

# Developing quality processes in accreditation agencies to support the development of quality of HEIs: the case of CTI

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**Summary:** The paper presents in their context, as an example of Best Practice, two initiatives taken by “Commission des Titres d’ Ingénieurs” to improve external quality assurance criteria and processes (ESG 3.7) and accountability procedures (ESG 3.8). In fact, the same as the HEIs accreditation agencies have to be in a continuous improvement dynamics; the internal performance scorecard, and the certified HEI’s data sheet are two strong elements of this process

## 1. Introduction

ESGs are at the same time a constraint for agencies and a guarantee of their improvement. Since its creation and, specially, since its inclusion as a full member at ENQA, French CTI has been working both to imagine data management systems that allow the agency to measure the quality of service provided to its stakeholders and to provide tools in order to improve accountability of French engineering HEIs.

Following the recommendations of CTI’s 2008 external review, the different tools developed by CTI have been integrated in a comprehensive internal quality system.

In this paper, we present CTI’s internal quality system, focusing on two recent developments:

An **internal performance scorecard**: a set of internal quality indicators which enable to measure and improve the performance of CTI’s accreditation process.

A **certified HEI’s data sheet**: a selection of data coming from the HEI’s-50 data items- which have been made public via CTI’s website in July 2013.

These two initiatives are great opportunities for the improvement of the conformity of CTI to the ESG criteria 3.8 (accountability procedures), because internal and external feedback mechanisms have been developed allowing an internal reflection process. Additionally, our certified HEI’s data sheet can contribute to improve CTI’s conformity with criteria 3.7 (this criterion deals with the external quality assurance processes put in place by the agency). We will present them in reference to CTI and its whole quality process.

## 2. Brief presentation of CTI

CTI (“Commission des Titres d’Ingénieur”) is a nonprofit organization officially recognized as the independent body in charge of performing programme accreditation of engineering degrees in France. CTI was established by the French law in 1934.

CTI is composed of 32 members, appointed upon legislative order, coming from different origins (public and private higher education institutions, employer

organizations, professional engineering associations and trade unions); it is thus an equitable organization in terms of professional and academic participation.

Its missions are respectively: the evaluation and accreditation of programmes in the fields of engineering and applied sciences; the development of quality in engineering education; the promotion of engineering curricula and careers in France and abroad.

Since 1997, all French engineering programmes must be periodically accredited every six years. Upon the result of CTI's accreditation, the Engineering higher education institutions are authorized ("habilitées") by the French ministry to deliver a particular Engineering degree ("Diplôme d'ingénieur").

Upon demand of foreign institutions, CTI is also authorized by the French law to accredit engineering programmes abroad. The result of this accreditation may, upon the concerned governments' request, result in "State admission" of these degrees by the French government. Up to the current moment, CTI has accredited engineering programmes belonging to ten institutions outside of France in six different countries (Belgium, Bulgaria, Burkina Fasso, China, Vietnam and Switzerland).

CTI is a full member of ENQA (European Association for Quality Assurance in Higher Education) since 2005 and it is registered in EQAR (European Quality Assurance Register) since 2010. CTI is also a founding member of ENAEE (European Network for the Accreditation of Engineering Education) and is one of the agencies authorized to deliver the EUR-ACE label. CTI also participates in the works of ECA (European Consortium for Accreditation); all these participations put strong needs from the point of view of quality management.

### **3. CTI's quality policy**

Since the implementation of the periodic programme accreditation process in 1997, CTI has developed different initiatives in order to assure its internal quality. Some examples are the development of a complete process cartography (see section 5.1 of this paper) , the updating of its accreditation criteria every three years or the establishment of a number of periodic working groups which include stakeholder participation. The 2008's NVAO external quality review pointed out the need to assemble all different CTI quality initiatives into a comprehensive system.

The CTI's internal quality system was constituted in 2008 and adopted by the general assembly in February 2009. From that date on, CTI has been committed to deploying its internal quality assurance system and to developing specific tools for the tracking and control of its assessment and accreditation process in conformity with ESG.

CTI's internal quality system has been developed in the context of CTI's quality policy. CTI's quality policy was first formulated in 2003 and has been subsequently updated every three years. The main CTI stakeholders at the different levels have been identified. For each stakeholder, a number of quality objectives and implementation priorities have been defined (see figure 1).

Levels/ stakeholders	Objectives	Implementation priorities
Internal level	Professionalism, efficiency Consistency, objectivity of decisions	Formalisation of procedures, Periodic self-assessment
HEI's level	Transparency and clarity Credibility and legitimacy Provide a basis for continuous enhancement	Formalisation and updating of criteria, providing public information (decisions, reports, system indicators)
National and international level (Minister, HEI's associations, ENQA, ECA, EQAR, ENAEE)	Credibility and legitimacy Recognition	External evaluation by ENQA, EQAR
General public	Transparency, information	Providing public information

Figure 1- CTI's quality objectives and implementation priorities

The two development presented in the paper have been realized in this frame; since July 2013 the third level have been completed by a Strategic Comitee , which will begin to operate in October 2013.

Providing public information is realized by several means, the public CTI website is one of them, it has evolved towards more conviviality.

#### 4. Internal Quality Assurance Organization

Two main organs are involved in CTI's internal quality system:

##### **CTI's board:**

It is in charge of developing and updating the internal quality policy every three years, the establishment of priorities and decision making.

##### **An internal quality permanent working group:**

This group was created in 2010 as part of the measures adopted after 2008 CTI's external review. The group is under the political supervision of one of the board members and reports directly to the board. The composition of the group is as follows:

- Around 6 CTI members
- A project manager
- 2 other members of the staff
- 1 participant from the ministry of higher education
- Other participants according to the different projects or issues on the agenda (students, HEI, specialist of quality management)

The main missions of this group are:

- The formalisation, revision and improvement of processes
- The conducting of CTI's periodic self-assessment
- The deployment of other different quality projects and initiatives
- The deployment of tools for accountability

CTI's internal quality system functions according to a one-year PDCA cycle. The cycle begins in September of a given academic year with a set of quality priorities established by the board. The quality working groups deploys the different quality initiatives from

September to June. A report is presented to the board and CTI's plenary assembly in July, showing the results of the different initiatives and their impact on CTI's performance. The report is used by the board to establish new priorities at the beginning of a new academic year.

## 5. CTI's main internal quality initiatives from 2008

### 5.1. Formalization, revision and improvement of processes

CTI's internal cartography was developed in 2008. This cartography is composed of a general process schema and a diagram of each process (see figure 2). In certain cases, a detailed procedure has also been developed.

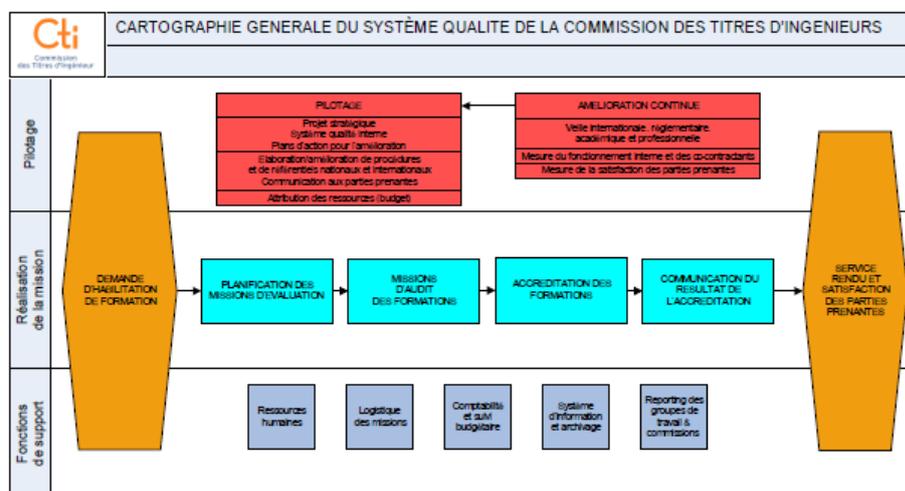


Figure 2- CTI's general process schema

CTI's cartography is a fundamental tool for the revision and improvement of CTI's processes. Up to now, this revision has focused on the programme accreditation process. In the coming years, CTI will work on the further formalization of the support and management processes.

### 5.2. Periodic self-assessment of CTI

Every year, CTI conducts an assessment of the results of its programme accreditation process. In order to conduct this assessment, CTI has put in place different internal and external feedback mechanisms:

#### Internal feedback mechanisms

- Internal satisfaction survey (for CTI members and staff) every two years
- Annual survey for French and foreign experts each year since January 2013
- Internal on-line incident reporting tool

### External feedback mechanisms

- Annual survey addressed to the deans of the HEIs accredited by CTI
- Annual CTI's colloquium for launching accreditation campaign (more than 300 representatives from HEIs and other stakeholders are present)
- Monthly working groups with stakeholder participation; three working groups are currently in place covering issues related to engineering education, academia-industry relationships and international affairs.
- Enquiries coming from the general public and gathered through CTI's webpage (20 enquiries per week)
- Reports from foreign experts after participating in a CTI's expertise ("rapport d'étonnement")

Additionally, since 2010, an **internal system** enables to track all information and documents regarding CTI's accreditation visits.

The information coming from CTI's information system and from the internal and external feedback mechanisms is used to build a **score-card** with 40 indicators ("tableau de bord"), which enables to measure the performance of the accreditation process. Table-1 shows a selection of indicators from CTI's score-card in its original French formulation (specifically, the indicators which characterize the planning of accreditation mission).

A self-assessment report, containing a summary and analysis of all internal and external feedback mechanisms is prepared once a year and sent to CTI's board. This report allows to take very quickly the measures necessary to correct the problems observed.

<b>1. Processus: Planification des missions</b>		
<b>Critères de qualité</b>	<b>Indicateurs</b>	<b>Valeur idéale</b>
Parité (industrie/académie)	Nombre de membres professionnels qui on intervenu dans les audits / Nombre de membres académiques qui ont intervenu dans les audits	I=1
Présence d'étudiants	(Nombre de experts étudiants)/ nombre d'audits faits campagne annuelle	I=1 étudiants
Présence d'étrangers	(Nombre de experts étrangers)/ nombre d'audits faits campagne annuelle	I=0,5 (étrangers)
Répartition équilibrée de la charge de travail	Déviatiion standard (écart type) du nombre de missions attribuées aux membres dans une campagne	I=0
	Valeur MAX- Valeur min	I=0
Expertise adaptée à la mission	Nombre de fois qu'une équipe a été récusée par une école	Pas de valeur idéale

	% d'écoles qui ont répondu "bon" ou "excellent" à la question: Quel était le degré d'adaptation de la composition du groupe d'audit à votre école ?	I=1
Utilisation d'experts	% d'experts de la liste qui ont fait au moins une mission	I=100%

Table 1- Selection of indicators from CTI's performance scorecard.

### 5.3. Certified HEI's data sheet ("données certifiées")

In collaboration with its stakeholders, CTI has chosen 90 data items, which mean to characterize a particular HEI; each year the values of these items must be given to CTI by the dean of each French Engineering HEI.

The objective of this initiative is to provide meaningful and trusted information to the general public regarding the HEIs and their accredited programmes; but these data are also one of the elements from which the opinion of CTI's evaluation committee is elaborated in the case where the HEI has to face an evaluation process during the year. This initiative enables CTI to conform to the increasing demands of transparency coming from the European Higher Education Area and, specifically, from ENQA.

The main areas covered are:

- basic information on the HEI and the programme;
- research;
- recruitment;
- accessibility and social diversity;
- student life;
- mobility and internationalization;
- employability;
- relationships with industry.

The information is meant to be transmitted to CTI by the engineering HEIs through an internet tool every year. After a first pilot test, during the year 2011-2012, the formulation of some items in the questionnaire have been slightly modified so as to fit the status of all HEI..

In 2012-2013, this information has been made public by CTI and the HEIs in July 2013 through CTI's webpage (<http://extranet.cti-commission.fr/recherche/ListEcoleShow/ecole/71>)

The process of such a publication is not a trivial one because there are some important strategic issues to deal with, moreover, these data can be used by media for example in order to build their annual ranking of institutions. This is the reason why the whole staff of CTI has been mobilized to answer the questions of the deans from March to July.

In November a meeting with stakeholders will take place and discussions on improvement opportunities will be conducted allowing an improved version of the questionnaire for 2014

## **6. Conclusion**

CTI expects that the two initiatives described in this paper will significantly contribute to the enhancement of CTI's internal quality ,as well as to the overall improvement of French engineering education. Concerning the performance score card, dysfunctions in the evaluation process are now clearly put in evidence and this way, the work of the quality staff becomes more useful.

As to the certified data sheet, the reactions occurring during its elaboration showed some resistance coming from the HEIs concerning Information to the public and transparency of the data. Through the preparation of this data set and its publication, CTI expects to improve this important aspect.

## **7. References**

ENQA, Standards and Guidelines for Quality Assurance in the European Higher Education Area, <http://www.enqa.eu/pubs.lasso>, 2009, Helsinki

F. Dufour, A-M Jolly-Desodt, Presentation of the future CTI's system to assure the traceability of evaluation documents. IQA, Barcelone, 14-15 April 2008