Self-Assessment Report

As part of a

Targeted Review 2023-2024

For the purpose of:

- the renewal of the CTI as a full member of the
  European Association for Quality Assurance in Higher Education (ENQA)

and

- the renewal of the CTI's registration in the *European Quality Assurance Register (EQAR)*

TABLE OF CONTENTS

PART I - BACKGROUND

I. 1. Introduction

In order to better understand the context of the CTI's missions and activities, this self-assessment report (SAR) starts with a general presentation of the CTI's background.

I. 1.1. The higher education system in France

In France, the higher education system (HES) is regulated by the Ministry of Higher Education and Research (ministère de l'Enseignement supérieur et de la Recherche). Other ministries or local authorities supervise institutions in their technical domain.

Higher education covers all studies after the secondary education final examination "baccalauréat" ('A' level equivalent).

Two systems exist side by side:
- An open system in the universities. Most students study under this system. All "baccalauréat" holders have the right to enter this system. The universities offer an extremely wide range of studies.
- A selective system with a limited number of places. This is the system in use for a limited number of university programmes such as law and medicine, for schools specialized in the arts, design and architecture and the "Instituts universitaires de technologie" (university institutes of technology that offer professional bachelor's programmes).
  The selective system is especially representative of the "Grandes écoles" (top graduate schools) in the fields of management and engineering.

External quality assurance at institutional level, for national bachelor's, master's and doctoral degrees and research is carried out by the Haut conseil de l'évaluation de la recherche et de l'enseignement supérieur (Hcéres). The Conférence des écoles et formations de gestion (CEFDG) evaluates the programmes of management schools.

The institutional and programme accreditation of engineering schools is entrusted to the CTI.

I. 1.2. The French engineering profession and education

The engineering profession is not regulated in France (there is no professional organisation of chartered engineers) but the ''titre d'ingénieur diplômé'' is protected by law and considered in employment-related negotiations.

The French engineering degree is an institutional degree that confers at the same time the professional title of an engineer and the academic grade of a master's and enables the graduates' direct access to the engineering profession and doctoral studies. It is listed at level 7 of the French and European Qualifications Frameworks.

In France, most engineering programmes are offered by specific higher education institutions called "Ecoles d'ingénieurs". These engineering schools are run by the public or private sector, may or may not be part of a university, and may come under different ministries (higher education & research; food and agriculture; economy and industry; armies; ecology and sustainable development) or a local authority.

Engineering schools in figures (in 2023):
- 204 engineering schools (53 private)
- 652 engineering degrees and 1 450 specializations and study tracks
- 163,000 engineering students (35% beneficiaries of income-based scholarships)
- 44,000 graduates per year (28% women, 16% foreign nationals)
    - 17.5% through an apprenticeship track
    - 2.1% via continuing education
    - 0.2% through validation of informal or non-formal learning (VAE).

I. 1.3. The Commission des titres d'ingénieur

The French Commission des titres d'ingénieur (CTI) is a national, field specific quality assurance agency that was established by law in 1934 with the aim to carry out three main missions that are still valid today:
- Accreditation decision regarding new engineering schools and programmes of the private sector;
- Evaluation of engineering programmes abroad leading to their recognition in France;
- Advice on all issues regarding the engineering education and profession.

Although the external quality assurance was compulsory only for private HEIs, most public owned HEIs also applied for a CTI process when setting up a new school/programme since 1934.

In 1984, an ex-ante procedure by the CTI of all new engineering schools and programmes by French private and public owned HEIs became mandatory.

Since 1997 all existing private and public owned engineering schools have to undergo a periodical evaluation procedure by the CTI (nowadays every five years).

Every year an inter-ministerial decree publishes the list of accredited engineering schools and their programmes upon an evaluation process by the CTI, with the duration of the accreditation. Foreign accredited HEIs and engineering programmes are included in the list.

In 2020 the French Ministry of Higher Education and Research agreed to award the academic grade of "Licence" (level 6 in the National and European Qualifications Frameworks) to institutional 3-year bachelor's degrees upon a positive outcome of an external quality assurance procedure. The ministry appointed the CTI to carry out the evaluation processes of the institutional bachelor's programmes offered by accredited engineering schools (see section I.3.1 below).

The CTI reflects the stakeholder's environment and is dealing with both the academic and professional aspects of engineering education. Its members consist of an equal number of representatives from academia (16 members) and from industry (16 members). They are officially appointed by the minister in charge of higher education upon proposal by various representative organisations. The Commission is composed as follows: 8 professionals representing employers' organizations; 8 professionals representing trade unions and engineers' associations; 8 academic staff from HEIs under the ministry of higher education; 5 academic staff from HEIs under other ministries; 3 experts in science and technology.

I. 1.4 The CTI in the European context

The CTI's Standards and Criteria refer to the ESG since 2006 and describe the expected outcomes of all engineering programmes as fully compliant with the Bologna process.

Based on this long experience of European and international openness and on the international dimension of the engineering profession, it was an obvious choice that CTI became a founding member of European organisations such as the *European Consortium for Accreditation* (ECA), the *European Network for the Accreditation of Engineering Education* (ENAEE), the network of

francophone quality assurance agencies (FrAQ-Sup) and applied for full membership to the *European Association for Quality Assurance in Higher Education* (ENQA) and for registration in the *European Quality Assurance Register* (EQAR).

The CTI (together with the Hcéres) represents France in the Thematic Peer Group on Quality Assurance of the Bologna process.

The CTI participates in working groups of the above-mentioned organisations and in European projects and is an active player in the European and international environment, fully aware of the European strategic issues regarding higher education, quality assurance, engineering education and profession.

I. 2. Development of the self-assessment report (SAR)

The CTI has been a full member of ENQA since 2005. The renewal of the CTI's ENQA full membership was confirmed in 2009, in 2014 and in 2019. Based on this external recognition, CTI was included into the EQAR in 2010 and confirmed in 2014 and 2019.
In order to renew its ENQA membership and EQAR registration in June 2024, the CTI benefits from a targeted review in 2023-2024.

This report contains the results of the continuous self-assessment process carried out by the CTI with a focus on:
-   Major evolutions of the CTI's practice since the last review in 2019.
-   Part 2 of the ESG regarding a substantive change that occurred in 2020 when the ministry in charge of higher education entrusted the CTI with a new mission: the external quality assurance of institutional bachelor's degrees offered by accredited engineering schools.
-   ESG 2.1 *Consideration of internal quality assurance* regarding all external quality assurance activities of the CTI.
-   Two ESG which were evaluated as "partially compliant" during the former ENQA review: ESG 2.5 *Criteria for outcomes* and 2.6 *Reporting.*
-   Self-selected standard for enhancement: ESG 3.6 *Internal quality assurance and professional conduct*.
-   Global SWOT analysis.

The following activities of the CTI are addressed in this document:
-   Accreditation of existing French and foreign engineering schools and programmes at master's level, in France and abroad;
-   Evaluation of engineering programmes at bachelor's level (Licence)
-   Ex-ante accreditation of engineering schools and programmes of French Institutions, in France and on branch campuses abroad;
-   Attribution of the EUR-ACE® label at master's level
-   Quality labels of French and foreign institutions (CeQuint)

The final draft report has been approved by the CTI's Board on June 27th 2023 and by the general assembly on the 11th of July 2023 with a mandate to the working group and presidential team to submit the final version to ENQA during summer, at the latest at the beginning of September 2023.

The CTI's self-assessment is an ongoing process that is initiated through feed-back by CTI members, experts and permanent staff, satisfaction surveys, exchanges with stakeholders and meetings on specific topics… and co-ordinated through strategic working groups (for instance the working group

on the CTI quality system), the presidential team and the Board meetings throughout the year. An annual process review takes stock of the activities and their consistency with the strategic objectives.

This SAR is a major outcome of this permanent process that took about eight months to be finalised and involved CTI members, staff, special advisors and main stakeholders.

The SAR working group was composed of five CTI members, one former CTI member (now special advisor for internal quality assurance), one special advisor (for strategic issues) and one representative of the permanent staff. The main issues of the document were put to discussion during specific Board and plenary sessions leading to a shared vision of the reported outcomes.

The SAR working group maintains a close link to the CTI working group on internal quality which further includes representatives from the ministry in charge of higher education. CTI members, permanent staff, experts and external advisors are part of specific thematic working groups which provided the SAR working group with feedbacks from other, specific angles.

The final draft document was sent to the CTI's major stakeholders (Ministry of Higher Education & Research; association of the deans of engineering schools - CDEFI; national association of engineering students - BNEI). Their comments were taken into account before submitting the final version of the SAR.

I. 3. Evolutions since the last review

There have been no substantive changes in the CTI organisation, management, activities and procedures since the previous review in 2019 apart from the introduction of the new mission of external quality assurance of institutional bachelor's degrees (topic specifically covered in chapter I.3.1 below).

Since the last ENQA review, the national and international context and the CTI's activities have however continued to evolve regarding certain aspects which are described here.

A. The CTI's response to the sanitary crisis

Like all organisations, the HEIs and the CTI were significantly impacted by the sanitary crisis in 2020 and 2021.

The CTI's major preoccupation was to provide a substantial support to HEIs in their action for maintaining an as-good-as-possible educational process and programme qualities, to generate innovations in pedagogy to match the situation and in managing student life.

The CTI therefore took the following measures:

Adaptation of the accreditation criteria

A first obvious step was to suspend the compulsory international mobility criterium for engineering students enrolled for the last two years of an engineering degree programme.

Also, given the lockdown context and the economic difficulties of some sectors of industry, the CTI adapted the criterium regarding internships in companies. The rule of a minimum professional experience of 28 weeks was suspended. The final overall project, that is normally carried out in a company, was possible with a flexible duration and working conditions. The CTI advised the HEIs to allow overlaps to the following academic year without charging tuition fees and without impacting the official graduation class.

The CTI recommended that students enrolled for apprenticeship tracks should where possible preserve the original calendar with alternate periods in industry and at school. Where working periods in a company were cancelled, the HEIs and the company were invited to offer adapted terms to enable students to achieve the expected learning outcomes despite this absence.

All these adaptations were offered, provided that:
- the students on the programme were not penalised ;
- the achievement of all programme outcomes were ensured ;
- the teaching & learning methods and the conditions for the validation of the degree were adapted to the situation ;
- the relevant authorities and boards of the HEIs endorsed the adaptations ;
- the changed rules were published in an annex of the study regulations ;
- the measures taken were disseminated amongst students and other stakeholders ;
- an individual follow-up of students, especially those in a fragile situation, was put into place.

Adaptation of the CTI processes
As far back as autumn 2019, even before the sanitary crisis, the CTI had set up a working group on digitalisation that dealt with issues such as: the impact of its development on teaching and academic interaction, learning processes and access to information, assessment of achieved learning outcomes. The sanitary crisis all of a sudden accelerated the process and HEIs made a huge progress in using new digitalised tools and methods.

The CTI had to adapt very quickly its evaluation processes. The most significant measures were:
- postponement of the submission of self-evaluation reports and intermediate reports by HEIs;
- postponement of all site visits & plenary sessions during the lockdown period in spring 2020;
- postponement of new international processes to the academic year 2021-2022;
- addition of 5 full days of plenary sessions in summer 2020 and in 2021 in order to catch up with the postponed processes;
- the setting up of a specific procedure for online site visits, including a deontology charter to be signed by the HEI and the CTI before an online site visit;
- first virtual site visits in July 2020;
- joint CTI-Hcéres processes separated in order to make the adapted planning more flexible;
- reconfiguration of some expert panels after agenda changes.

Communication
In such a crisis situation, an effective communication is essential.
The CTI used several chanels to exchange with the engineering schools:
- several general messages sent to all engineering schools with the information on adapted calendar and accreditation criteria and with recommendations regarding the support to all students and particularly to the more vulnerable ones (6/3/2020; 26/3/2020; 21/4/2020; 7/5/2020; 3/11/2020; 7/1/2021; 7/6/2021);
- individual response to engineering schools and students on particular issues;
- a survey launched together with the association of the deans of engineering schools (CDEFI) about distance teaching & learning (issues, problems, perspectives...);
- a specific webinar with the association of the deans of engineering schools (CDEFI) devoted to exchanges on good practice in distance teaching & learning;
- participation of CTI representatives in a working group of the deans of engineering schools (CDEFI) on the alternative ways to achieve the learning outcomes of an international mobility;
- various bilateral exchanges with the CTI's stakeholders (associations of HEIs, ministries, student associations...);
- messages in the CTI Newsletter & on its website.

B. Reinforcement of the cooperation with other national QAAs
The CTI was established in 1934 as a national field specific accreditation organization and has been in charge since then of the accreditation process of engineering schools and their programmes.

In 2006, the government founded the Agence d'Évaluation de la Recherche et de l'Enseignement Supérieur (AERES) with the mission to evaluate the HE institutions, research centres and bachelor-master-doctoral programmes.

After some years of active collaboration, a framework cooperation agreement between the AERES and the CTI was signed in 2012.

A new law for higher education in 2013 transformed the AERES into the Haut Conseil de l'évaluation de la recherche et de l'enseignement supérieur (Hcéres). A new agreement between the CTI and the Hcéres was signed in September 2016 and a working committee has been set up for its follow-up.

The major aim for both agencies is to set up a coordination of institutional external quality assurance actions concerning engineering schools accountable to both the CTI and the Hcéres (i.e. external public-owned engineering schools and private, not-for-profit engineering schools), in particular to alleviate their workload. In order to achieve this goal, the two agencies started to organize coordinated evaluation processes of engineering schools, where both expert panels take part in a partly joint site visit, focusing on all issues linked to the institutional level. These coordinated procedures concerned 1 HEI in 2016-2017 and went up to 19 planned procedures in 2020-2021 including an evolution towards a joint SAR by the HEIs. The joint working committee is currently working on a renewed schedule for coordinated procedures in the coming years.

Both agencies cooperate very actively on several topics such as international relations. Since the first agreement was signed with AERES, the agencies' international teams cooperated and participated in the same associations, networks, projects. Recently they won with other French partners two calls for tenders of the European Commission. One consisted in assisting Tunisia in setting up a new EQA agency and the other to support the Moroccan agency ANEAQ to comply with the ESG and the ASG. Furthermore, the CTI and the Hcéres represent together France in the Thematic Peer Group C on Quality Assurance in the framework of the Bologna process.

The CTI and the Hcéres also cooperate very actively with the QAA in charge of the evaluation of programmes offered by management and business schools, the Conférence des écoles et formations de gestion (CEFDG), for instance regarding their respective standards and criteria regarding the award of the academic grade of "Licence" to institutional bachelor's degrees.

In December 2020, the French government promulgated a new law on research which specified that the Hcéres is in charge of coordinating the activities of all national evaluation bodies in the area of higher education and research. The law was completed in February 2022 by a decree which states that the coordination by Hcéres must respect the specific characteristics of the missions conferred to the other evaluation agencies.

With this formalized framework, the cooperation between all national bodies in charge of quality assurance in higher education and research became sustainable and no longer exclusively based on voluntary initiatives. The CTI's existing cooperation with the Hcéres and the CEFDG was thus reinforced, without calling into question the CTI's independence and autonomy since the 2020 law did indeed not repeal the previous law of 1934 that states that the responsibility for the accreditation process of engineering schools and programmes lies exclusively with the CTI.

C. External quality assurance of professional education (Qualiopi label)

In France there exists a specific quality label for professional education, Qualiopi. Only providers (from HE or not) who are awarded this label through an external quality assurance process may benefit from public funding to offer professional education modules.

The Qualiopi label refers to the National Quality Framework for Professional Education defined by the Ministry of Labour. A national organisation, France Compétences, is in charge of the quality system regulation for professional education on behalf of the Ministry of Labour and the recognition of certifying operators.

HEIs which offer professional education had to undergo a specific EQA by a certified operator in order to benefit from public funding. The CTI and the Hcéres applied for a recognition of their EQA procedures towards the Qualiopi label for HEIs.

As an outcome of a two-year working group between the CTI, the Hcéres, France Compétences, the ministries of Higher Education and Labour, which compared the respective criteria, it was agreed that HEIs accredited through an external quality assurance procedure by the CTI and the Hcéres achieve automatically the label for their whole educational offer, including professional modules. This is effective since January 2023.

In France, the Qualiopi label and the work done in the framework of this working group represent an important step towards the recognition of micro-credentials offered by HEIs and non HE providers.

References: [Joint press release by ministries in charge of labour and higher education, France Compétences, CTI, Hcéres](#), December 2022
[CTI note on the Qualiopi label for engineering schools](#)

D. Improvement of the compliance with ESG 2.3 *Implementing processes*

The ESG 2.3. was evaluated as substantially compliant in the previous CTI evaluation.

The recommendation was: "*CTI is recommended to develop follow-up procedures also in case of full accreditation. […] The methods for follow-up should be implemented so that quality culture at the institutions will be further developed*."

At their plenary session in April 2019, the CTI members validated a new follow-up procedure for programmes that were granted a full five-year accreditation.

Since the 2019-2020 campaign, the concerned HEIs have to submit an intermediate self-assessment analysis between two periodical reviews. This follow-up report takes the form of a table listing the CTI's recommendations for improvement and the implemented changes or the action plan for further enhancements. The first reports were submitted in December 2022. The conformity of these follow-up reports to the standards and criteria are analysed by a member of the CTI permanent team. If a discrepancy appears, the report is submitted to the CTI Board and potentially cross-checked by a CTI member who - when possible - will have participated in the last periodical review. The follow-up report and the CTI's judgement will be added to the documents of the following periodical evaluation.

Reference: [Template for intermediate follow-up tables](#)

I. 3.1. New external quality assurance activity:
The evaluation of institutional bachelor's programmes in engineering

In France, national three-year degrees at level 6 of the national and European qualifications frameworks are called "Licence".

In order to diversify their educational offer, some institutions started several years ago to provide three-year programmes that led to an institutional degree. In order to distinguish the new degrees from the national degree "Licence", they used the English term of "bachelor" for these new programmes. The objective was to respond to the industry's need for well-trained graduates at middle-management positions. The issue regarding these institutional bachelor's degrees was that they did not provide an official qualification required to be admitted to a national master's degree. Early 2020, the Ministry of Higher Education and Research agreed to confer the academic grade of "Licence" to those bachelor's programmes that underwent a successful external quality assurance process and entrusted the CTI with the evaluation of the bachelor's degrees in the field of engineering offered by accredited engineering schools. The external quality assurance process may be ex-ante or ex-post.

The CTI immediately set up a working group responsible for drafting standards and criteria for the evaluation of the Bachelor's programmes in Sciences and Engineering (BSE) and an evaluation process which had to match the ministry's national requirements for granting the grade of "Licence" (decree of January 2020) and the well-established CTI's requirements in terms of degree value and HEIs' capacity to offer quality programmes. The CTI attached a particular attention to the compliance of the process with the ESG, based on its practice of the evaluation of engineering degree programmes at master's level.

The draft documents "BSE Standards & Criteria" and "BSE Evaluation Process" were summitted to the CTI's major stakeholders (engineering schools through their deans' association, engineering students' association and ministry), validated by the plenary assembly of CTI members and the first edition published by end of May 2020.

The first evaluations were carried out in autumn 2020 and the decisions for awarding the academic grade were taken by the ministry in January 2021.

In 2021 and 2022 updated versions of the BSE Standards & Criteria and BSE Evaluation Process were published on the CTI's website and applied to the second and third evaluation campaigns for the bachelor's programmes. Substantial improvements in the implementation and a clarification of some criteria took place such as defining the minimum threshold of student versus teaching staff ratio and the expected profile of a teacher-researcher.

In 2023, the CTI reorganised the structure of its BSE Standards & Criteria in order to match that of the Engineering Degree Major Criteria (R&O) and added further clarifications without changing the requirements of the criteria.

The pilot phase is now considered to be completed, with an improved compliance with the ESG which are commented below.

Compliance of the evaluation of institutional bachelor's programmes in engineering with the European Standards and Guidelines, part 2

ESG Standard 2.1 Consideration of internal quality assurance

Standard: *External quality assurance should address the effectiveness of the internal quality assurance processes described in Part 1 of the ESG.*

Guidelines: Quality assurance in higher education is based on the institutions' responsibility for the quality of their programmes and other provision; therefore it is important that external quality assurance recognises and supports institutional responsibility for quality assurance. To ensure the link between internal and external quality assurance, external quality assurance includes consideration of the standards of Part 1. These may be addressed differently, depending on the type of external quality assurance.

The effectiveness of the HEIs' internal quality assurance processes is indeed taken into consideration by the CTI and it is an explicit accreditation criteria. The HEIs must demonstrate that they have an effective identity and an organisational structure that is clearly defined in statutory texts and that allows them to carry out their missions in full autonomy and to provide training programmes in good conditions. The ability of the institutions to assure and improve the quality of their programmes is an essential factor for a successful evaluation process of both the master's level engineering degree and the institutional bachelor's degree.

In the CTI's published BSE Standards & Criteria a dedicated part of chapter B: *The school's* m*anagement: steering, organisation and quality system* deals with the HEIs' internal quality assurance system.

Quality issues are taken into account throughout the whole accreditation process (self-assessment, site visit, evaluation report, outcome deliberation and follow-up).

Even in those cases in which institutions have undergone external accreditation or certification processes of their internal quality systems (such as ISO9001), a specific time slot during the site visits and a dedicated section of the evaluation report are devoted to this issue. Quality issues are an important factor for the evaluation outcome discussed during the CTI's plenary session.

Due to its dual academic and professional approach, the CTI pays a special attention to the stakeholders' involvement in internal quality assurance. As far as the CTI is concerned, institutions need to guarantee and improve quality with respect not only to the stakeholders inside the institution (students and faculty), but also outside the institution (academic and industrial partners and alumni).

A link to the mapping grid that summarizes how the evaluation of bachelor's programmes by the CTI meets the standards of part I of the ESG is provided below with the evidence and reference documents.

Evidence and references
ESG 2.1- 1: The CTI's BSE Standards & Criteria, chapter B: *The school's* m*anagement: steering, organisation and quality system*
ESG 2.1- 2: Example of a BSE evaluation report (ENTPE, 2022)
ESG 2.1- 3: Mapping grid that summarizes how the evaluation of bachelor's programmes by the CTI meets the standards of part I of the ESG.

ESG Standard 2.2 Designing methodologies fit for purpose

Standard: External quality assurance should be defined and designed specifically to ensure its fitness to achieve the aims and objectives set for it, while taking into account relevant regulations. Stakeholders should be involved in its design and continuous improvement.

Guidelines: In order to ensure effectiveness and objectivity it is vital for external quality assurance to have clear aims agreed by stakeholders.
The aims, objectives and implementation of the processes will
- bear in mind the level of workload and cost that they will place on institutions;
- take into account the need to support institutions to improve quality;
- allow institutions to demonstrate this improvement;
- result in clear information on the outcomes and the follow-up.
The system for external quality assurance might operate in a more flexible way if institutions are able to demonstrate the effectiveness of their own internal quality assurance.

Regulations
The CTI is the authorized body, founded by law in 1934 (articles L.642-1 and seq. of the "Code de l'éducation"), in charge of carrying out evaluation processes of French engineering schools and programmes that lead to the accreditation of the institutions to award the master's level engineering degree "titre d'ingénieur diplômé". The CTI's activities may include the evaluation of foreign engineering programmes at master's level upon the specific request of the institution.
In 2020, the Ministry of Higher Education and Research conferred a new mission to the CTI: the evaluation of institutional bachelor's degrees in view of the award of the academic grade of "Licence".

Definition and evolution of external quality assurance methodologies and criteria
The CTI's activities include the drawing up of standards and criteria and processes for both the engineering degree and the bachelor's degree in engineering.

While setting up these documents, the CTI takes into account the decree of January 27th 2020 of the Ministry of Higher Education and Research regarding the terms of reference for the bachelor's and master's academic grades. The CTI makes sure that no criteria of the decree is missing in its reference documents which are more demanding than the decree and specific to the field of engineering.

The CTI's BSE Standards & Criteria for bachelor's degrees were set up in 2020 and updated on an annual basis, after feedback from its stakeholders.

A dedicated working group is in charge of the annual update of the standards and criteria and exchanges with other working groups on specific topics such as the CTI's quality system. The relevant working group includes the members of the CTI Board and permanent team.

When the bachelor's BSE Standards & Criteria include significative evolutions, the draft version is submitted for comments to several stakeholder groups (the association of the deans of engineering schools (CDEFI), the Ministry of Higher Education and Research, the association of engineering students) before validation by the CTI Board and the vote at the general plenary.

The quality loop closes with a survey filled in by the deans of engineering schools and the expert panels every year.

Information
The new versions of the BSE Standards & Criteria and of the BSE Evaluation Process are published on the CTI's website and an information is sent every year to the deans of engineering schools by the Ministry of Higher Education and Research. The BSE Standards & Criteria and the BSE Evaluation Process are formally presented during the CTI's annual conference in January/February, where a specific presentation is devoted to the evaluation of the bachelor's programmes.

All along the year, the CTI maintains an ongoing dialogue with the accredited engineering schools and provides adapted responses and tailor-made solutions while ensuring equity.

HEIs' internal quality assurance and support of HEIs
Since the evaluation of bachelor's programmes by the CTI concerns exclusively engineering schools that are already accredited through a CTI procedure, the CTI's evaluation at the institutional level and of the HEI's quality system has already been carried out during former procedures for the engineering degree. During an evaluation process at the bachelor's level, the expert team makes sure that the provisions for internal quality assurance apply also to the bachelor's programmes and have improved where necessary since the last process.

As described in the previous chapter regarding the ESG 2.1, the internal quality system of HEIs is an important aspect of the external evaluation of a programme. The CTI is keen to focus on the continuous improvement of the programmes and takes into account the institution's background, means and trajectory. During an external quality assurance process the CTI takes into account these contextual specificities and focuses on the progress made.

Workload
Since the CTI evaluates bachelor's degrees from accredited engineering schools, the HEIs are familiar with the CTI's procedures and the CTI's evaluation of the institutional level is facilitated. This led to the organisation of site visits that are mainly focused on the bachelor's programmes and in a distance format.

Since the bachelor's procedure is new for the CTI and the HEIs, applications for the academic grade may be made whenever a HEI considers the programme compliant with the criteria. Thus, during the first years of implementation, the bachelor's process is in most cases distant from a periodical process, which means of course an increase in the workload for both the HEIs and the CTI. The duration of the conferral of the academic grade is therefore aligned with the upcoming periodical accreditation campaign. During the next periodical process, the HEIs may submit a report where institutional information applies to both the bachelor's and the engineering degree. This will alleviate the workload for both the HEIs and the CTI.

Stakeholders' involvement
The active involvement of stakeholders enables the CTI to ensure the validity, reliability and fitness for purpose of its external quality processes:
- The main stakeholders in the context of engineering education in France (academia, industry, engineers) are represented in the composition of the CTI's commission (16 academic members and 16 members from industry representing companies that hire engineers, trade unions, graduates).
- After an internal feedback on the first bachelor's campaign, the CTI launched a consultation phase with its major stakeholders: CTI members and experts, Ministry of Higher Education and Research, students and engineering schools.
- Before finalising the second version of the BSE Standards & Criteria, the CTI participated in coordination meetings with two quality assurance agencies that evaluate institutional bachelor's programmes in other fields, the Conférence des écoles et formations de gestion (CEFDG) and the Haut conseil de l'évaluation de la recherche et de l'enseignement supérieur (Hcéres). The three agencies exchanged on their practice and compared their threshold levels

for the criteria for the academic grade of "Licence" in order to organise consistent evaluation processes for programmes leading to the same academic grade.
- The CTI's annual conference with a presentation of the BSE Standards & Criteria and the BSE Evaluation Process is an excellent means for exchanges with the HEIs.
- Satisfaction surveys enable the CTI to have a feed-back from HEIs and the CTI members and experts.

Evidence and references
ESG 2.2- 1: BSE Standards & Criteria
ESG 2.2- 2: BSE Evaluation Process
ESG 2.2- 3: Website page dedicated to the bachelor's programmes
ESG 2.2- 4: Publication of the 2022 outcomes of the bachelor's evaluation campaign (CTI's plenary session of November 2022)
ESG 2.2- 5: Ministerial decree listing bachelor's programmes with the academic grade, 2022
ESG 2.2- 6: Press release regarding the consultation between the CTI, CEFDG and Hcéres
ESG 2.2- 7: Satisfaction survey for HEIs
ESG 2.2- 8: Satisfaction survey for CTI members
ESG 2.2- 9: Satisfaction survey for CTI experts

ESG Standard 2.3 Implementing processes

Standard: External quality assurance processes should be reliable, useful, pre-defined, implemented consistently and published. They include:
   - a self-assessment or equivalent;
   - an external assessment normally including a site visit;
   - a report resulting from the external assessment;
   - a consistent follow-up.

Guidelines: External quality assurance carried out professionally, consistently and transparently ensures its acceptance and impact.

Depending on the design of the external quality assurance system, the institution provides the basis for the external quality assurance through a self-assessment or by collecting other material including supporting evidence. The written documentation is normally complemented by interviews with stakeholders during a site visit. The findings of the assessment are summarised in a report (cf. Standard 2.5) written by a group of external experts (cf. Standard 2.4).

External quality assurance does not end with the report by the experts. The report provides clear guidance for institutional action. Agencies have a consistent follow-up process for considering the action taken by the institution. The nature of the follow-up will depend on the design of the external quality assurance.

The CTI's reference documents regarding the bachelor's programmes are published on its website in two volumes: the BSE Standards & Criteria and the BSE Evaluation Process.

The BSE Evaluation Process document describes the different steps of the external quality assurance of the bachelor's programmes:
- Submission of a self-evaluation report by the HEI with links to a digital portfolio with the evidence material.
- Site visit by the expert panel (see composition of the expert panel below, ESG 2.4) in the form of a videoconference which is subject-specific on the bachelor's programmes and completes the former/up-coming site visit regarding the institutional level and the engineering degree programme(s) of the HEI.
- Draft evaluation report by the expert panel.

- Review of the draft report by a complementary expert team.
- Review meeting of all expert panels and complementary expert teams for the coordination of all provisional evaluation reports and the preparation of the CTI's plenary session.
- Submission of the draft report (revised after the review meeting if necessary) to the engineering school which may correct factual errors and submit a general statement to be published with the final evaluation report.
- Submission of the draft report (revised if necessary after the comments by the engineering school) to the CTI members before the plenary session with a proposal of the outcome of the process and recommendations for improvement.
- Plenary session of all CTI members with a presentation of the evaluated programme followed by a deliberation and vote on the outcome of the process.
- Decision to award the academic grade or not by the ministry upon receipt of the CTI's recommendation regarding the academic grade.
- Communication of the results to the engineering school by the CTI itself by sending the recommendation regarding the academic grade and the evaluation report and by the ministry by sending an official notification.
- Publication of the CTI's recommendation regarding the academic grade and the evaluation report on the CTI's website and in DEQAR and publication of the awarded grades in an annual ministerial decree published on a governmental website and the CTI's website.
- Follow-up procedure to be put into place in the upcoming campaigns similar to the practice for the engineering degree through a table taking stock of the HEI's compliance with the CTI's recommendations for improvements between two periodical evaluation procedures. For the time being all academic grades were granted for a short period (2 to 3 years) and the follow-up procedure has not yet needed to be implemented.
- Appeals and complaints procedure that is referred to in the BSE Evaluation Process and is identical to the engineering degree procedure, described in detail in the engineering degree procedure (R&O – Procédure), chapter II.3.d. page 16.

Evidence and references
ESG 2.3- 1: BSE Evaluation Process
ESG 2.3- 2: BSE Standards & Criteria
ESG 2.3- 3: References and guidelines: Accreditation Procedures for French engineering schools (R&O – Procédures)

ESG Standard 2.4 Peer-review experts

Standard: External quality assurance should be carried out by groups of external experts that include (a) student member(s).

Guidelines: At the core of external quality assurance is the wide range of expertise provided by peer experts, who contribute to the work of the agency through input from various perspectives, including those of institutions, academics, students and employers/professional practitioners.
In order to ensure the value and consistency of the work of the experts, they
- are carefully selected;
- have appropriate skills and are competent to perform their task;
- are supported by appropriate training and/or briefing.
The agency ensures the independence of the experts by implementing a mechanism of no-conflict of-interest.
The involvement of international experts in external quality assurance, for example as members of peer panels, is desirable as it adds a further dimension to the development and implementation of processes.

The active involvement of stakeholders on expert teams enables the CTI to ensure the validity, reliability and fitness for purpose of its accreditation processes:

The CTI members

The main stakeholders in the context of engineering education in France (academia, industry, engineers) are represented in the composition of the CTI's commission. They participate in the evaluation processes and constitute a highly representative and legitimate plenary assembly. They are appointed by the Ministry of Higher Education and Research upon proposal of the stakeholder organizations (association of the deans of engineering schools, association of private engineering schools, the employers' union, trade unions, association of graduates, other ministries).

The CTI experts

Apart from the CTI members, the CTI's external reviews are carried out using an extensive network of national and international experts.

Interesting profiles may be identified by the CTI members or known thanks to individual applications. In 2022, the CTI launched an important call for applications amongst its stakeholders and international partners which led to an increase in the number of experts and a broadening of the field of expertise.

Applicants have to submit a CV, a motivation letter and indicate a reference person.

The applications are analysed by the Programming Committee which submits its recommendations to the CTI Board. After the Board deliberation, the applications are presented at the plenary assembly for approval.

The mandate of a CTI expert has a duration of two years, normally renewable twice, exceptionally for a longer period. Each of the experts should be involved in at least one evaluation procedure per year.

The profile of the experts is to be complementary to the profile of the members, in order to enlarge the field of expertise of the panels.

The composition of an expert panel includes for each review at least one representative from academia and one from industry (CTI member or CTI expert), one international expert and one student expert.

The student experts

The CTI is linked through a cooperation agreement to the French engineering students' association, Bureau national des élèves ingénieurs (BNEI) which submits every year a list of applicants who wish to become a student expert.

The list of student experts is renewed annually. This list is validated by the CTI's general assembly after proposition by the Programming Committee and Board.

Specific training sessions for student experts are organized every year. These training sessions are co-organized by the CTI and the BNEI; participation in this session is a mandatory condition for being nominated as an expert.

Apart from their participation in the evaluation processes, the students are invited to take an active part in some of the CTI's working groups.

The team composition and activities

The composition of the review teams varies depending on the characteristics of the programmes to be accredited (engineering fields, number of programmes, number of campuses).

During the pilot phase for the bachelor's programmes, the review team consisted in one CTI member and one expert (representing both academia and industry) and a complementary team of two CTI members (representing academia and industry). The expert panel carried out the site visit and wrote the first version of the draft report which was reviewed by the complementary team. A review meeting bringing together all experts (panels and complementary experts) was organized in order

to guarantee a common understanding of the compliance with the criteria and to harmonize the outcomes of the different processes. This "review procedure" proved to be very efficient and will be maintained in the future.

Whereas no student expert or international expert participated in the bachelor's evaluations during the pilot phase, this is the case from 2023 on.

As of 2023, an expert panel for the evaluation of a bachelor's programme is generally made up of four people:
- one CTI member, representing academia or industry, panel chair,
- a national expert or another CTI member (specialist in a field related to the evaluation or in transversal subjects such as quality assurance, education, …), representing academia or industry,
- one student expert,
- one international expert.

Each panel is completed by two CTI members making up the review team.

The composition of the expert panel is sent to the HEI for approval. In case of any known (real or perceived) conflicts of interest, the concerned expert is replaced. The CVs of all CTI members and experts are published on the CTI's website.

The CTI member of the expert panel acts as chair; he/she is responsible for coordinating the team activities and for presenting the panel's conclusions to the CTI's general assembly. All experts participate in the writing of the evaluation report.

Consistency of the processes

In order to ensure a professional, reliable and consistent carrying out of the evaluation processes, the CTI has taken following measures:
- Since 2010, training sessions addressed to all CTI members and experts are organized periodically in order to clarify all aspects related to the processes and criteria. During the last years, several training sessions were organized every year. They include a specific part on the bachelor's programmes.
    Apart from these dedicated sessions, the training of the CTI members and experts is completed through participation in meetings of working groups and attendance at the annual CTI conference. Since 2022, each CTI plenary session includes a "methodology session" with updates on specific topics such as procedures, criteria, digital tools, societal issues…
- The CTI has produced a set of support documents for members and experts describing the procedures associated with the evaluation process. These documents constitute an "expert's toolkit" describing the chronology of the evaluation process, the organization and logistics of the site visit, the preparation of the minutes of the site visit, the presentation of the panel's analysis to the general assembly and the role of the different participants in the evaluation team.
- The CTI information system provides the panel members with information on the previous evaluations of the HEI, as well as other contextual elements regarding the institutions under evaluation.
- Before being able to participate in an evaluation procedure, all CTI members and experts have to sign a deontology charter that defines the rules of discretion and behaviour during an evaluation process and lists the HEIs which the member/expert may not evaluate due to a conflict of interest.
- The CTI's by-laws define the internal rules and regulations and apply to members, experts, staff.
- Each evaluation process is monitored by a member of the CTI permanent team who checks the compliance of the process with the methodology and the respect of equity.

Evidence and references
ESG 2.4- 1.: [Link to the list of the CTI's members](#)
ESG 2.4- 2: [Link to the list of the CTI's experts](#)
ESG 2.4- 3: [Link to the list of the CTI's special advisors](#)
ESG 2.4- 4: [Composition of bachelor's expert teams in 2023](#)
ESG 2.4- 5: [List of training sessions during the period 2020-2023](#)
ESG 2.4- 6: [Deontology charters for members, experts, observers](#)
ESG 2.4- 7: [The CTI's By-laws](#)

ESG Standard 2.5 Criteria for outcomes

Standard: _Any outcomes or judgements made as the result of external quality assurance should be based on explicit and published criteria that are applied consistently, irrespective of whether the process leads to a formal decision._

Guidelines: _External quality assurance and in particular its outcomes have a significant impact on institutions and programmes that are evaluated and judged._

In the interests of equity and reliability, outcomes of external quality assurance are based on pre-defined and published criteria, which are interpreted consistently and are evidence-based. Depending on the external quality assurance system, outcomes may take different forms, for example, recommendations, judgements or formal decisions.

All the CTI evaluation processes are based on explicit and public criteria. All the standards and criteria related to the bachelor's degrees are described in the BSE Standards & Criteria and the BSE Evaluation Process which are published on the CTI's website.

The HEIs' self-evaluation reports must provide links to a digital portfolio with the evidence material. If necessary, the panel chair may before, during or after the site visit ask the HEI to provide further documents. The requested mandatory evidence is indicated in the BSE Standards & Criteria.

The draft evaluation reports include tables in each chapter regarding the compliance with the relevant criteria as well as a final table summarizing the overall compliance with the criteria. This final table is useful for checking the consistency of the outcome of a process with the deliberation rules. The deliberation rules have been defined after the last ENQA review and are described in detail in chapter 4.2 below. The tables are not published in the final reports to avoid their miss-use by the media specialised in setting up rankings of engineering schools. They are useful and confidential tools both for the CTI and the HEIs.

For the bachelor's programmes, the outcome of a CTI evaluation process is a recommendation to the Ministry of Higher Education and Research to award or not the academic grade. The CTI's formal notification of the recommendation regarding the academic grade to the ministry and the HEI includes a list of recommendations for improvement to the HEI.

Evidence and references
ESG 2.5- 1: [BSE Standards & Criteria](#)
ESG 2.5- 2: [BSE Evaluation Process](#)
ESG 2.5- 3: [The dedicated website page on the bachelor's degree](#)
ESG 2.5- 4: [The CTI's by-laws including the deliberations rules and criteria](#), article V.4.5 and annex 2

ESG Standard 2.6 Reporting

Standard: Full reports by the experts should be published, clear and accessible to the academic community, external partners and other interested individuals. If the agency takes any formal decision based on the reports, the decision should be published together with the report.

Guidelines: The report by the experts is the basis for the institution's follow-up action of the external evaluation and it provides information to society regarding the activities of an institution. In order for the report to be used as the basis for action to be taken, it needs to be clear and concise in its structure and language and to cover
- context description (to help locate the higher education institution in its specific context);
- description of the individual procedure, including experts involved;
- evidence, analysis and findings;
- conclusions;
- features of good practice, demonstrated by the institution;
- recommendations for follow-up action.
The preparation of a summary report may be useful.
The factual accuracy of a report is improved if the institution is given the opportunity to point out errors of fact before the report is finalised.

Since 2022, the bachelor's evaluation reports are published with the CTI's recommendations regarding the academic grade on the CTI's website together with the minutes of the relevant plenary session and in DEQAR.

The recommendations regarding the academic grade are also accessible through the CTI's website search engine. A new information system is currently being developed and is due to be operating by autumn 2023. In the new system, the evaluation reports will be accessible through the search engine as well.

An annual ministerial decree lists the programmes which are awarded the academic grade of "Licence" and is published on a governmental website as well as on the CTI's website.

Apart from these specific publications, a number of additional mechanisms are in place:
- The HEIs' annual certified data with general information on the institution and its programmes are published on the CTI's website and accessible through the search engine;
- The main features of the bachelor's programmes, in particular the objectives of the programme and the expected competences of the graduates, are published in the national qualifications directory, the "Répertoire National des Certifications Professionnelles", RNCP.

Evidence and references
ESG 2.6- 1: Published recommendations regarding the academic grade and evaluation reports
        relating to the bachelor's programmes, plenary session of November 2022
ESG 2.6- 2: Search engine on the CTI's website
ESG 2.6- 3: Ministerial decree regarding bachelor's programmes, 2022
ESG 2.6- 4: Ministerial decree regarding bachelor's programmes, 2021
ESG 2.6- 5: Ministerial decree regarding bachelor's programmes, 2020
ESG 2.6- 6: Example of a BSE evaluation report (ENTPE, 2022)

ESG Standard 2.7 Complaints and appeals

Standard: *Complaints and appeals processes should be clearly defined as part of the design of external quality assurance processes and communicated to the institutions.*

Guidelines: *In order to safeguard the rights of the institutions and ensure fair decision-making, external quality assurance is operated in an open and accountable way. Nevertheless, there may be misapprehensions or instances of dissatisfaction about the process or formal outcomes.*

Institutions need to have access to processes that allow them to raise issues of concern with the agency; the agencies, need to handle such issues in a professional way by means of a clearly defined process that is consistently applied.

A complaints procedure allows an institution to state its dissatisfaction about the conduct of the process or those carrying it out.

In an appeals procedure, the institution questions the formal outcomes of the process, where it can demonstrate that the outcome is not based on sound evidence, that criteria have not been correctly applied or that the processes have not been consistently implemented.

The CTI's complaints and appeals procedures are referred to in chapter II.5 of the published BSE Evaluation Process and are identical to the published procedure for engineering degree (R&O – Procédures).

Until now, applications of engineering schools for a re-examination of an accreditation decision or an accreditation recommendation are extremely rare for the engineering degree programmes and none have been made until now for the bachelor's programmes.
There are 4 types of possible applications:
- a complaint to the CTI regarding the evaluation process (behaviour of one or more members of the expert panel, not respected deadlines, …),
- an application to the CTI for a re-examination of the recommendation regarding the academic grade before the official decision by the Ministry of Higher Education and Research,
- an appeal against the decision by public owned HEIs to the Ministry of Higher Education and Research,
- an appeal of private and public owned HEIs to the Conseil d'Etat against the evaluation process.

The applications for a re-examination of the recommendation for the academic grade by the CTI are examined by an independent committee of external and knowledgeable personalities who analyse the application and submitted evidence and forward their conclusions to the CTI's plenary assembly through the Board with an advice to change or to maintain the original recommendation. The outcome of the new vote of the plenary assembly is forwarded to the HEI and the ministry in charge of higher education.

The complaints and appeals procedures are also listed in the CTI's bylaws which are published on the website.

Evidence and references
ESG 2.7- 1: The CTI's BSE Evaluation Process, chapter II.5
ESG 2.7- 2: References and guidelines: Accreditation Procedures for French engineering schools (R&O – Procédures), chapter II.3.d.
ESG 2.7- 3: The CTI's Bylaws, chapter V.5.

PART II – FOCUS AREAS

The sections 4.1 to 4.3 below (regarding compliance with ESG 2.1; 2.5 and 2.6) apply to the CTI Standards and Criteria and Procedures regarding four of the five activities listed in the Terms of Reference for the ENQA evaluation process:

- Accreditation of existing French and foreign engineering schools and programmes at master's level, in France and abroad;
- Evaluation of engineering programmes at bachelor's level (Licence)
- Ex-ante accreditation of engineering schools and programmes of French Institutions, in France and on branch campuses abroad.
- Attribution of the EUR-ACE® label at master level

The common principles described in sections 4.1 to 4.3 are applied to each type of process, making the CTI's procedures robust, while at the same time guaranteeing a degree of flexibility, by respecting the specific nature of each type of assessment. In this way, the CTI ensures a rigorous common core, while knowing how to adapt to the context, national requirements and needs expressed by its stakeholders. This enables the CTI to capitalize on its experience between each type of procedure.

The only exception is the fifth activity described in the Terms of Reference: Assessment of Quality in Internationalisation of the Certificate for Quality in Internationalization (CeQuInt) of the ECA association, where the CTI applies the specific CeQuInt Frameworks for the Assessment of Quality in Internationalisation. When established by the ECA association, a particular stress was put on the consistency of the CeQuInt standards and criteria with the ESG, as regards the HEIs' internal quality assurance (ESG 2.1), criteria for outcomes (ESG 2.5) and reporting (ESG 2.6).

4.1. ESG 2.1: Consideration of internal quality assurance

Standard: *External quality assurance should address the effectiveness of the internal quality assurance processes described in Part 1 of the ESG.*

Guidelines: *Quality assurance in higher education is based on the institutions' responsibility for the quality of their programmes and other provision; therefore it is important that external quality assurance recognises and supports institutional responsibility for quality assurance. To ensure the link between internal and external quality assurance, external quality assurance includes consideration of the standards of Part 1. These may be addressed differently, depending on the type of external quality assurance.*

ENQA panel conclusion in 2019: *fully compliant*

All criteria of the ESG part 1 are taken into account in the CTI's guidelines' documents for following activities listed in the Terms of Reference:

- Accreditation of existing French and foreign engineering schools and programmes at master's level, in France and abroad;
- Evaluation of engineering programmes at bachelor's level (Licence)
- Ex-ante accreditation of engineering schools and programmes of French Institutions, in France and on branch campuses abroad.

As regards:
- Attribution of the EUR-ACE® label at master level: in a large majority of processes, the CTI carries out a joint procedure for an accreditation in France and the EUR-ACE® label. In that case, the CTI's Standards and Criteria apply also for the label. In the exceptional cases of a process regarding only the EUR-ACE® label, the CTI applies the EUR-ACE® Framework Standards and Guidelines (EAFSG) of the ENAEE association which include a specific chapter (2.4.5) on the HEI's internal quality assurance.
- The Quality labels of French and foreign institutions (CeQuint): the CTI applies the Frameworks for the Assessment of Quality in Internationalisation of the Certificate for Quality in Internationalization (CeQuInt) of the ECA association which are compliant with the ESG. Although the certificate focuses on issues liked to the internationalization of institutions and programmes, the refence to internal quality is an important background to all criteria.

For the CTI, the effectiveness of the HEIs' internal quality assurance processes is an explicit accreditation criterion. The freedom and ability of the institutions to assure and improve the quality of their programmes is an essential factor for a successful accreditation, as described in CTI's published Major Criteria for Engineering Schools & Degrees (R&O) and the BSE Standards & Criteria. A dedicated section in chapter B in both documents deals with the HEIs' internal quality assurance management system.

Quality issues are taken into account throughout the whole accreditation process (self-assessment, assessment, site visit, deliberations on evaluation outcomes and follow-up).

Even in those cases in which institutions have undergone external accreditation or certification processes of their internal quality systems (such as ISO9001), a specific time slot during the site visits and a dedicated section of the minutes of the site visit prepared by the CTI expert team are devoted to this issue.

Quality issues are an important part of the discussions and a fundamental factor for the evaluation outcomes deliberated during the plenary sessions.

Due to its particular double academic and professional nature, the CTI pays a special attention to the stakeholders' involvement in the HEIs' internal quality assurance. As far as the CTI is concerned, institutions need to guarantee and improve quality with respect not only to the stakeholders inside the institution (students and faculty), but also outside the institution (institutional and industrial partners and alumni). Throughout the different accreditation campaigns, the CTI has also focused on the assessment of the quality of the teaching by the students and has been able to witness clear improvements.

When analysing the evaluation outcomes of the 2021-2022 campaign, internal quality issues ranked very high among the CTI's recommendations for improvement to the HEIs, for both the engineering degree and the bachelor's programmes.
Frequency of appearance of a recommendation regarding the HEIs' internal quality system:
- Engineering degree programmes: 53%
- Bachelor's programmes: 17%

Evidence and references

Evidence 4.1- 1: The CTI's References and Guidelines: Major Accreditation Criteria, Chapter B, The
school's management: steering, organization and quality system, section B2,
Quality Approach

Evidence 4.1- 2: The CTI's BSE Standards & Criteria, Chapter B, The school's management: steering,
organization and quality system

Evidence 4.1- 3: Analysis of the CTI's evaluation campaign 2021-2022

Evidence 4.1- 4: EUR-ACE® Framework Standards and Guidelines (EAFSG)

Evidence 4.1- 5: Frameworks for the Assessment of Quality in Internationalisation (CeQuInt)

4.2. ESG 2.5: Criteria for outcomes

Standard: Any outcomes or judgements made as the result of external quality assurance should be based on explicit and published criteria that are applied consistently, irrespective of whether the process leads to a formal decision.

Guidelines: External quality assurance and in particular its outcomes have a significant impact on institutions and programmes that are evaluated and judged.
In the interests of equity and reliability, outcomes of external quality assurance are based on pre-defined and published criteria, which are interpreted consistently and are evidence-based. Depending on the external quality assurance system, outcomes may take different forms, for example, recommendations, judgements or formal decisions.

ENQA panel conclusion in 2019: *partially compliant*
ENQA panel recommendations in 2019:
For improved consistency of decisions, CTI is recommended to develop the deliberation rules and criteria for decision-making explicitly. They do not need to be mathematical but should still give a clear indication for the different types of decisions.

The text below applies for following activities listed in the Terms of Reference:
- Accreditation of existing French and foreign engineering schools and programmes at master's level, in France and abroad;
- Evaluation of engineering programmes at bachelor's level (Licence)
- Ex-ante accreditation of engineering schools and programmes of French Institutions, in France and on branch campuses abroad.
- Attribution of the EUR-ACE® label at master level

As regards:
- The Quality labels of French and foreign institutions (CeQuint): the CTI applies the Frameworks for the Assessment of Quality in Internationalisation of the Certificate for Quality in Internationalization (CeQuInt) of the ECA association which include an assessment scale and decision rule that are provided below with the evidence material.

As regards the first 4 activities listed in the Terms of Reference, the CTI itself had identified the consistency of the outcomes of an evaluation process as a major issue for improvement. A working group was set up in 2016-2017 that started working on a new template for the evaluation reports that included a table listing the major criteria and an evaluation of the programme's compliance with each of them.

The new template for the evaluation reports and the table of compliance with the major criteria was used during a pilot phase in 2017-2018 and 2018-2019.

After an analysis of the outcomes of the pilot phase, the CTI's plenary session validated in April 2019 the following updated tools for the CTI, that have been used since the academic year 2019-2020:
- A new template for a publishable evaluation report (see ESG 2.6 below) that includes tables in each chapter regarding the compliance with the relevant criteria.
- A summary table with the major criteria and an evaluation of the programme's overall compliance with them that is used as a tool for decision making.

Example of a summary table of the overall compliance with the criteria for engineering schools and degrees:
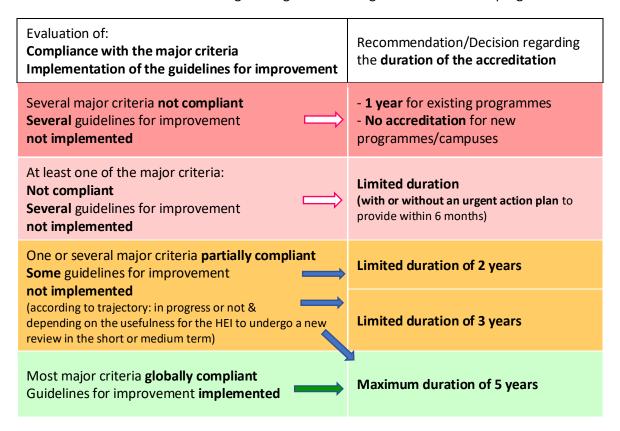
| R&O criteria | EVALUATION | | | | FURTHER INFORMATION | | |
	Non compliant	Partially compliant	Globally compliant	Not concerned	In progress	Good pratice	Synthetic comments
A. Mission and organisation (7 criteria)							
B. Quality approach and continuous improvement (5 criteria)							
C. External links and partnerships (5 criteria)							
D. The curriculum (10 criteria)							
E. Student admission & integration (5 criteria)							
F. Student life and student community life (2 criteria)							
G. Employment (3 criteria)							
Total	0	0	0	0	0	0	

At the same time, the CTI worked out a provisional system with rules for decision making based on the summary table that allowed space for a holistic approach (taking for example into account the trajectory of improvement of the HEIs). These rules were set up after checking their consistency with accreditation outcomes during the academic year 2018-2019. Before publishing these rules, the CTI decided to analyse the consistency of its decisions with regard to the summary tables after the first semester of the academic year 2019-2020.
The need to adapt the CTI criteria and set up a new procedure for virtual site visits (as a response to the sanitary crisis in spring 2020) delayed the finalisation of the planned observation & analysis

period. The outcomes of the analysis had to be postponed and were undertaken in spring 2021. The outcome of the analysis confirmed the consistency of the CTI decisions with the rules and criteria which are published in the CTI's by-laws on the website.

Deliberation rules and criteria for engineering schools & degrees and bachelor's programmes:

Evaluation of: **Compliance with the major criteria** **Implementation of the guidelines for improvement**	Recommendation/Decision regarding the **duration of the accreditation**
Several major criteria **not compliant** **Several** guidelines for improvement **not implemented**	- **1 year** for existing programmes - **No accreditation** for new programmes/campuses
At least one of the major criteria: **Not compliant** **Several** guidelines for improvement **not implemented**	**Limited duration** **(with or without an urgent action plan** to provide within 6 months)
One or several major criteria **partially compliant** **Some** guidelines for improvement **not implemented** (according to trajectory: in progress or not & depending on the usefulness for the HEI to undergo a new review in the short or medium term)	**Limited duration of 2 years**
	Limited duration of 3 years
Most major criteria **globally compliant** Guidelines for improvement **implemented**	**Maximum duration of 5 years**

Although the CTI has developed a useful tool for checking the overall compliance of the HEIs' activities with the standards and criteria as well as explicit deliberation rules and criteria for decision-making, there remains a fundamental issue linked to all evaluation activities: how to guarantee the consistency of the analysis between the different expert panels, how to measure the trajectory of improvement of the different HEIs, what is to be considered as an example of good practice?
Of course, the many training sessions participate in achieving a better knowledge of the standards and criteria and a shared vision of the expected outcomes of an evaluation procedure. The debates at the monthly plenary sessions between the CTI members also contribute largely to a fair and consistent decision making.
But the human factor in all evaluation processes remains an issue that all quality assurance agencies have to be aware of.

Evidence and references
Evidence 4.2- 1: Publication of the Deliberation rules and criteria in the CTI's by-laws published on the website, chapter V.4.5 and annex 2
Evidence 4.2- 2: CeQuInt assessment scale and decision rule, published in the Frameworks for the Assessment of Quality in Internationalisation (CeQuInt).

4.3. ESG 2.6: Reporting

Standard: *Full reports by the experts should be published, clear and accessible to the academic community, external partners and other interested individuals. If the agency takes any formal decision based on the reports, the decision should be published together with the report.*

Guidelines: *The report by the experts is the basis for the institution's follow-up action of the external evaluation and it provides information to society regarding the activities of an institution. In order for the report to be used as the basis for action to be taken, it needs to be clear and concise in its structure and language and to cover*
- context description (to help locate the higher education institution in its specific context);
- description of the individual procedure, including experts involved;
- evidence, analysis and findings;
- conclusions;
- features of good practice, demonstrated by the institution;
- recommendations for follow-up action.
The preparation of a summary report may be useful.
The factual accuracy of a report is improved if the institution is given the opportunity to point out errors of fact before the report is finalised.

ENQA panel conclusion in 2019: *partially compliant*
ENQA panel recommendations in 2019:
The panel recommends CTI to intensify efforts regarding the new template for panel reports in order to increase redactional uniformity and coherence. Full reports should be publishable in a short period, given the fact that this recommendation already exists since the previous ENQA review.

The text below applies for following activities listed in the Terms of Reference:
- Accreditation of existing French and foreign engineering schools and programmes at master's level, in France and abroad;
- Evaluation of engineering programmes at bachelor's level (Licence)
- Ex-ante accreditation of engineering schools and programmes of French Institutions, in France and on branch campuses abroad.
- Attribution of the EUR-ACE® label at master level

As regards:
- The Quality labels of French and foreign institutions (CeQuint): the CTI applies the Frameworks for the Assessment of Quality in Internationalisation of the Certificate for Quality in Internationalization (CeQuInt) of the ECA association which include a template for the evaluation reports which are published on the ECA website. There have been no recent applications for the CeQuInt certificate submitted to the CTI. If it were the case, the full reports would be published on the CTI website, on the ECA website and in DEQAR.

As regards the first 4 activities listed in the Terms of Reference, the CTI working group on the consistency of decision making (see ESG 2.5 above) was also assigned to work on the ENQA's recommendation to publish the full evaluation reports including the expert panel reports, and not exclusively the synthesis report established by the plenary assembly.

A new template for the panel reports worked out by the working group and validated by the CTI's plenary session was used during a pilot phase in 2017-2018 and 2018-2019.

After an analysis of the outcomes of the pilot phase, the CTI's plenary session validated on its session in April 2019 a new template for publishable panel reports that was used for all processes, starting in 2019-2020.

The 2019-2020 campaign was considered as a transitory phase and the reports were due to be published on a voluntary basis only, for those HEIs which agreed to participate in the new procedure. Since no HEI was interested, the reports were not published, but they served as a template that was regularly updated.

In its Major Criteria for Engineering Schools and Degrees (R&O), its annual conferences in 2019 and 2020 and Newsletter, the CTI announced that all evaluation reports of the campaign 2020-2021 were going to be published on its website starting in September 2020, which was effective.

Since the CTI is listed on the EQAR registry, its evaluation reports and recommendations/decisions for accreditation/academic grade are also published in the DEQAR database.

The harmonization of the full evaluation reports before publication represented a real challenge for the CTI. Both the expert panels and the permanent staff had to agree on common syntax and layout rules which - once defined – were not always applied consistently. This led to important delays in the publication of the reports in 2021. The training sessions and the on-going dialogue between the panels chairs and permanent team improved the situation in 2022 and 2023, even if there remain differences in the application of the rules. Another important tool for improvement will be the new CTI information system (planned for 2023-2024) which will provide a structured on-line framework for completing the evaluation reports with a limited length of the different sections and an automatic layout of the final version.

Evidence and references

Evidence 4.3- 1: Example of a published engineering degree evaluation report (ENSEGID)

Evidence 4.3- 2: Link the CTI's website with published evaluation reports

Evidence 4.3- 3: Link to the CTI's specific plenary session of November 2022 regarding the bachelor's degrees with published evaluation reports

Evidence 4.3- 4: Link to the DEQAR database with published evaluation reports

Evidence 4.3- 5: Frameworks for the Assessment of Quality in Internationalisation (CeQuInt)

4.4. Self-selected standard for enhancement: ESG 3.6 Internal quality assurance and professional conduct

Standard: *Agencies should have in place processes for internal quality assurance related to defining, assuring and enhancing the quality and integrity of their activities.*

Guidelines: *Agencies need to be accountable to their stakeholders. Therefore, high professional standards and integrity in the agency's work are indispensable. The review and improvement of their activities are on-going so as to ensure that their services to institutions and society are optimal.*
Agencies apply an internal quality assurance policy which is available on its website. This policy
- *ensures that all persons involved in its activities are competent and act professionally and ethically;*
- *includes internal and external feedback mechanisms that lead to a continuous improvement within the agency;*
- *guards against intolerance of any kind or discrimination;*
- *outlines the appropriate communication with the relevant authorities of those jurisdictions where they operate;*
- *ensures that any activities carried out and material produced by subcontractors are in line with the ESG, if some or all of the elements in its quality assurance activities are subcontracted to other parties;*
- *allows the agency to establish the status and recognition of the institutions with which it conducts external quality assurance.*

ENQA panel conclusion in 2019: *fully compliant*

The CTI is quite demanding for the HEIs and has therefore to be very efficient in its own actions. Since the last ENQA review in 2019, a consistent work was undertaken by the CTI as regards its internal quality system in support of its strategy and organisation.

A new working group was set up in summer 2019; chaired by a CTI member who was nominated as a special advisor for internal quality after his mandate as a member had come to an end in 2020. Apart from this specialist in quality, the CTI permanent team and one representative of the registry from the Ministry of Higher Education and Research participate in the working group. Its suggestions for improvement are submitted to the CTI Board and approved in the CTI's plenary sessions.

The first step of the working group was to improve the documentary organisation. An effective documentary organisation is an essential tool for the workflow efficiency and for the integration of new human resources: CTI members, experts and permanent team.
Several tools are currently at the disposal of the CTI members, experts, permanent team and registry to access information: the CTI extranet accessible to all, the CTI intranet used by the permanent staff and the registry portal which is linked to the ministry's information system and accessible to CTI members and permanent team. The role of each of these tools was defined and clarified. The classification of the documents was reorganized in the CTI intranet and the registry portal, which facilitates the location of relevant documents, such as the toolkit for the panel chairs, the templates for evaluation reports, the documents for plenary sessions and Board meetings, the CTI's by-laws… The new system has proven to be effective as such and further enhancements are planned. The work done so far has also been useful in the perspective of the current implementation of a whole new information system for the CTI which will be commented below.

Another important task was to review the cartography of the CTI's internal quality system, which was validated in 2022 and published on the CTI's website.

The work in progress is currently mainly dedicated to the CTI's new information system and the quality handbook with a focus on its general structure and the evaluation process. The other processes will also be progressively described, to complete the cartography and help in identifying possibilities of improvement.

In parallel with this internal work, the CTI mandated an external consultancy firm to evaluate its organisation and information system. The outcomes of this audit were consistent with the CTI's self-assessment: the on-going diversification of the educational offer by French engineering schools in response to the evolution of the needs of industry and society (new degrees and off-shore campuses, increase of apprenticeship study tracks…) the recent CTI mission regarding the bachelor's programmes and the growing applications for cross-border accreditation resulted in an increase of the workload for the CTI members, experts and permanent staff and it was important to re-think the CTI's strategy, organization and resources.

As a result of this external audit and the self-assessment, following measures were taken or are planned:
-   The permanent staff is being reinforced by several audit process managers.
-   A reinforcement of the pool of experts has been implemented with an increase of the training sessions.
-   A redesign of the CTI's business model is planned in the short term (with a likely impact on the evolution of the experts' fees and invoicing of evaluation processes).
-   The relevance of the project of establishing the CTI's own non-profit association has been reinforced and the dialogue with the ministry that had been interrupted by the sanitary crisis will be resumed.
-   Another, immediate outcome was the development of specifications in view of a new information system, followed by a call for tender and the selection of a firm which is currently implementing the new system that is expected to be operating by autumn 2023. The new system will automate many operations and significantly alleviate the administrative burden of the permanent staff. It will also be more user-friendly and will facilitate the integration of new human resources. The new extranet will dialogue -as does the existing one- with DEQAR and will be linked to the future portal of the ministry that is also currently under construction.
-   The CTI's strategic objectives for the 2023-2027 period have been finalized taking into account the outcomes of this external audit.

As a conclusion, it must be stressed that the CTI's internal quality system remains a work in progress that will be developed further in the coming months and years.

Following internal discussions, in particular with the experts who took part in the evaluation processes, a key issue emerged: how to capitalize on the CTI's detailed knowledge of the engineering schools? How to make better use of this knowledge and the wealth of data gathered over the years and from successive processes, without falling into the trap of oversimplification, given that each engineering degree represents a professional title apart from the academic grade?
The question that arises is whether it is possible to set up targeted processes every five years, using the data collected and the knowledge of the establishments and their context. Is it possible to create "knowledge-based processes" that would enable the CTI's practices to be better adapted to the workload of the schools and the CTI, while responding to the growing number of applications and the creative initiatives of the HEIs? The CTI has launched a reflexion whether to set up a working group on this subject and is interested to take the opportunity of the ENQA expert panel's expertise to discuss this issue during the site visit.

Evidence and references
ESG 3.6- 1: Link to the CTI's internal quality cartography
ESG 3.6- 2: The CTI's Quality handbook
ESG 3.6- 3: The CTI's strategic objectives for the 2023-2027 period

PART III – SWOT ANALYSIS

The following SWOT table is the result of the CTI's quality approach and self-assessment confirmed through an external audit by an independent consultancy company (see chapter 4.4 above).
The SWOT analysis was validated by the Board on March 28th 2023 and voted at the plenary session in April 19th 2023.

THE CTI'S SWOT ANALYSIS	
STRENGTHS	**AREAS FOR IMPROVEMENT**
- One of the first agencies created in Europe - Independence of CTI decisions from schools/public authorities - Academic & socio-economic parity in its composition - Legitimacy vis-à-vis engineering schools - National and international recognition - Cooperation with the various stakeholders - Adaptability (taking into account the specific characteristics of each school)	- Human resources too limited for the workload and growing demand - Definition and distribution of the workload for the various players involved - Administrative, legal and financial autonomy - Information system - Training for the permanent team and expert panels - Recruiting or expanding the pool of experts
OPPORTUNITIES	**RISKS**
- Changes in the internal organisation - New business model - Continuous improvement - Support from the State (other supervisory ministries) and contribution from socio-economic stakeholders - Growing demand for external quality assurance and recognition in higher education and research, and diversity of demands	- Inequality of treatment inherent in all evaluation activities - Ongoing support from the French government via the MESR (Ministry of Higher Education and Research) - Ability to respond appropriately to exceptional situations (e.g. health crisis - Covid)

Globally, there are no major changes in this SWOT analysis compared to former periods.

The main strengths of the CTI remain its openness to both the academic and the professional worlds and strong links with its stakeholders; its adaptability to the needs of HEIs, students, the engineering profession and society as a whole and its capacity to implement short-term evolutions (as was the case during the sanitary crisis); its independence, legitimacy and growing international recognition.

The weaknesses are also more or less the same, due to the growing demands and induced workload. Even the changes that have been initiated recently may result in a new weakness: for example, the number of permanent staff members is intended to be increased which will have an impact on the limited size of the premises, even if home-office days may partially solve the problem.

But thanks to the recent self-assessment and external audit, many of the identified weaknesses and risks may be alleviated, in particular thanks to a new information system, a new business model and an internal reorganization which will enable the CTI to respond to the growing needs induced by environmental and scientific challenges and societal evolutions.

PART IV – CONCLUSIONS

The period since the former ENQA evaluation process in 2019 was particularly challenging with a world-wide sanitary crisis, an on-going war in Europe, important scientific and societal developments with an essential impact on engineering: shortages of energy and water resources, environmental issues including major climate change, digitalisation, cybersecurity, artificial intelligence… which put an emphasis on the societal and environmental responsibility of professional and educational organizations and future graduates and induced an evolution of the priorities and expectancies of young people.

In relation with this general background, the CTI had to tackle several challenges:
- Adapt to these transitions
- Respond to the needs of the HEIs, socio-economic world, national and European authorities
- Face an increased workload due to a growing number of applications from new projects by French and foreign engineering schools and its new mission within the scope of the ESG -the evaluation of institutional bachelor's degrees.

At national level, a new law for research and its application decree reinforced the framework to consolidate the cooperation with other QAAs, notably the Hcéres and the CEFDG.
During the same period the professional education system evolved in France with the external quality assurance through a new quality label, Qualiopi, and a new framework for the registering of training programmes in the National Directory of Professional Certifications (RNCP). The CTI took an active part in the discussions and is now recognized as a certifying operator towards the Qualiopi label for programmes offered by accredited engineering schools and continues its mission of validating the draft registration of their evaluated programmes in the RNCP.
The CTI continued also to remain active internationally, with evaluations abroad and European projects, for instance in Morocco and Tunisia and as a representative of France in the Peer Group on Quality Assurance in the framework of the Bologna process.

Despite this context and important developments, the CTI carried out its major mission of external QA of engineering schools and programmes without discontinuity.
The 2022 and 2023 editions of the Major Criteria for Engineering Schools and Degrees (R&O) and the BSE Standards & Criteria clarified some criteria and put an increased stress on ecological transition and societal and environmental responsibility in the engineering education.
Continued cooperation with national stakeholders such as INRS (National Institute for Health and Safety at Work) and INPI (National Institute for Intellectual Property) and CDEFI (Association of the deans of French engineering schools) participates in the awareness of the necessary social and societal commitment of the future engineers.

The CTI was also capable to initiate an important self-assessment and to define key areas for its own continuous enhancement and looks with confidence to the future challenges.

Glossary of Terms

BNEI   Bureau national des Elèves Ingénieurs
National association of engineering students
students' organisation

BSE   Bachelor in Sciences and Engineering

CDEFI   Conférence des Directeurs des Ecoles Françaises d'Ingénieurs (France)
Association of the deans of accredited engineering schools

CEFDG   Commission d'Evaluation des Formations et Diplômes de Gestion (France),
Quality Assurance agency for programmes of business & management schools

CeQuInt   Certificate for Quality in Internationalisation
ECA quality label

CTI   Commission des titres d'ingénieur

DEQAR   Database of EQAR

EAFSG   EUR-ACE® label framework standards and guidelines

ECA   European Consortium for Accreditation
Association of European Quality Assurance agencies

EHEA   European Higher Education Area

ENAEE   European Network for the Accreditation of Engineering Education
Association responsible for the EUR-ACE® label

ENQA   European Association for Quality Assurance in Higher Education

ESG   Guidelines for Quality Assurance in the European Higher Education Area

EUR-ACE®   Quality label for engineering programmes developed by ENAEE

EQAR   European Quality Assurance Register for Higher Education

Fraq-SUP   Réseau francophone des agences qualité pour l'enseignement supérieur
Network of francophone Quality Assurance agencies

Hcéres   Haut conseil de l'évaluation de la recherche et de l'enseignement supérieur
Quality Assurance agency in charge of the evaluation of HEIs, bachelor, master and
doctorate programmes and research

HEI: Higher Education Institutions

HES: Higher Education System

QAA   Quality Assurance Agency

QUALIOPI   National quality label for the certification of professional training programmes

IUT   Institut Universitaire de Technologie
HEIs which award technical & scientific degrees up to the bachelor's degree

R&O   Références et Orientations
The CTI's Major Criteria for Engineering Schools & Degrees

RNCP   Répertoire national des certifications professionnelles
National directory for professional certifications

SAR   Self-assessment report

VAE   Validation des Acquis de l'Expérience
Validation of informal and unformal learning