA), Spain – Secretary

• Thoma Korini, Professor, Polytechnic University of Tirana, Faculty of Geology and Mining, Department of Mining Engineering Resources, Tirana, Albania

• Katy Turff, Head of International, the Engineering Council, UK

• Norma Ryan, HE consultant, former Director of Quality Promotion Unit, University College Cork, Ireland – EUA nomination

• Miroslav Jašurek, Chairperson, Student Chamber of the Council of Higher Education Institutions (Czech national union of HEI students) / Member of Staff, Charles University in Prague, Department for Strategies and Analyses, Czech Republic – ESU nomination

d) *Review Process*

The review process has been carried out as established by the ENQA procedure comprising the nomination of the panel members, the production of a self-evaluation report by the Agency, a site-visit and finally an external review report (present document) sent to CTI to comment on any factual error they may detect on the draft.

Before and during the site-visit the panel has been provided with all the requested evidence, documents and interviews and confirms the total predisposition of CTI to provide it as well as their kindness and professionalism throughout the process.

e) *Self-evaluation report*

CTI's self-evaluation report (SER) was sent to the panel one month and a half before the site-visit with a link to all the evidence which were mentioned in it. This document has been welcomed very well by all the panel members for its clarity, consistency and auto-reflection. CTI are to be congratulated on both the documentation and the integral nature of the on-line resources accessible via the SER. This is an excellent model of a SER.

The reflection on this document has been carried out by the different CTI's bodies by means of the creation of different working and discussion groups for the elaboration of the document. It more concretely refers to the active participation of CTI's Board, CTI's members and CTI's staff leading to the SER structured as follows:

0. The higher education system in France

1. CTI's mission and activities

2. Compliance with the European Standards and Guidelines for the external quality assurance of higher education (ESG part 2)

3. Compliance with the European Standards and Guidelines for the external quality assurance agencies (ESG part 3)

4. Strategic analysis and development

Annexes

The panel expresses its satisfaction with the analytical document provided which clearly identifies the strengths and weaknesses of the Agency.

f) *Site visit*

The site visit for the external review of CTI took place on 2nd, 3rd and 4th of April 2014 at CTI premises in Paris. The panel met the different stakeholders linked to the Agency's activities namely:

- CTI's Board
- CTI's Strategic Advisory Board
- CTI's members
- CTI's staff
- CTI's registry
- Experts involved in evaluation processes
- Ministry of Education and Research representatives
- Institutions evaluated by the Agency
- Students' representatives
- Conference of French Engineering HEIs Director
- AERES/HCERES
- National Commission of Professional Certifications (CNCP)
- Socio-economic stakeholders

The above stakeholders represented all CTI's activities and the panel recognizes their availability at the time to attend and to answer questions as well as the usefulness of all the interviews during the two days and a half visit.

6.2. *Engineering Higher Education in France and Quality Assurance*

a) *The French Higher Education System, a focus on engineering*

The Higher Education System in France is mainly the responsibility of the Ministry of Higher Education and Research and is extended to all the studies after the "baccalaureate" exam.

This system is a binary one in which coexists private or public HEIs allowed by the State to deliver official degrees at Bachelor, Master and Doctoral level (including the "Titre d'Ingénieurs" at Master level) and HEIs which deliver their own degrees.

In the first case, in order to deliver a national (official) degree, the HEIs need to have a "habilitation" from the State, which means an authorization. With regards to the "titre d'ingénieur", in the case of the public HEIs, the authorization is given by the HEI's supervisory Minister(s) upon receipt of CTI's advice; private HEIs are authorized by the Ministry of Higher Education upon receipt of an accreditation decision from CTI.

Most engineering degrees are organized according to an initial two-year preparatory cycle followed by a more specialized three-year cycle (engineering cycle).

There are different ways to access the "titre d'ingénieurs" which are:

- Two years in CPGE (grandes écoles preparatory classes) and entrance exams ("concours") to an engineering HEI
- Two years in a preparatory cycle directly organized by an engineering HEI
- Two years of IUT (technological university institute) or scientific university (general or possibly professional bachelor's degree) training then test or application entrance exam.
- Exam-based applications, a large portion of students – particularly international students are recruited through this mechanism.

Most engineering HEIs are open to all types of applicants, but each engineering HEI has its own preferred application system and, in the same line, the engineering degrees are established within each Institution rather than at the national level.

There actually are one million engineers in France of whom between 700,000 and 800,000 are graduates and each year it represents approximately 34,800 students graduate from the Engineering programmes.

b) *Quality Assurance in Higher Education*

The French system is composed of different quality assurance bodies which are:

- CTI: field-oriented Agency for engineering education. Created in 1934 for this purpose.
- CEFDG ("Commission d'Evaluation des Formations et Diplômes de Gestion") created in 2003 and in charge of evaluating the degree programmes of the French and consular private management schools.
- AERES ("Agence d'Évaluation de la Recherche et de l'Enseignement Supérieur") created in 2006 which is not a field-oriented Agency but a global one and whose aim is to evaluate institutions, research units and organizations and finally degree programmes.

All three organizations work in collaboration on specific matters and mainly the evaluation of engineering programmes and accreditation of institutions at national and international level between AERES and CTI through a signed agreement.

c) *The Commission des Titres d'Ingénieur - CTI*

CTI ("Commission des Titres d'Ingénieur") is a body established by the French law in 1934.

Its legal missions are the evaluation and accreditation of higher education institutions in the fields of engineering, computer science, applied mathematics, project management, etc; the development of quality in engineering education and the promotion of engineering curricula and careers in France and abroad.

More concretely CTI's mission is to be the de jure and de facto cornerstone of engineering programme accreditation in France. Its main goal is to support higher education institutions in the implementation of effective internal quality assurance.

Moreover, the Agency has decided to focus on the following:
- to support higher education institutions in the implementation of effective internal quality assurance;
- to foster competence-based engineering education;
- to offer its experience to foreign universities wishing to increase their international visibility.

CTI is composed of 32 members, elected for four years renewable once, on a parity basis between academics from both public and private Institutions and professional members from employer organizations, trade unions and professional engineering associations. The Board, elected by the members, is composed of one President and two Vice-Presidents. And finally, CTI consists of three permanent staff and 2 half time staff from the Registry. The members actually spend around 50 working days each for CTI's activities, the Board members around a full half-part time and the President who dedicates two thirds of his/her time to CTI.

At international level, the Agency is member of ENQA, EQAR, ECA and ENAEE which is the European Network for the Accreditation of Engineering Education and who authorized CTI to deliver the EUR-ACE label.

CTI's activities are the:

- Evaluation of engineering degree programmes on a periodic basis and their accreditation prior to official habilitation by the Ministry which is the core activity of the Agency.
- Evaluation to deliver the EUR-ACE® label to second-cycle engineering programmes (Master).
- Accreditation of engineering degree programmes outside France when requested as for example in Germany, India, Belgium, etc..

There are about 700,000-800,000 engineers graduate in France, 220 French institutions accredited by CTI, delivering about 34,800 engineering Master's degrees each year, including 4,000 international students. The Agency is dealing with approximately 80 audits per year, 60% of these being routine/scheduled reviews, the remaining reviews consisting of follow-up reviews or reviews arising from specific changes in a school or school programmes.

4.   *CTI 's compliance with the ENQA membership criteria*

> ESG 2.1 Use of internal quality assurance procedures
>
> Standard:
>
> External quality assurance procedures should take into account the effectiveness of the internal quality assurance processes described in Part 1 of the European Standards and Guidelines.
>
> Guidelines:
>
> The standards for internal quality assurance contained in Part 1 provide a valuable basis for the external quality assessment process. It is important that the institutions' own internal policies and procedures are carefully evaluated in the course of external procedures, to determine the extent to which the standards are being met.
>
> If higher education institutions are to be able to demonstrate the effectiveness of their own internal quality assurance processes, and if those processes properly assure quality and standards, then external processes might be less intensive than otherwise.

Compliance:

The panel could confirm, through the different interviews and documents provided that CTI's evaluation processes are based on clear criteria regarding the effectiveness of the Institutions' internal quality assurance processes and that these criteria, while helpful for the Institutions, does not interfere in the choice of model the HEIs are implementing and is not considered as restrictive.

Indeed, the "Reference and Orientations "document includes a specific and detailed part on quality assurance and continuous improvement and represents, as well as the "Self-assessment Guide", the basis of all the evaluations carried out by CTI and the main support for the Committees. The self-evaluation reports the panel looked at included an analyses, by the Institution, of its IQA and the external reports elaborated by the Committees also did.

It is thus confirmed that CTI's processes and procedures do take into account, in its external quality assessment process, the effectiveness of the internal quality assurance processes described in Part 1 of the "European Standards and Guidelines" (ESG).

Panel conclusion: fully compliant

Recommendations:

The panel encourages CTI to improve its members and experts' awareness on internal quality assurance in order to reach a higher level of understanding of the importance of IQA through mechanisms to train them on that specific matter.

ESG 2.2 Development of external quality assurance processes

Standard:

The aims and objectives of quality assurance processes should be determined before the processes themselves are developed, by all those responsible (including higher education institutions) and should be published with a description of the procedures to be used.

Guidelines:

In order to ensure clarity of purpose and transparency of procedures, external quality assurance methods should be designed and developed through a process involving key stakeholders, including higher education institutions. The procedures that are finally agreed should be published and should contain explicit statements of the aims and objectives of the processes as well as a description of the procedures to be used.

As external quality assurance makes demands on the institutions involved, a preliminary impact assessment should be undertaken to ensure that the procedures to be adopted are appropriate and do not interfere more than necessary with the normal work of higher education institutions.

Compliance:

The "Reference and Orientations" document is changed every three years on the basis of the consultations carried out with the Institutions and suggestions the Agency receives during this three years accreditation period.

For example, in the last version of the "R&O", it was considered necessary to include a specific chapter on the apprenticeship after working with several Institutions on that matter which was an emergent issue and the Agency decided to include it.

The Agency created working groups (of which the minutes were provided to the panel) composed of CTI members   and also of students from BNEI with whom they have an agreement, employers and several Institutions. There is a specific working group created every three years which is in charge of compiling and analyzing the information relative to the "R&O"

and present a proposal to the plenary assembly of CTI through the "Idea box" document where the proposals are included.

Another improvement could be the length of the accreditation period which will probably be modified or the inclusion of a higher level English language requirement for students in the criteria as these were points raised in the most recent consultation process. The Agency is actually working on the 2015 version of the "R&O" and has generated the corresponding draft of the "Idea box".

Regarding the impact of the procedures on the Higher Education Institutions, it is taken into account as far as they do participate in all the working groups of the Agency and they give their feedback during the annual colloquium.

It is absolutely assumed by all the stakeholders, more concretely by the Institutions, that CTI takes due account of their opinions and suggestions when modifying the criteria or procedures.

The panel was really impressed by the way Institutions are consulted and listened to regarding the procedures the Agency is carrying out but also with the level of agreement on the fact that the progression over the different accreditation cycles has been considerably positive.

Panel conclusion: fully compliant

Recommendations:

None.

<table>
<tr><td align="center">ESG 2.3 Criteria for decisions</td></tr>
<tr><td>Standard:

Any formal decisions made as a result of an external quality assurance activity should be based on explicit published criteria that are applied consistently.

Guidelines:

Formal decisions made by quality assurance agencies have a significant impact on the institutions and programmes that are judged. In the interests of equity and reliability, decisions should be based on published criteria and interpreted in a consistent manner. Conclusions should be based on recorded evidence and agencies should have in place ways of moderating conclusions, if necessary.</td></tr>
</table>

Compliance:

The accreditation criteria for decisions are stated clearly in the "Reference and Orientations" document, available on the website and the panel found that they are clearly organized and explained under a standard and guideline format in addition to a self-evaluation template in which all these criteria are specified. The external review reports provided and required by the panel show that the decisions are taken on the basis of the published criteria.

On the other hand, the decision is not the responsibility of the evaluation committee but of the plenary assembly which helps in moderating conclusions as far as the committee advises the assembly who takes a collegiate decision on the accreditation based on the external report. The plenary assemblies are subject to the elaboration of detailed minutes in which the decisions taken are stipulated. The fact of having two different groups analyzing the same information guarantees the consistency of the process.

All the evaluation committees' contains two CTI members during the site-visit; one is from the academic world and the other one from the professional field. They play a role of "guarantor" of the CTI criteria and make sure that the information collected is sufficient for the plenary assembly to take a decision.

It is also important to note that the new experts are trained at CTI's premises and during this training session they do have a specific module on the criteria and procedure. There also is a yearly training session organized for the experts and an annual colloquium in which the criteria and procedures are subject to working groups.

The interviews confirmed that the training sessions and information on the criteria for decisions are sufficient and appropriate. But also, the evaluated HEI's (with different evaluation results) who were interviewed expressed their satisfaction with the decisions taken by the Agency as far as it is an evidence-based process.

Panel conclusion: fully compliant

Recommendations:

None.

Standard:

All external quality assurance processes should be designed specifically to ensure their fitness to achieve the aims and objectives set for them.

Guidelines:

Quality assurance agencies within the EHEA undertake different external processes for different purposes and in different ways. It is of the first importance that agencies should operate procedures which are fit for their own defined and published purposes. Experience has shown, however, that there are some widely-used elements of external review processes which not only help to ensure their validity, reliability and usefulness, but also provide a basis for the European dimension to quality assurance.

Amongst these elements the following are particularly noteworthy:

•   insistence that the experts undertaking the external quality assurance activity have appropriate skills and are competent to perform their task

•   the exercise of care in the selection of experts

•   the provision of appropriate briefing or training for experts

•   the use of international experts

•   participation of students

•   ensuring that the review procedures used are sufficient to provide adequate evidence to support the findings and conclusions reached

•   the use of the self-evaluation/site visit/draft report/published report/follow-up model of review

•   recognition of the importance of institutional improvement and enhancement policies as a fundamental element in the assurance of quality.

Compliance:

All CTI's accreditation processes do include the model "self-evaluation/site visit/draft report/published report/follow-up model of review". It is clearly defined on the "Reference and Orientations" document, on the website and also confirmed by the different stakeholders involved in those processes. The Institution has to present its self-evaluation document to the registry which transmits it to CTI. Once CTI receives the self-evaluation report, it establishes an evaluation committee in charge of evaluating the report and preparing the site-visit. Then the site-visit is organized and the panel elaborates an external review report which it subsequently transmits to the plenary assembly for the decision-making process. The decision leads to a definition of the follow-up date to be applied for each single case (except in the case of newly created programmes – normally 6-year period or where no major problems are detected, when there is no follow-up procedure in this latter case) and is stated on the report sent to the Institution and published on the website.

Regarding the selection and nomination of experts:

The experts are proposed and nominated by CTI's members and once accepted, they are included on a database of experts, updated annually. Despite the existence of the document "Le role des Experts" (the experts' role), the panel has noticed that the profile of these experts is not defined and public even if the internal mechanism allows having a careful selection for the composition of the evaluation panels. Also, the detailed composition of these panels with their profile is not published at that moment on the Agency's website. The procedure for selecting panel members is not obvious to the panel so that it is recommended to improve it.

Regarding the training of experts:

There is a specific training for new experts. The training is organized once a year with a specific training for students. There also is an annual colloquium in which CTI organizes working session, on specific or new matters as a way of training for the participants.

Regarding the use of international experts:

It has been improved as actually 20% of the evaluation committees do contain an international expert but this number represents a small part of the total number of evaluation committees. Accordingly, the panel recommends an increase in the number of international experts in the evaluation committees.

Regarding the participation of students:

The participation of students in all the CTI processes has been improved during the last years. Regarding their participation in the evaluation committees, an agreement was signed with the BNEI ("Bureau National des Élèves Ingénieurs" – National Bureau of Engineering Students) on 28th of February 2012 in order to work on a collaboration to include students members in CTI's working groups and to nominate students for the panels. Regarding the participation of students in panels, it is difficult to find students available for this field-oriented accreditation and to include them in all the evaluation committees, so that it could be improved in the future.

In relation to their participation in CTI's working groups, the students are involved in all CTI's working groups as for example the one for the revision of the "Reference and Orientations" document or the quality group but they actually are not members of the Agency, something which could improve their involvement in the Agency's activities.

Panel conclusion: substantially compliant

Recommendations:

- The panel recommends that CTI increase the number of international experts in its evaluation committees, not only at national but also at international level.

- It is also recommended to publish the composition of the committees for each review on the website indicating their profile and role in the accreditation process.

- The panel considers that the procedure for the selection and nomination of experts could be improved by clarifying the process of selection of the expert members of the evaluation committees as well as the policy for selection.

- Finally, the panel recommends that student participation in the evaluation committees be increased and also to consider the possibility to involve them at the members' level.

ESG 2.5 Reporting

Standard:

Reports should be published and should be written in a style which is clear and readily accessible to its intended readership. Any decisions, commendations or recommendations contained in reports should be easy for a reader to find.

Guidelines:

In order to ensure maximum benefit from external quality assurance processes, it is important that reports should meet the identified needs of the intended readership.

Reports are sometimes intended for different readership groups and this will require careful attention to structure, content, style and tone.

In general, reports should be structured to cover description, analysis (including relevant evidence), conclusions, commendations, and recommendations.

There should be sufficient preliminary explanation to enable a lay reader to understand the purposes of the review, its form, and the criteria used in making decisions. Key findings, conclusions and recommendations should be easily locatable by readers. Reports should be published in a readily accessible form and there should be opportunities for readers and users of the reports (both within the relevant institution and outside it) to comment on their usefulness.

Compliance:

There are two levels of reports: a global report and a short report. The global report is considered as very specific oriented with information on the budget, engineering matters etc. and is the one the evaluation committee provides to the plenary assembly for them to take a decision based on this report. It is not published on the website of the Agency. All the stakeholders agreed on the fact that to publish the full report would not be a good communication tool for the Agency as far as it contains too much technical and detailed information.

The short report is published on the website and contains information on the degree programme related to the Institution where it is offered, a description of the degree in itself and the analysis and result of the accreditation as well as the recommendations and follow-up procedure. This short report is published on CTI's research engine, website and on the register RNCP at national level. Moreover, the Agency also publishes information on the QROSSROADS (ECA) and EUR-ACE databases at international level.

Panel conclusion: fully compliant

Recommendations:

Even if the published information is satisfactory for the different stakeholders, it could be of use to publish the full evaluation reports on the Agency's website.

ESG 2.6 Follow up-procedures

Standard:

Quality assurance processes which contain recommendations for action or which require a subsequent action plan, should have a predetermined follow-up procedure which is implemented consistently.

Guidelines:

Quality assurance is not principally about individual external scrutiny events: it should be about continuously trying to do a better job. External quality assurance does not end with the publication of the report and should include a structured follow-up procedure to ensure that recommendations are dealt with appropriately and any required action plans drawn up and implemented. This may involve further meetings with institutional or programme representatives. The objective is to ensure that areas identified for improvement are dealt with speedily and that further enhancement is encouraged.

Compliance:

It is stated on the "Reference and Orientations" document that the evaluation process does have an established follow-up procedure depending on the type of evaluation the degree is going through. In the case of new programmes or those with major problems detected in the previous evaluation, the follow-up procedure is done at one, two or three years after the external evaluation process.

For well-established programmes where no major problems are detected in the previous evaluation, the accreditation is renewed for six years. It is clearly defined in the evaluation documents but a six year term for renewing the accreditation without follow-up for this kind of degrees could be improved by the inclusion of a follow-up especially in the case of newly created programmes. In the near future, CTI is considering the possibility to shorten the accreditation period from six to five years.

Panel conclusion: substantially compliant

Recommendations:

The panel considers that it would be useful to include a follow-up procedure for the newly created programmes or the programmes with no major problems detected.

ESG 2.7 Periodic reviews
Standard:
External quality assurance of institutions and/or programmes should be undertaken on a cyclical basis. The length of the cycle and the review procedures to be used should be clearly defined and published in advance.
Guidelines:
Quality assurance is not a static but a dynamic process. It should be continuous and not 'once in a lifetime'. It does not end with the first review or with the completion of the formal follow-up procedure. It has to be periodically renewed. Subsequent external reviews should take into account progress that has been made since the previous event. The process to be used in all external reviews should be clearly defined by the external quality assurance agency and its demands on institutions should not be greater than are necessary for the achievement of its objectives.

Compliance:

The evaluation cycle is clearly defined and publicly available ("R&O" document). The accreditation length is of 6 years for a normal cycle and from 1 to 3 years for new programmes or programmes with strong recommendations in the external evaluation report.

The length, procedure and details for the evaluation process and period are stated in the R&O document which is published on the Agency's website.

And, as mentioned previously, the Agency is now working on changing this length from 6 to 5 years.

Panel conclusion: fully compliant

Recommendations:

None.

ESG 2.8 System-wide analysis
Standard:
Quality assurance agencies should produce from time to time summary reports describing and analysing the general findings of their reviews, evaluations, assessments, etc.
Guidelines:
All external quality assurance agencies collect a wealth of information about individual programmes and/or institutions and this provides material for structured analyses across whole higher education systems. Such analyses can provide very useful information about developments, trends, emerging good practice and areas of persistent difficulty or weakness and can become useful tools for policy development and quality enhancement. Agencies should consider including a research and development function within their activities, to help them extract maximum benefit from their work.

Compliance:

CTI publishes, on a regular basis, papers and publications which are available on the Agency's website and they also are presented during the annual colloquium that they organize and to which all the stakeholders involved in their processes are invited to (Institutions, students, employers, CNCP, etc.).

CTI's mission includes the intention to publish "position statements on all issues related to engineering degree programmes" and, through the analysis of the information they gather, they have published, since their last external review, a certain number of documents of interest like two technical notes on engineering education, two studies on graduate learning outcomes, a reflection report from the former president, many publications in national or international conferences, etc.

They also publish their biannual activity report which not only refers to a list of activities the Agency carried out but does include analytical contributions on engineering education in France.

It is worth noting that, through the different interviews the panel conducted during the site visit, the stakeholders expressed their satisfaction with the publications of the Agency and the usefulness of their contents.

Panel conclusion: fully compliant

Recommendations:

None.

4.1. *ESG Part 3: External Quality Assurance Agencies*

ESG 3.1 Use of external quality assurance procedures for higher education

Standard:

The external quality assurance of agencies should take into account the presence and effectiveness of the external quality assurance processes described in Part 2 of the European Standards and Guidelines.

Guidelines:

The standards for external quality assurance contained in Part 2 provide a valuable basis for the external quality assessment process. The standards reflect best practices and experiences gained through the development of external quality assurance in Europe since the early 1990s. It is therefore important that these standards are integrated into the processes applied by external quality assurance agencies towards the higher education institutions. The standards for external quality assurance should together with the standards for external quality assurance agencies constitute the basis for professional and credible external quality assurance of higher education institutions.

Compliance:

CTI's external quality assurance procedures for higher education are based on the European Standards and Guidelines as stated on the "Reference and Orientations" document and thus take into account the Part 2 of the ESG in the definition of its processes.

The panel confirm on the basis of the evidence viewed that CTI complies with Part 2 of the ESG as mentioned in part 4.2 ("ESG Part 2: External Quality Assurance Processes") of the present report.

Panel conclusion: fully compliant

Recommendations:

None.

> **ESG 3.2 Official status**
>
> Standard:
>
> Agencies should be formally recognised by competent public authorities in the European Higher Education Area as agencies with responsibilities for external quality assurance and should have an established legal basis. They should comply with any requirements of the legislative jurisdictions within which they operate.

Compliance:

CTI was created by the French Law of 13th of July 1934 and states that the "Commission des Titres d'Ingénieur » must be consulted on all the issues related to the engineering degree programmes ("titres d'ingénieur diplômé") and will do so unless a new Law states the contrary. Moreover, the French Parliament approved Education Code contains all the regulatory and legislative texts underpinning the status of the Agency. These are all referenced in detail in the SER.

The different decrees instituted over the subsequent 80 years tended to clarify its role and composition but did not modify the established status of CTI.

The new Higher Education Law enacted during the summer of 2013 does not modify the role and activities of CTI and so does not have any concrete impact on the Agency.

Regarding the relationship with AERES it has been improved during the last five years through the signing of an agreement between both agencies. They are having meetings, exchanges and cooperation, for example at international level as they are running a common process in China for example but, the Institutions still are submitted to two different evaluations with different criteria of evaluation, two site-visits etc. The agreement is the basis to go further and coordinate both organizations in order to diminish the workload for the evaluated institutions but it is still to be developed. The AERES President is also, since its creation, a member of the Strategic Advisory Board (COS) of CTI.

Panel conclusion: fully compliant

Recommendations:

- The panel recommends that CTI develops the agreement with AERES in order to find a way to better align their evaluation calendars and to minimise the workload these evaluations represent for the Institutions.

- It is also recommended to have a mechanism for assuring the continuity of the agreement between both Agencies taking into account the change from AERES to HCERES in the near future.

> **ESG 3.3 Activities**
>
> Standard:
>
> Agencies should undertake external quality assurance activities (at institutional or programme level) on a regular basis.
>
> Guidelines:
>
> These may involve evaluation, review, audit, assessment, accreditation or other similar activities and should be part of the core functions of the agency.

Compliance:

CTI carries out different assessment activities:

- Evaluation of engineering degree programmes on a periodic basis and their accreditation prior to official habilitation by the Ministry which is the core activity of the Agency. It is divided into six different procedures:

  - A: Renewing of the accreditation within the national periodical accreditation calendar.
  - B: Renewing of the accreditation outside the national periodic accreditation calendar.
  - C: First accreditation ("habilitation") of an Institution.
  - D: New programme or new access to a programme (leading to a change in the name of the degree).
  - E: New access to an existing programme with no creation of a new programme.
  - F: Change in the statutes, amalgamation, new organization, important modification of accredited programmes.
- Evaluation to deliver the EUR-ACE® label to second-cycle engineering programmes (Master).
- The accreditation of engineering degree programmes outside France when requested (for example it is the case of Belgium, China, Africa etc).

The evidence provided (website, "R&O" document, minutes etc) as well as the interviews confirmed that the principal mission of CTI is to develop the above mentioned periodic external quality assurance activities.

Panel conclusion: fully compliant

Recommendations:

The panel recommends that CTI puts in place a mechanism to protect the Agency from the possible risk due to a shift in workload balance between the main mission and the international requests which are more and more numerous and could have an impact on the main activity.

> **ESG 3.4 Resources**
>
> Standard:
>
> Agencies should have adequate and proportionate resources, both human and financial, to enable them to organise and run their external quality assurance process (es) in an effective and efficient manner, with appropriate provision for the development of their processes and procedures.

Compliance:

Regarding financial resources, the interviews confirmed that the stakeholders (internal and external) consider that CTI's budget is sufficient to carry out correctly its assessment activities as well as organizing, for example, the annual colloquium. The evidence shows that the budget is stable and there are no financial issues detected. Approximately 50% of the budget comes from the Ministry and the other 50% comes from the Institutions, so it is a system based on a parity relationship. The Agency diversified its incomes through the international processes they are running in order to cover the expenses these evaluations may entail. The financial resources are managed by CDEFI (« Conférence des Directeurs des Écoles Françaises d'Ingénieurs » - Conference of the French Engineering Schools Directors) through an agreement signed by both organizations for the exclusive administrative management of these funds; it does not interfere with the way the Agency manages its budget.

The material resources, especially the office where CTI just moved to, have proven to have the requirements to let CTI's staff, members and management to carry out their job properly.

Regarding the human resources, it has been clearly stated that, even if the staff number (three permanent staff) seems to be low (but increased since the 2009 review, from 0 to 3 staff), it is sufficient for the activities CTI is developing at that moment. The staff works in collaboration with the members who all have specific tasks to carry out with the staff members. It is worth noting that the Ministry provides two people corresponding to two half-time for the registry which is in charge of receiving the documents from the Institutions as well as the planning for the evaluations. It is thus a significant administrative support.

Panel conclusion: fully compliant

Recommendations:

The panel recommends that CTI takes into account the risk of a higher workload for the staff in the light of increasing its activities (EURACE label, international accreditation, etc.) in the near future as well as with regards to the accreditation period which is due to be changed from 6 to 5 years.

Compliance:

A clear policy is published on CTI's website and detailed in the "Reference and Orientations" document and in the law. The mission states the specific-oriented mission of the Agency which is to be the de jure and de facto cornerstone of engineering programme accreditation in France, more concretely the following:

- Accreditation all of French higher education programmes leading to the French engineering degree title of "Diplôme d'ingénieur"; state-owned HEIs are authorized to award the engineering degree ("Habilitation") by the HEI's supervisory Minister upon receipt of CTI advice. Private HEIs are authorized by the Minister of Higher Education upon receipt of a CTI accreditation decisions;
- On receipt of a request from foreign higher education institutions, the accreditation of engineering degree programmes outside France;
- The publication of position statements on all issues related to engineering degree programmes. In particular, CTI sets the criteria and procedure for the accreditation of engineering degree programmes and contributes to their continuous improvement in a European and international context.

The main goal of the Agency is to support higher education institutions in the implementation of effective internal quality assurance. But also:

- to support higher education institutions in the implementation of effective internal quality assurance ;
- to foster competence-based engineering education ;
- to offer its experience to foreign universities wishing to increase their international visibility.

CTI also has a legal mission which is:

- the evaluation and assessment of higher education institutions in the fields of engineering, computer science, applied mathematics, project management, etc. ; the development of quality in engineering education;

-    the promotion of engineering curricula and careers in France and abroad.

On the other hand, the Agency publishes, every two years, an activity report which relates the activities linked to its mission, objectives and action lines.

The COS ("Strategic Advisory Board") has been mandated to generate a "general orientations document" in consultation with the stakeholders, in order to define the strategic orientations of the Agency.

To conclude, the panel considers that the mission is publicly available and that the activities of the Agencies are in line with its mission.

Panel conclusion: fully compliant

Recommendations:

-    The panel recommends that CTI develop the strategic aims of the Agency to strengthen its vision and goals.

-    The panel also recommends the CTI to continue publishing the biannual activity reports given that the 2010-2012 report has yet to be published.

ESG 3.6 Independence

Standard:

Agencies should be independent to the extent both that they have autonomous responsibility for their operations and that the conclusions and recommendations made in their reports cannot be influenced by third parties such as higher education institutions, ministries or other stakeholders.

Guidelines:

An agency will need to demonstrate its independence through measures, such as:

•   its operational independence from higher education institutions and Governments is guaranteed in official documentation (e.g. instruments of governance or legislative acts)

•   the definition and operation of its procedures and methods, the nomination and appointment of external experts and the determination of the outcomes of its quality assurance processes are undertaken autonomously and independently from Governments, higher education institutions, and organs of political influence

•   while relevant stakeholders in higher education, particularly students/learners, are consulted in the course of quality assurance processes, the final outcomes of the quality assurance processes remain the responsibility of the agency.

Compliance:

Since 1934 the Agency retains the same structure, with the same mission and the parity system assuring its independence. In fact 50% of its members are from the academic world

and the other 50% from the socio-economic world. The new Law will not have an impact on the Agency and assures the continuity of its activity.

Regarding the selection of its 32 members, 16 of them are nominated by their organizations in most of the cases (except for four people who are directly nominated by the Ministry) and the Ministry ratifies their nomination but does not intervene in it. The other 16 members are directly nominated by unions, professional associations etc. The President and Vice-President are elected by the members for a renewable two year term.

At the operational level, it has been noticed that, since its creation in 1934, CTI's advices have not been taken into account on just two occasions. This was due, and a cross-interview system confirmed it, to the fact that the government considered that it was better not to go ahead in both cases but it was not a change in the decisions of the Agency. In fact, the authorization ("habilitation") for public HEIs is done on the basis of the advice of CTI but the decision does not depend on the Agency but on the Ministry as far as it concerns public HEIs with public funding.

Also, the Agency defines its procedures, criteria and processes which are the basis to carry out its activity through the different working groups (on quality, international, engineering education, E-learning, strategy, teaching or the R&O groups) who assure the independence of the Agency as per the heterogeneity of its membership (members of CTI, both academic and professional field, student members, employers and CTI's management and staff). The results of these working groups are transmitted monthly to the plenary assembly who decides directly on it.

Regarding the Agency's strategy, considering it as an instrument of governance, CTI put in place a Strategic Advisory Board (COS) whose task is to define, with the Agency's Board, strategic orientations. It is newly created with a remit to identify the line CTI wants to follow looking at the growth of the international accreditation requests they are receiving. It shows that the Agency does define its strategic objectives internally. Nevertheless, the results of this work will not be available until summer 2014.

Panel conclusion: fully compliant

Recommendations:

The panel recommends that CTI develops the strategic aims of the Agency so as to reinforce the way the Agency wants to follow its activities and make it public.

Compliance:

As described within the ESG 2.4, all CTI's accreditation processes do include the model "self-evaluation/site visit/draft report/published report/follow-up model of review", stated on the "R&O" document and published on the website.

The external assessment process is done by an evaluation committee of three to six members depending on the programme evaluated (size, branch etc.) and there are at least two members of CTI (one academic and one professional) and a student member. And, in 20% of the cases, an international expert is nominated as well.

The report produced by this group of experts is not published as it is the basis for the plenary assembly to take its decision but, the report produced by the plenary assembly is published on CTI's website and contains information on the Institution where the degree is offered, a description of the degree in itself and the analysis and result of the accreditation as well as the recommendations.

The follow-up procedure, detailed within ESG 2.6, consists of sending a follow-up report from the Institution to CTI on the recommendations included in the external review report produced after the site-visit. This follow-up procedure, as mentioned above, could be improved by

including a follow-up for well-established programmes where no major problems are detected during the 6 years accreditation period.

The decisions taken by CTI are transmitted to the Institutions through the report which is also published on the Agency's website. It is clearly stated that only the degrees accredited by CTI can deliver the "diplôme d'ingénieur" after CTI's decision in the case of private HEIs and the Ministry's decision (based on CTI advice) for the public HEIs.

There is a triple appeal procedure, different if this is for private or public institutions:

- This first one is the possibility for the institution (private or public) to make a direct appeal to CTI, which means they require a revision of the decision by the plenary assembly of CTI who can decide to revise its decision if considered. This procedure can avoid progression to higher appeal procedures which also exists as follows:
- In the case of the private Institutions, the HEIs can present an appeal to the Education High Council who will take the final decision.
- In the case of the public Institutions, the appeal procedure is as per the official appeal of administrative decisions and the final decision is taken by the Ministry.

Panel conclusion: substantially compliant

Recommendations:

As mentioned previously, under criterion 2.4, the panel considers that the procedure for the selection and nomination of experts could be improved by clarifying the process of selection of expert member selection for the evaluation committees as well as the policy for selection. And, under criterion 2.6, the panel considers that it would be useful to include a follow-up procedure for the programmes with no major problems detected.

> ESG 3.8 Accountability procedures
>
> Standard:
>
> Agencies should have in place procedures for their own accountability.
>
> Guidelines:
>
> These procedures are expected to include the following:
>
> 1 A published policy for the assurance of the quality of the agency itself, made available on its website.
>
> 2 Documentation which demonstrates that:
>
> • the agency's processes and results reflect its mission and goals of quality assurance
>
> • the agency has in place, and enforces, a no-conflict-of-interest mechanism in the work of its external experts
>
> • the agency has reliable mechanisms that ensure the quality of any activities and material produced by subcontractors, if some or all of the elements in its quality assurance procedure are subcontracted to other parties
>
> • the agency has in place internal quality assurance procedures which include an internal feedback mechanism (i.e. means to collect feedback from its own staff and council/Board); an internal reflection mechanism (i.e. means to react to internal and external recommendations for improvement); and an external feedback mechanism (i.e. means to collect feedback from experts and reviewed institutions for future development) in order to inform and underpin its own development and improvement.
>
> A mandatory cyclical external review of the agency's activities at least once every five years.

Compliance:

CTI has a redefined quality policy and organization of its internal quality assurance procedures as well as a detailed process map of the quality system which are all published on the website.

The Agency, in 2010, put in place a permanent working group on internal quality whose objective is to:

- Formalize, revise and improve the processes;
- Conduct CTI's periodic self-assessment;
- Deploy other different quality projects and initiatives;
- Deploy tools for accountability.

The group is formed by CTI members, a project manager (permanent staff), a person from the Ministry of Higher Education and other participants whose profile depends on the issues to be treated. The minutes of these meetings were provided to the panel when requested.

The internal quality working group is in charge of elaborating a report on the defined issues for each year and provides it to the plenary assembly who, through its analyses, plan the priorities for the next year.

In the framework of this quality system, CTI leads an annual analysis of the results of the accreditation processes through an internal survey of the staff and members and an online incident reporting tool.

Regarding the external feedback mechanisms, CTI does send a survey to the accredited institutions once a year and the Institutions confirmed they do receive it. The Agency also organizes the annual colloquium during which the feedback from the institutions, experts, students, employers, etc. is collected as well as through the different working groups the Agency created for specific subjects.

On the basis of the results obtained from the different feedback mechanisms, a report is elaborated annually on the state of the art of the situation and to identify the areas for improvement.

CTI, in collaboration with the IESF ("Ingénieurs et Scientifiques de France"), send a massive survey (around 50,000 answers), every three years, to the French engineers who are actually working, in order to analyze the outcomes of the "diplôme d'ingénieur" and improve the process if necessary. The decision to increase the level of English for engineering degrees was as a result of this survey, among others.

Finally, another external mechanism CTI put in place recently (the first meeting took place in October 2013) as an accountability process is the Strategic Advisory Board (COS). Its aim is to define strategic orientations of CTI and it is composed of Representatives of the Ministries, quality agencies, trade unions, professional organizations but also of individuals recognized for their expertise in the fields linked to CTI.

Regarding the no-conflict of interest, the Agency does have a "Deontology Code" that all the experts participating in the evaluation procedures sign. It clearly states that in case of conflict of interest the expert must advise the Agency and will not participate in the corresponding process. On the other hand, the "Réglement Intérieur" (Bye-law) states that a complaint may be made to the President of CTI   by any member of the Agency or institution if they detect a conflict of interest.

Regarding the accountability procedures to society as a whole, CTI publishes every two years an activity report on its website which details the actions the Agency carried out related to its mission and objectives. Nevertheless, the last report 2010-2012 is not yet available.

The panel confirms that CTI have the necessary mechanisms to consider it is an accountable Agency at the level of its staff and members, institutions, professional organizations, Ministries, etc. who all confirmed, during interviews, their satisfaction with the procedures in place.

Panel conclusion: fully compliant

Recommendations:

none.

4.2. *ENQA Criterion 8: Miscellaneous*

> ENQA criterion 8 – Consistency of judgements, appeals system and contributions to aims of ENQA
>
> i. The agency pays careful attention to its declared principles at all times, and ensures both that its requirements and processes are managed professionally and that its judgments and decisions are reached in a consistent manner, even if the judgments are formed by different groups;
>
> ii. If the agency makes formal quality assurance decisions, or conclusions which have formal consequences, it should have an appeals procedure. The nature and form of the appeals procedure should be determined in the light of the constitution of the agency;
>
> iii. The agency is willing to contribute actively to the aims of ENQA.

CTI has elaborated and bases its work on the "Reference and Orientations" document as well as on the "Réglement Intérieur" and "Deontology Code" which are among the different mechanisms which guarantee the consistency of the process and the decisions which result from it. These mechanisms are detailed under ESG 2.3 and 3.7.

The appeal procedure is also detailed under ESG 3.7.

Finally, regarding the Agency's participation in the aims of ENQA, the Agency is a full member of ENQA since 2005 and is under its second external review to renew its membership. They also have an active participation in the ENQA events like the Forum, General Assembly or workshops organized by ENQA. On the other hand, all the evaluation processes are based on the ESG.

The panel considers that CTI is **fully compliant** with the criterion 8 of ENQA.

Panel conclusion: fully compliant

5.   *Conclusions and development*

5.1. *Recommendations*

a) *Summary of recommendations of the present review*

ESG 2.1 Use of Internal Quality Assurance Procedures: fully compliant

The panel encourages CTI to improve its members and experts' awareness of internal quality assurance in order to reach a higher level of understanding of the importance of IQA through mechanisms to train them on that specific matter.

ESG 2.4 Processes fit for purpose: substantially compliant

-   The panel recommends CTI to increase the number of international experts in its evaluation committees, not only at national but also at international level.

-   It is also recommended to publish the composition of the committees for each review on the website indicating their profile and role in the accreditation process.

-   The panel considers that the procedure for the selection and nomination of experts could be improved by clarifying the process of selection of the expert members of the evaluation committees as well as the policy used for selection.

-   Finally, the panel recommends that student participation in the evaluation committees be increased and also to consider the possibility to involve them at the member level.

ESG 2.5 Reporting: fully compliant

Even if the published information is satisfactory for the different stakeholders, it could be of use to publish the full evaluation reports on the Agency's website.

ESG 2.6 Follow-up Procedures: substantially compliant

The panel considers that it would be useful to include a follow-up procedure for the newly created programmes and the programmes with no major problems detected.

ESG 3.2 Official Status: fully compliant

-   The panel recommends that CTI develops the agreement with AERES in order to find a way to better align their evaluation calendars and to reduce the workload it represents for the Institutions.

- It is also recommended to have a mechanism for assuring the continuity of the agreement between both Agencies taking into account the change from AERES to HCERES in the near future.

ESG3.3 Activities: fully compliant

The panel recommends that CTI puts in place a mechanism to protect the Agency from the possible risk due to the equilibrium between the main mission and the international requests which are becoming more and more numerous and could have an impact on the main activity.

ESG 3.4 Resources: fully compliant

The panel recommends that CTI takes into account the risk of a higher workload for the staff with the view of increasing its activities (EURACE label, international accreditation, etc.) in the near future as well as with regards to the accreditation period which is due to be changed from 6 to 5 years.

ESG 3.5 Mission: fully compliant

- The panel recommends that CTI develop the strategic aims of the Agency to strengthen its vision and goals.

- The panel also recommends that CTI continue to publish the biannual activity reports noting that the 2010-2012 report is not yet published.

ESG 3.6 Independence: fully compliant

The panel recommends that CTI develops the strategic aims of the Agency so as to reinforce the way the Agency wants to follow its activities and make this public.

ESG 3.7 External Quality Assurance Criteria and Processes used by the Agencies: substantially compliant

- As mentioned previously, under criterion 2.4, the panel considers that the procedure for the selection and nomination of experts could be improved by clarifying the process of selection of the expert members of the evaluation committees as well as the policy for selection.

- And, under criterion 2.6, the panel considers that it would be useful to include a follow-up procedure for the programmes with no major problems detected.

b) *Comparative results and recommendation of the panels for the 2009/2014 reviews on part III of the ESG:*

ESG	Conclusion 2009	Recommendations 2009	Conclusion 2014	Recommendations 2014
3.1 Use of external Quality assurance procedures for Higher Education	Fully compliant	The integration of students, not only in audits and in working groups, but also in the Commission itself, which does not depend on CTI, but on a wider national debate that the Commission could initiate. International openness and visibility, to be reinforced by more frequent integration of foreign experts and reviewers.	Fully compliant	Please see above recommendations for ESG part II
3.2 Official Status	Fully compliant	The coordination with AERES, in terms of process and schedule.	Fully compliant	The panel recommends that CTI develops the agreement with AERES in order to find a way to better align their evaluation calendars and to reduce the workload it represents for the Institutions. It is also recommended to have a mechanism for assuring the continuity of the agreement between both Agencies taking into account the change from AERES to HCERES in the near future.
3.3 Activities	Fully compliant		Fully compliant	The panel recommends CTI to put in place a mechanism to protect the Agency from the possible risk due to the

				equilibrium between the main mission and the international requests which are more and more numerous and could have an impact on the main activity.
3.4 Resources	Substantially compliant	The human resources, by clearly defining the respective roles of the CTI members and staff members that are being recruited and by allowing them to access continuous training, in such a way that the permanent secretariat can provide efficient logistical support (notably for the computer management and the filing of documents) in order to assure the daily and continuous operation.	Fully compliant	The panel recommends that CTI takes into account the risk of a higher workload for the staff with the view of increasing its activities (EURACE label, international accreditation…) in the next future as well as with regards to the accreditation period this will be changed from 6 to 5 years.
3.5 Mission	Fully compliant		Fully compliant	The panel recommends CTI to develop the strategic aims of the Agency to strengthen its vision and goals. The panel also recommends the CTI to follow publishing the biannual activity reports as far as the one of 2010-2012 is not published at that moment.
3.6 Independence	Fully compliant	The financial resources, which CTI should continue to try to diversify in order to protect its independence.	Fully compliant	The panel recommends that CTI develops the strategic aims of the Agency so as to reinforce the way the Agency wants to follow its activities and make it public.
3.7 External Quality Assurance criteria and processes used by the agencies	Fully compliant		Substantially compliant	As mentioned previously, under criterion 2.4, the panel considers that the procedure for the selection and nomination of experts could be improved by clarifying the process of selection of expert members of the evaluation committees as well as the policy for selection.

				And, under criterion 2.6, the panel considers that it would be useful to include a follow-up procedure for the programmes with no major problems detected.
3.8 Accountability procedures	Fully compliant	The internal quality assurance system, which is based on a very comprehensive mapping, but might prove challenging to manage and use. The publication of results, both at the level of the accredited institutions, with the aim of making judgments more accessible to students, and at the level of a national synthesis, which CTI could produce periodically.	Fully compliant	

5.2. *Good practices*

In a general way, the panel has been impressed by the work CTI is carrying out but wanted to underline some good practices the Agency is putting in practice as follows:

- The extensive and consistent stakeholder consultation process for the revision of the "Reference & Orientations" document which is the basis for every accreditation process both for the Institutions and the experts.

- The information provided to society in general and particularly to the engineering stakeholders through the publication of specific papers and analyses on the state of the art of the engineering education in France.

- The database the Agency created and updates with the data related to the degrees and institutions they accredit (with certified data).

- The huge support from all the stakeholders for the Agency and the agreement on the fact that engineering education is improving considerably thanks to the Agency. This positive input from stakeholders is based on active involvement and hence a sense of 'ownership' and pride in the mission of CTI.

- The involvement of all the stakeholders (institutions, students, employers, CNCP, etc.) in the working groups created to improve specific areas as for example the quality group, the E-learning group, the teaching group, etc.

- The structured incorporation and continued growth of the *apprentissage* pathway for engineers within CTI is to be commended.

5.3. *The way forward - challenges*

During the review, the panel could identify some opportunities and challenges the Agency may consider in the near future:

- It has been noticed, during the course of the interviews, that it would be necessary and appreciated for PhDs to be promoted and thus to consider the extension, further than the Masters level, to the accreditation at the PhD level in the engineering field but paying special attention to the link of engineering degrees to the professional world. It could be an option for CTI to extend its mission providing the legal framework would allow it.

- Another development area identified is the international aspect. There is a huge demand from China, Africa, India, etc. for programmes to be accredited by CTI. The challenge here would be to maintain and guarantee the development of its main activity and mission which is to accredit engineering programmes in France. But, it is important to take into account this international possibility to develop the Agency's activities. The other challenge here would be to consider the possibility to extend the human resources as it would represent an additional workload.

5.4. *Overall conclusion*

Since the ENQA review of 2009, the "Commission des Titres d'Ingénieurs" (CTI), has evolved considerably, at the operational and structural levels. The recommendations of the 2009 review were carefully taken into account and it is worth noting that, even if they are not all solved, CTI took the necessary measures to implement the improvements the review panel proposed as for example the hiring of three permanent staff to guarantee the daily and continuous operations of the Agency, the involvement of students in most of the Agency's activities, the signing of an agreement with AERES and also the development of new procedures and operational tools with the public database and the experts' training day.

It has been clearly proved, by the evidence provided as well as by the interviews, that CTI is perceived and acts as the "guarantor" of engineering education in France and is increasing its status and impact in Europe and globally. The Agency is clearly contributing to the enhancement of the French Higher Education System as a whole by applying quality standards with consistency and a high level of professionalism.

It is thus recommended by the panel to the ENQA Board to renew the full membership of CTI for five years.

6. *Annexes*

6.1. *Terms of reference*

External review of the "Commission des Titres d'Ingénieurs" (CTI) by the European Association for Quality Assurance in Higher Education (ENQA)

Annex I: TERMS OF REFERENCE

Approved by the CTI Board, April 30th 2013
Revised on 6th August 2013
Revised on 29th January 2014

1. Background and Context

The CTI missions, defined by a law in 1934, are respectively: the assessment and accreditation of all French engineering programmes which award the title of "*ingénieur diplômé*" (graduate engineer); on their demand, the assessment and accreditation of foreign engineering programmes; the promotion of engineering curricula and careers in France and abroad.

CTI is full member of ENQA since 2005. In June 2009, its membership has been renewed by the ENQA board, after a review coordinated by the NVAO (Accreditation Organisation of the Netherlands and Flanders). In November 2010, EQAR has included CTI in the register of quality assurance agencies operating in Europe which substantially comply with the European Standards.

CTI is founding member of ECA, the European Consortium for Accreditation in higher education. It is founding member of the EUR-ACE® project, which provides a set of standards to identify high quality engineering programmes in Europe and worldwide.

As a member of these European institutions, the CTI is periodically reviewed to assess the compliance of its activities with the European standards. After the ENQA coordinated reviews in 2005, 2008 and 2010, before the ENAEE/EUR-ACE review and the EQAR renewal in 2014, CTI considers that the ENQA coordinated review is an essential tool for its quality management.

CTI has been Full member of ENQA since 2005. Full membership was confirmed following an external review on 2 June 2009.

2. Purpose and Scope of the Evaluation

The review coordinated by ENQA is a type A review, as defined in the *Guidelines for external reviews of quality assurance agencies in the European Higher Education Area.* It will evaluate the way in which and to what extent CTI fulfils the criteria for the ENQA membership and thus the *Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)*. Consequently, the review will also provide information to the ENQA Board to aid its consideration of whether CTI should be reconfirmed Full Membership of ENQA. The review panel is not expected, however, to make any judgements as regards granting CTI Full Membership in ENQA.

3. The Review Process

The process is designed in the light of the *Guidelines for external reviews of quality assurance agencies in the European Higher Education Area*. The evaluation procedure consists of the following steps:

•   Formulation of the Terms of Reference and protocol for the review;
•   Nomination and appointment of the review panel;
•   Self-evaluation by CTI including the preparation of a self-evaluation report;
•   A site visit by the review panel to CTI;
•   Preparation and completion of the final evaluation report by the review panel;
•   Scrutiny of the final evaluation report by the Review Committee of the ENQA Board;
•   Analysis of the scrutiny by the ENQA Board and their decision regarding ENQA membership;
•   Follow-up of the panel's and/or ENQA Board's recommendations by the agency.

3.1 Nomination and appointment of the review team members

The review panel consists of six members, including a review chair and a review secretary: one quality assurance expert, three representatives of higher education institutions, one representative of employers and one student member. An employer representative is appointed to better reflect the composition of CTI membership, made of an equal number of academics and professionals. Three of the reviewers (including the review chair and secretary) are nominated by the ENQA Board on the basis of proposals submitted to ENQA by the national agencies, and are drawn from senior serving members of Board/Council or staff of ENQA member agencies. ENQA will also nominate the representative of employers on the basis of proposals submitted by the Board of ENQA or the European Association of Employers BusinessEurope. The fifth external reviewer is drawn from a nomination provided by the European University Association (EUA). The nomination of the student member is asked from the European Students' Union (ESU).

Current members of the ENQA Board are not eligible to serve as reviewers.

ENQA will provide CTI with the list of suggested experts with their respective curricula vitae to establish that there are no known conflicts of interest. The experts will have to sign a non-conflict of interest statement as regards the CTI review.

3.2 Self-evaluation by CTI, including the preparation of a self-evaluation report

CTI is responsible for the execution and organisation of its own self-evaluation process and shall take into account the following guidance:

• Self-evaluation is organised as a project with a clearly defined schedule and includes all relevant internal and external stakeholders;

• The self-evaluation report is broken down by the topics of the evaluation: background description of the current situation of the Agency; analysis and appraisal of the current situation; proposals for improvement and measures already planned; a summary of perceived strengths and weaknesses;

• The report is well-structured, concise and comprehensively prepared. It clearly demonstrates the extent to which CTI fulfils its tasks of external quality assurance and meets the criteria for the ENQA membership and thus the ESG. The report is submitted to the review panel a minimum of four weeks prior to the site visit.

3.3 A Site Visit by the Review Panel

CTI will draw up a draft proposal of schedule for the site visit to be submitted to the review panel at least three months before the planned dates of the visit. The schedule includes an indicative timetable of the meetings and other exercises to be undertaken by the review panel during the site visit, the duration of which is 2 days. The approved schedule shall be given to CTI at least two months before the dates of the visit, in order to properly organise the requested interviews.

The review panel will be assisted by CTI in arriving to Paris, France.

Where appropriate, the site visit will close with an oral presentation and discussion of the major issues of the evaluation between the review panel and CTI.

3.4 Preparation and completion of the final evaluation report

On the basis of the review panel's findings, the review secretary will draft the report in consultation with the review panel. The report will take into account the purpose and scope of the evaluation as defined under article 2. It will also provide a clear rationale for its findings with regards to each ENQA membership criteria. A draft will be submitted for comment to CTI within two months of the site visit for comment on factual accuracy. If CTI chooses to provide a statement in reference to the draft report it will be submitted to the chair of the review panel within two weeks after the receipt of the draft report. Thereafter the review panel will take into account the statement by CTI, finalise the document and submit it to CTI and ENQA.

The report is to be finalised within three months of the site visit and will not exceed 40 pages in length.

4. Follow-up Process and Publication of the Report

CTI will consider the expert panel's report and inform ENQA of its plans to implement any recommendations contained in the report. Subsequent to the discussion of the evaluation results and any planned implementation measures with ENQA, the review report and the follow-up plans agreed upon will be published on the CTI website. The final review report will be published on the ENQA website, regardless of the review outcome and decision by the Board.

5. Use of the report

ENQA shall retain ownership of the report. The intellectual property of all works created by the expert panel in connection with the review contract, including specifically any written reports, shall be vested in ENQA.

The review report is to be used by the Board of ENQA for the purpose of reaching a conclusion on whether CTI has or has not met the membership criteria/ESG.

The working paper authored by the Panel is to be considered as a report owned by ENQA only after being approved by the ENQA Board. Once submitted to CTI and ENQA and until the decision by the Board is made, the working paper may not be used or relied upon by CTI, the panel and any third party and may not be disclosed without the prior written consent of ENQA. CTI may use the report at its discretion only after the Board decision has been made.

CTI shall be aware that, should an application to the European Quality Assurance Register for Higher Education (EQAR) be submitted, the Chair of the panel might be approached by the Register Committee for any request for clarification. The Chair of the panel may give a response but he/she is requested to copy the Director of ENQA on all correspondence.

6. Budget

CTI shall pay the following review related fees:

Fee of the Chair	4,750 EUR
Fee of the Secretary	4,750 EUR
Fee of the 4 other panel members	11,000 EUR (2,750 EUR each)
Administrative overhead for ENQA Secretariat	5,000 EUR
Experts Training fund	1,250 EUR
Travel and subsistence expenses (approximate)	6,000 EUR

This gives a total indicative cost of 32,750 EUR for a review team of 6 members. In the case that the allowance for travel and subsistence expenses is exceeded, CTI will cover any additional costs after the completion of the review. However, the ENQA Secretariat will endeavour to keep the travel and subsistence expenses in the limits of the planned budget, and will refund the difference to CTI if the travel and subsistence expenses go under budget.

In the event of a second site visit required by the Board and aiming at completing the assessment of compliance, and should the agency accept a second visit, an additional fee of 500 EUR per expert, as well as travel and subsistence costs are recoverable from CTI.

7. Indicative Schedule of the Review

The duration of the evaluation is scheduled to take about 18 months, from March 2013 to September 2014:

CTI begins self-evaluation	March 2013
Agreement on terms of reference and protocol for review	July 2013
Appointment of review panel members	October 2013 – February 2014
CTI self-evaluation completed	December 2013
Preparation of site visit schedule and indicative timetable	February-March 2014
Briefing of review panel members	February 2014
Review panel site visit	Beg April 2014

Draft of evaluation report to CTI	Beg June 2014
Statement of CTI to review panel if necessary	June 2014
Submission of final report to CTI and ENQA	June 2014
Consideration of the report by ENQA and response of CTI	September 2014
Publication of report and implementation plan	September 2014

6.2. *Schedule of the site visit*

Day 1 - April 2:

Session	Time	Interviews	Name and position
	15h30 16h20	Review panel	
S0	16h20 16h30	Brief presentation on CTI and engineering education and profession in France	*Philippe Massé*- CTI's president *Teresa Sánchez*- CTI's executive director
*S1	16h30 17h15	Meeting with representatives of CTI's board	*Philippe Massé*- CTI's president *Laurent Mahieu*- CTI's vice-president *Maurice Pinkus*- CTI's vice-president
S2	17:15h 18:15h	Meeting with CTI's members Members in charge of communication, and relationships with national and international stakeholders	*Alain Jeneveau*- CTI member, responsible for the relationships with CNCP and engineering education, relationships with AERES and the Canada Region *Christophe Meunier*- CTI member, employer representative *Dominique Pareau*- CTI member, representative of « écoles et instituts » *Arnaud Reichart*- CTI member, responsible for internal communication *Georges Santini*- CTI member, representative of private institutions *Jacques Schwartzentruber*- CTI member, Responsible for the Belgium Region, relationships with CNCP and working group on engineering education
	18h15 18h30	Review panel	
S3	18h30 19h00	Meeting with CTI's Strategic Advisory Board (COS)	*Bernard Remaud*- ENAEE's president, CTI's former president, COS member
		End of day 1	

*S = session

Day 2 - April 3:

Session	Time	Interviews	Name and position
	08h30 09h00	Review panel	
S4	09h00 09h45	CDEFI- Conference of French Engineering HE institutions directors	*Christian Lerminiaux*- President, CDEFI
	09h45 10h00	Review panel	
S5	10h00 10h45	Meeting with CTI's registry (greffe)	*Agnès Poussin* *Marie-Ange Trompette*
	10h45 11h00	Review panel	
S6	11h00 11h45	Experts	*Sylvie Chevalet*- Consultant, former CTI member *Nicolas Lachaud Bandres*- Student expert, INSA Toulouse *Denis Lemaître*- Lecturer and researcher, ENSTA Bretagne *Lionel Luquin*- Teaching director, École de Mines de Nantes *Patrick Obertelli*- Lecturer and researcher, Centrale Paris
	11h45 12h00	Review panel	
	12h00 13h00	Lunch	
S7	13h00 13h45	AERES-HCERES	Didier Houssin- President, AERES-HCERES *Philippe Tchamitchian*- Director of institutional

			assessment *Jean-Marc Geib*- Director of programme assessment *François Pernot*- International Relations Director
	13h45 14h00	Review panel	
S8	14h00 14h45	Ministry of Education and Research	*Rachel-Marie Pradeilles-Duval*- Deputy Head of Service, Service of higher education and employability strategy *Jean-Christophe Paul* – Deputy Head of service, Engineering and Business HEIs mission
	14h45 15h00	Review panel	
S9	15h00 15h45	Meeting with CTI's staff	*Christine Freyermuth*- Project Manager *Julie Nolland*- Project Manager *Teresa Sánchez*- Executive Director
	15h45 16h00	Review panel	
S10	16h00 17h00	Meeting with Engineering HEIs recently accredited by CTI	*Régis Vallée*- Director, EIVP *Guillaume Morel*- Responsible of the robotics deparment, UPMC *Claude Guédat*- Responsible for the telecommunications programme, INSA Lyon *Joel Courtois*- Director, EPITA *Christophe Decreuse*- Teaching director- UTBM
	17h00 17h15	Review panel	
	17h15	Meeting with students representatives	*Pierre Trovero*- President, BNEI (National Association of Engineering Students)

S11	18h00		*Paul Oumaziz*- Responsible for expert coordination and training, BNEI (National Association of Engineering Students)
	18h00 19h00	Review panel	

End of day 2

Day 3 - April 4:

Session	Time	Interviews	Name and position
S12	8h30 9h00	CNCP, National Commission of Professional Certifications	*Brigitte Bouquet*- General rapporteur, CNCP
	09h00 09h15	Review panel	
S13	09h15 10h15	Meeting with socio-economic stakeholders	*Julien Roitman*- President, IESF (Engineers and Scientifics of France) *Gérard Duwat*- Coordinator of the annual IESF survey *Noël Bouffard*- CEO Sopra Group, CTI member *Robert Pelletier*- Consultant, former quality director of TOTAL *APEC representative* (to be confirmed)
	10h15 11h45	Review panel	
S14	11h45 12h15	Briefing- first impression of the expert panel	CTI's board and CTI's Staff
	12h15 13h00	Lunch and end of the visit	