

***External Evaluation Review Committee (EERC)  
Report:***

***Commission des Titres d'Ingénieur (CTI)***

***October 2007***

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## 1. Summary

### 1.1. Introduction to external evaluation review

The external evaluation review described in this report concerns the French agency, *Commission des Titres d'Ingénieur* (hereafter referred to as the **CTI**), which in France is responsible (under laws promulgated in 1934 and 1984) for officially authorizing institutions of higher education for engineers (*écoles d'ingénieurs*) to award the degree of French "chartered" engineer-'*ingénieur diplômé*' (graduate of a CTI- accredited study programme as opposed to other engineering programmes).

The CTI, a representative organisation, including both academics and other concerned professionals, wishes to comply with the **European Standards and Guidelines for the External Quality Assurance of Higher Education** (hereafter referred to as the **ESG**). In the last few years, the CTI has taken initiatives in order to conform to the international framework of quality assurance.

The CTI decided that it wished to undergo an external evaluation review, not only to verify its compliance with the relevant ESG, but also to evaluate the way the CTI carries out its mission.

The CTI board approved the above-mentioned external evaluation review procedure as being complementary to the CTI's own previous internal self-evaluation initiative.

The CTI requested the **Nederlands-Vlaamse Accreditatie Organisatie** (hereafter referred to as the **NVAO**), an officially-recognised agency in Europe, member of the **European Network for Quality Assurance** (hereafter referred to as the **ENQA**), and of the **European Consortium for Accreditation in Higher Education** (hereafter referred to as the **ECA**), to ensure the coordination of this external evaluation review.

The principal aim of this external evaluation review is for the CTI to obtain continuation of its current membership status in the ENQA. Furthermore, the external evaluation review will also benefit both the CTI (under evaluation by the EERC) and the French institutions of higher education which the CTI itself assesses. Although the CTI is already a member of the ENQA, it wishes, thanks to this external evaluation review, to demonstrate that it conforms to the standards of the ECA and the **Accreditation of European Engineering Programmes and Graduates** organisation (hereafter referred to as **EUR-ACE**).

The financing of this external evaluation review procedure is completely covered by the CTI.

## 1.2.External evaluation review process

Groundwork for the project was carried out in February 2007 by G. Aelterman, representing the NVAO, working together with certain members of the board of the CTI. This meeting resulted in defining the external evaluation review framework and in nominating the **External Evaluation Review Committee** (hereafter referred to as the **EERC**) members. The nominees were subsequently approved by the NVAO, and the terms of reference (presented in Paragraph 2.3 of this document) were then forwarded by the CTI to the ENQA on April 30<sup>th</sup> 2007. These terms were then approved by ENQA.

In May 2007, a meeting took place between A.-M. Jolly, Secretary of the Review Committee, and G. Aelterman, to define the organisational and practical aspects of the external evaluation review procedure. A second meeting took place in Brussels on July 2<sup>nd</sup> attended by G. Aelterman, L. Gelders (President of the EERC), A.-M. Jolly, B. Remaud (President of the CTI), and J. Béranger (the CTI's representative for this external evaluation review). At this meeting, based on information provided by the CTI concerning its main stakeholders, a list of people and organisations to be met by the EERC in Paris on September 17<sup>th</sup> and 18<sup>th</sup> 2007 was drawn up.

Simultaneously, the CTI drafted a self-evaluation report, which was sent to the members of the EERC and to the NVAO on July 20<sup>th</sup> 2007. The outline of this self-evaluation report can be found in Paragraph 2.3 of this document.

Between July 3<sup>rd</sup> and September 16<sup>th</sup> 2007, the following documents were also transferred to all the members of the EERC, either by post or by e-mail:

-**"Référence et Orientations"** (hereafter referred to as **R&O**), 5<sup>th</sup> edition - June 2006 and its supplement - September 2006

-**"Guide d'Auto-Évaluation"** of the CTI and its Guidelines (hereafter referred to as **GAE**), 2<sup>nd</sup> edition - September 2006)

These two documents (also accessible on the CTI's website), are a reference for French institutions of higher education. They feature firstly, the procedures that such institutions must follow in order to be accredited by the CTI or in order to obtain the CTI's validation for any fundamental changes in the conditions that such schools require for awarding the French "chartered" engineer's degree (*diplôme d'ingénieur*) and, secondly, the accreditation criteria used by the CTI.

The EERC members also received the terms of reference used for the CTI's self-evaluation, together with the ENQA briefing pack, the ESG, and a table indicating the correlations between the CTI reference documents and the ESG. The above information was intended to enable the EERC members, prior to their evaluation visit, to assess CTI activities (set forth in the CTI's self-evaluation document), comparing them with external evaluation standards.

In summer 2007, discussions between the CTI and the EERC members took place via the Secretary of the EERC, in order to decide which files and complementary documents should be made available to the EERC members

during their visit to Paris. A validated appointment schedule with CTI stakeholders was also set up before the evaluation visit.

The EERC members met the CTI stakeholders on September 17<sup>th</sup> and 18<sup>th</sup> 2007. The 2-day meeting ended with a general debriefing session leading to conclusions and recommendations by the EERC members. These conclusions and recommendations were then presented in an oral way to the CTI members.

The interviews and exchanges were conducted in French.

### **1.3.Main conclusions**

The EERC concluded that the CTI is "substantially compliant" with respect to ENQA criteria and that it is "totally compliant" concerning the fulfilment of its national mission in France. It was also noted that the international activities of the CTI are one of its strong points.

The CTI, the quality of whose expertise is acknowledged by all parties concerned, suffers from an acute lack of the means needed to support its mission. The result of this situation is that there are shortcomings in the CTI's communication process and in its quality assurance management.

The CTI's real autonomy in decision-making currently poses a problem, but such independence could be attained only if the French ministry department concerned respects the commitment made to the EERC to accept and relay its decisions to evaluated institutions "in accordance with the CTI's decision".

These conclusions and recommendations are elaborated on in Paragraph 5 of this report.

## **2.Introduction**

The CTI expressed the wish to be evaluated from two different perspectives: firstly, that of its compliance with the criteria defined by the ESG and, secondly, that of the fulfilment of its national mission in France, as defined in the document R&O.

The CTI expects the following outcomes from this external evaluation review procedure:

- Reinforcement of recognition from its stakeholders in France and abroad
- Enhanced respect for and confidence in the CTI's evaluations and recommendations by the French ministries and French institutions of higher education for engineers.

More generally, French institutions of higher education for engineers, their students, French "chartered" engineers (*ingénieurs diplômés*) and the companies which employ them, as well as society at large should all benefit from this external evaluation review of the CTI.

## **2.1.Explanation of ENQA/ESG criteria**

For its evaluation, the EERC used as a reference the document: "Standards and Guidelines for Quality Assurance in the European Higher Education Area", published in February 2005.

It is Part 3 of the document "European Standards for External Quality Assurance Agencies" which served as a referential for the evaluation. Nevertheless, implicitly, it is actually Part 2 of the ESG, as it appears clearly in ESG 3.1, that was taken into account.

The points which were verified and substantiated are the following:

- ESG 3.1: The use of external assurance quality procedures adapted to higher education

The standards of quality assurance described in Part 2 of the ESG are a pertinent foundation for the external quality assurance process, in so far as these standards reflect the best practices observed in Europe in this field as from the beginning of the 1990's.

2.1 refers to the use of internal quality assurance procedures

2.2 refers to the development of external quality assurance procedures

2.3 refers to decision-making criteria

2.4 refers to the coherence of the processes implemented by an agency with its mission

2.5 refers to the publication of reports

2.6 refers to follow-up procedures

2.7 refers to periodic evaluations

2.8 refers to analysis of conclusions reached by the agency concerning its own work

- ESG 3.2: Official status:

The agency must be officially recognised by the qualified authorities in the field of higher education, have a legal status, and with responsibilities linked to external quality assurance. The agency must act in accordance with the recommendations of the legal authority on which it depends.

- ESG 3.3: Activities:

The agency must undertake activities of external quality assurance on a well- defined basis concerning evaluation, auditing and accreditation. These activities constitute the very essence of the agency's mission.

- ESG 3.4: Resources:

The agency should have sufficient financial and human resources to carry out its missions, so that it is truly able to fulfil its external quality missions in an efficient way. This should include funding for the implementation of projects and procedures.

- ESG 3.5: Mission statement:

The agency must have clear and explicit objectives which are to be publicised in written form. Such publications must include: the aims and objectives of the quality assurance process, the assignment of tasks to other

stakeholders in higher education, and the historical and cultural context of the agency's work.

- ESG 3.6: Independence:

The agency must be independent in two different respects. Firstly, it has autonomous responsibility for the projects that it carries out. Secondly, its conclusions and recommendations are not to be influenced by organisations such as institutions of higher education, ministries or other stakeholders.

- ESG 3.7: The criteria and processes for external quality assurance used by the agency:

The procedures, criteria and methods used by the agency must be predefined and publicised.

- ESG 3.8: The procedures by which the agency accounts for its activities:

These procedures must be implemented and must follow pre-defined specifications.

## **2.2. With reference to ENQA policy**

The ENQA has integrated the ESG's criteria (presented previously) into its evaluation criteria, which correlate as follows:

- ENQA Criterion 1: ESG 3.1: Use of external quality assurance procedures  
ESG 3.3: Activities
- ENQA Criterion 2: ESG 3.2 Official status
- ENQA Criterion 3: ESG 3.4 Resources
- ENQA Criterion 4: ESG 3.5 Mission statement
- ENQA Criterion 5: ESG 3.6 Independence
- ENQA Criterion 6: ESG 3.7 External quality assurance criteria
- ENQA Criterion 7: ESG 3.8 Accountability procedures
- ENQA Criterion 8: ESG 3.7 External quality assurance criteria and processes

In this document, we will refer to the ESG in the order in which they are published.

The ENQA and the ECA have stated that the ENQA criteria, as correlated to the ESG, correspond to the ECA's code of good practices.

## **2.3. Terms of reference for external evaluation review**

The terms of reference for the external evaluation review of the CTI (the outline of which follows) were forwarded to the ENQA on April 30<sup>th</sup> 2007.

- I. The CTI's missions
- II. Reasons for an external evaluation review
- III. Description of the CTI's activities
- IV. Outline of the CTI's Self-Evaluation Report
- V. Calendar for preparation of the CTI's external evaluation review



### *2.3.1. The CTI's mission*

The mission of the CTI, created by French law, concerns the accreditation of schools for engineers ("*Ecoles d'Ingénieurs*"), to award the title of French "chartered" engineer ("*Ingénieur diplômé*").

If the institution requesting accreditation is public, the CTI advises the related Ministry of its conclusions. If the institution requesting accreditation is private, the CTI itself actually makes the decision as to whether or not to accredit the institution.

At the request of the government of a foreign country, and on the basis of an opinion given by the CTI, chartered engineers' degrees and titles awarded by institutions in the foreign country may be recognised by the French government (called "*Admission par l'Etat*"). This procedure provides the opportunity for official recognition of foreign programmes leading to a chartered engineer's degree. This recognition, in the form of a degree known in French as "*Ingénieur diplômé par l'Etat*", is subject to an official decree issued by the French Ministry of Higher Education.

Every issue relative to the title of the French chartered engineer's ("*Ingénieur diplômé*") degree must be referred to the CTI, which may conduct all investigations of institutions of higher education on site within the framework of its defined mission.

### *2.3.2. Reasons for external evaluation review*

The CTI wishes to apply to itself not only the spirit but also the methodology of quality assurance (best practice management and continuous improvement) that it requires from the French schools of engineers which it assesses. As a result of an "international evaluation review", the CTI expects to improve the services it provides to institutions and further ameliorate coherency between its own standards and methods and those which are recognized internationally.

In addition, the study programmes offered by French schools for engineers should ultimately benefit from this process.

### *2.3.3. Description of the CTI's activities*

In keeping with the CTI's purposes, stated above, its main missions and activities are organized into several different categories:

#### **1. Definition of procedures and of evaluation and accreditation criteria**

The CTI defines procedures and evaluation and accreditation criteria within the framework of French laws and regulations, in collaboration with all parties involved.

These definitions are worked out in internal CTI working groups on the basis of information collected on the international (including European) and (French) national levels, as well as through experience acquired by observing the ways CTI criteria are applied in the various institutions that it assesses. The

conclusions, once drawn up, become the CTI's reference documents, formally approved in a CTI plenary session and subsequently published.

## **2. Evaluation of study programmes in French schools for engineers**

During visits to the sites of institutions requesting evaluation, the CTI closely examines draft versions of all documents relevant to:

setting up new study programmes

- changes in existing study programmes
- renewal of accreditation
- requests from foreign institutions for French national accreditation ("*Admission par l'Etat*")

Such evaluation reviews are carried out by a small team, composed of 2 to 5 CTI members and outside "associate experts". The agenda of a CTI evaluation review includes:

- preparing a calendar for examining accreditation requests and renewals
- examining cases for which a preliminary report has already been submitted (40 pages not including appendices)
- organising visits to the institutions concerned
- drawing up a mission report (about 10 pages long), making suggestions as to the duration of the accreditation to be delivered and making recommendations. This mission report is not binding as regards future CTI decisions.

## **3. Opinion or decision concerning accrediting institutions to award the French "chartered" engineer's degree ("*Titre d'Ingénieur*" or "*Diplôme d'Ingénieur*")**

On the basis of the contents of the above-mentioned reports, and following their formal presentation in plenary session, the CTI discusses all aspects of these accreditation request files. After discussion and debate, and upon agreement of the CTI's members, decisions are made as to future accreditations and recommendations. The concerned institutions and related ministries are notified of these decisions.

More than 200 French engineering institutions are involved in this process, more than 100,000 French students are registered in these institutions and about 30,000 French chartered engineer's degrees (*diplômes d'ingénieur*) are awarded every year.

Since all French programmes of study for chartered engineers receive CTI accreditation for a maximum period of 6 years, the CTI makes an annual average of 80 to 100 *in situ* evaluation visits to institutions of higher education for engineers.

In order to accomplish the above missions, the CTI engages in the following complementary activities:

- Conducting studies and collectively thinking through relevant issues
- Organising exchanges of viewpoints among all parties involved: the professional and academic sectors, student bodies and French ministries

- Defining policies, with the emphasis currently being placed on quality assurance management, "learning outcomes" and European partnerships
- Implementation of the CTI's international policy: It is essential to establish relationships and follow through on agreements with European and other international counterparts, notably within the framework of the mutual recognition of accreditations which are delivered.
- Ensuring communication about the CTI's work: Results of this work are periodically assessed by the directors of the institutions which the CTI evaluates and are communicated to the public.

As regards its internal organisation, the CTI is composed of:

- A President and two Vice-Presidents, elected by the CTI's members
- A plenary assembly composed of 32 members, half of whom are academics and the other half from the world of non-academic professionals. They are all appointed for a period of 4 years, renewable once. This 32-member assembly can also call upon the participation of other outside "associate experts" for specific studies and evaluations.
- An executive board composed exclusively of CTI members
- Permanent specialised working groups (currently 3 groups) in charge of: 1) European and other international issues, 2) higher education for future French chartered engineers and partnerships and 3) relations with the industrial sector
- *Ad hoc* evaluation panels, composed of both members and outside "associate experts", which are set up as required, to assess study programmes for future French chartered engineers
- An administrative registry (called "*le greffe*" in French), in charge of managing CTI's day-to-day activities: keeping minutes of plenary assemblies, archiving files and reports, handling mail, and updating internet websites for CTI members, students and the public.

#### *2.3.4. Contents of the CTI's self-evaluation report*

The report, which focuses on the quality management of the French higher education system for future engineers, contains the following three sections:

**Section One:** description of the French scheme of higher education for engineers

**Section Two:** application of the European orientations for the creation of the **European Higher Education Area** (*l'Espace Européen de l'Enseignement Supérieur*) (hereafter referred to as the **EHEA**) to the French scheme of higher education for engineers

**Section Three:** adaptation of higher education for engineers to the needs of the corporate world and to society as a whole

**The complete outline of this self-evaluation report can be found in Appendix 2 of this document.**

### *2.3.5. Preparation calendar for the external evaluation review of the CTI*

The planning stage of the external evaluation review of the CTI began in 2005. Part of this stage was a preliminary internal self-evaluation process, conducted during the first half of 2006.

A draft proposal for the external evaluation protocol was drawn up in the second half of 2006 and addressed to the ENQA, who suggested some modifications.

In addition, the external evaluation review has been a topic on the agenda of every CTI plenary session since October 2006.

<b>June 2006</b>	13 <sup>th</sup> June: Approval of the CTI's internal self-evaluation report in plenary session
<b>September 2006</b>	12 <sup>th</sup> September: Approval of the CTI Action Plan (in accordance with the conclusions of the internal self-evaluation report) and the election of the CTI's new president
	26 <sup>th</sup> September: Orientations set for the external evaluation review of the CTI by the CTI's Executive Board
<b>November 2006</b>	7 <sup>th</sup> November: External evaluation review project presented at the CTI's plenary assembly session
	21 <sup>st</sup> November: External evaluation protocol examined
	27 <sup>th</sup> November: First notification of the protocol to the ENQA
<b>January 2007</b>	Changes made in the protocol following exchanges with the ENQA and consultations with the NVAO Preparatory work carried out by a small team of CTI members and outside "associate experts"
<b>February 2007</b>	1 <sup>st</sup> February: General organisational memo addressed to the NVAO
	8 <sup>th</sup> February: Meeting with the NVAO (external evaluation review organised, criteria for the composition of the EERC set up, and terms of reference agreed upon)
	27 <sup>th</sup> February: Validation of the process by the CTI in plenary session

<b>March 2007</b>	<p>7<sup>th</sup> March: Second notification of the external evaluation review process to the ENQA</p> <p>Setting up of a 7-member internal working group</p> <p>Preparatory phase for writing the internal self-evaluation report (especially suggested terms of reference) on the basis of previous work</p> <p>27<sup>th</sup> March: Internal presentation of a first draft of the self-evaluation report to CTI's plenary assembly</p>
<b>April 2007</b>	<p>Expanded construction phase of the self-evaluation report (60 pages)</p> <p>27<sup>th</sup> April: Formulation of the terms of reference and of the external evaluation review protocol provided to the ENQA</p>
<b>May 2007</b>	<p>Finalisation of the self-evaluation report by certain members of the CTI board and external discussions with the stakeholders concerned by this report</p>
<b>June 2007</b>	<p>26<sup>th</sup> June: Adoption of the internal self-evaluation report by the CTI's Executive Board</p>
<b>July 2007</b>	<p>10<sup>th</sup> July : Adoption by CTI's plenary assembly of the internal self-evaluation report, subsequently sent to the EERC members</p>
<b>September 2007</b>	<p>17-18<sup>th</sup> September: Visit to Paris by the EERC members, (who had the option of asking for complementary documentation during their 2-day stay)</p>
<b>October 2007</b>	<p>Drawing up of the External Evaluation Review Report by the EERC</p>
<b>November 2007</b>	<p>Presentation of the External Evaluation Review Report by the EERC to the CTI for possible comments</p>
<b>December 2007</b>	<p>Decision and recommendations by the ENQA</p> <p>Presentation to CTI's stakeholders and publication of the External Evaluation Review Report</p>

#### **2.4.Members of the EERC**

The composition of the EERC was determined within the framework of a cooperative process between the NVAO and the CTI. The competencies looked for in members were either good knowledge of French higher education or

knowledge of ENQA/ESG standards and of quality assurance, with a wide range of different viewpoints among the EERC members: representing the field of research, the corporate world, student bodies, etc. The experts had to be either French or French-speaking, given that the evaluation review was to be conducted in French.

The composition of the committee is as follows:

- **Ludo Gelders**, (President of the EERC), Full Professor at the University of Louvain, Belgium
- **Rolf Heusser**, Director of the OAQ, a Swiss accreditation agency
- **Dirk Van Damme**, Main Secretary of the Flemish Ministry of Education, Belgium (absent during the evaluation visit)
- **Guy Gautherin**, Full Professor, previously Managing Director of the ENSAM (*Ecole Nationale Supérieure d'Arts et Métiers*) and previously special advisor to the Director of the *Direction Générale des Enseignements Supérieurs (DGES)*, part of the French Ministry of Education
- **Jean-Paul Vautrety**, head of a consulting company, previously President of the Board of Directors of Telecom Paris (*Ecole Nationale Supérieure des Télécommunications*),
- **Nadine Vrignaud**, a student, President of the French student organisation PDE (*Promotion et Défense des Etudiants*), previously President of the BNEI (*Bureau National des Elèves Ingénieurs*) in France
- **Anne-Marie Jolly-Desodt**, (Secretary of the EERC), Full Professor, Head of the « Référentiel » project for the CDEFI (*Conférence des Directeurs des Ecoles Françaises d'Ingénieurs*), previously Deputy Director of the ENSAIT (*Ecole Nationale Supérieure des Arts et Industries Textiles*)

## 2.5. Outline of the external evaluation review process

The calendar set up for the EERC's evaluation visit to Paris made it possible for the members to meet most of the CTI's main stakeholders. The visit took place on September 17<sup>th</sup> and 18<sup>th</sup>, and was preceded by a meeting among the EERC members, on the evening of September 16<sup>th</sup>. This meeting allowed the participants to define the protocol for the evaluation interviews in advance.

The French system of schools of higher education for engineers is a complex one: in France, there are public and private schools of higher education for engineers. Not all of the public institutions are under the aegis of the French Ministry of Higher Education; depending on the specific field of activity of the institution, an institution can be under the responsibility of the Ministry of Industry, of Agriculture, of Defence or of the Environment.

Furthermore, the AERES (*Agence d'évaluation de la recherche et de l'enseignement supérieur*), which is also a French agency for evaluation of the research and curricula of institutions of higher education was recently founded. It was necessary for the EERC to meet the AERES's recently-appointed director, in order to enable the EERC to understand the exact field of action of each agency (the CTI and the AERES) and the possible links between their respective missions.

Another important part of the visit was the meeting with B. SAINT GIRONS at the DGES, because it is the DGES which finalises the process of evaluation conducted by the CTI. Whatever the status of an institution of higher learning for engineers may be, the DGES publishes decisions and recommendations concerning the evaluation (of the institution) which was carried out by the CTI.

The EERC met 35 people (not including CTI members) during its visit to Paris. All those interviewees had received the Internal Self-Evaluation Report of the CTI by post or e-mail prior to the EERC's visit.

## **Monday September 17th 2007**

**9 - 10.30 am:** Meeting with Professor J.-F. Dhainaut (President) and M. Curvale at AERES offices, 20 rue Vivienne, Paris

**11.30 am – 12.30 pm:** Meetings with representatives of French professional organisations:

- Employers' organisations: E. de Saint-Jores of the **MEDEF** (*Mouvement des Entreprises de France*), M. Veysset of the **CGPME** (*Confédération Générale des Petites et Moyennes Entreprises*)
- Trade unions: J.-P. Chaffin of the **CGC** (*Confédération Générale des Cadres*), F. Fayol of the **CFDT** (*Confédération française démocratique du travail*), J.-F. Bolzinger of the **UGICT-CGT** (*Union Générale des Ingénieurs, Cadres, Techniciens*) – (*Confédération Générale du Travail*)

### **1.15 – 2.15 pm:**

Meeting with G. Golf (President) and J. Villalongue of the **BNEI**

### **2.15 – 3.30 pm:**

Meeting with the representatives of French ministries having links with the CTI (with the exception of the Ministry of Higher Education):

Ministry of Industry: (D. Lanciaux, P. Faure, J.-F. Serres, V. They)

Ministry of Agriculture: (J.-P. Mialot, C. Jacquemin)

Ministry of Environment, Transportation and Equipment (G. Guinard)

### **4 – 4.30 pm:**

Meeting with M. Aliphath of the **CGE** (*Conférence des Grandes Ecoles*)

### **4.30 – 5.30 pm:**

Meeting with representatives of private institutions of higher education for engineers: S. Eyrolles of the **UGEI** (*Union des Grandes Ecoles Indépendantes*), B. Pinatel and C. Borgis (Executive Director of the **FESIC** (*Fédération d'Ecoles Supérieures d'Ingénieurs et de Cadres*))

### **5.30 – 6.30 pm:**

Meeting with M. Mudry (Executive Director) and A. Rigal (executive director) of the **CDEFI** (*Conférence des Directeurs des Ecoles Françaises d'Ingénieurs*)

### **6.30 – 7.30 pm:**

Meeting with M. Ameline, (Executive Director of the **CNISF** (*Conseil National des Ingénieurs et des Scientifiques de France*) and M. Maury, Director of the **CEFI** (*Centre d'Etudes sur les Formations d'Ingénieurs*))

## **Tuesday September 18<sup>th</sup> 2007**

### **8.30 – 10 am:**

Appointment initially made with B. Saint Girons and M. Korolitski; B. Saint Girons (Director, the DGES) and F. Petit (in charge of the administration of the CTI) were present at the meeting, held at the DGES, located at the French Ministry of Higher Education and Research (MESR- *Ministère de l'Enseignement supérieur et de la Recherche*), 101 rue de Grenelle, Paris

### **10.30 am – 12.30 pm:**

Meeting with Directors or Directors of Studies of French institutions of higher education for engineers:

- J. Lieto, Director of the **ISTIL** (*Institut des Sciences et Techniques de l'Ingénieur de Lyon, Université Claude Bernard*)
- D. Kervadec, Director of the **EIC** (*Ecole d'Ingénieurs de Cherbourg*)
- P. Courtier, Director of the **ENPC** (*Ecole Nationale des Ponts et Chaussées*)
- A. Ayache, Director of the **ENSEEIH** (*Ecole Nationale Supérieure d'Electrotechnique, d'Electronique, d'Informatique, d'Hydraulique et des Télécommunications*)
- J.-C. Duriez, Director of the **ENSMD** (*Ecole Nationale Supérieure des Mines de Douai*)
- A. Fuchs, Director of the **ENSCP** (*École Nationale Supérieure de Chimie de Paris*)
- D. Menez, Director of Studies at the **ENSIETA**, (*Ecole Nationale Supérieure des Ingénieurs des Etudes et Techniques d'Armement*)
- O. Friedel, Director of Studies at **SupElec** (*Ecole Supérieure d'Electricité*)

### **12.30 – 2.30 pm:**

Meeting with members of the CTI:

R. Balaguer, J. Béranger, S. Chevalet, P. Compte, P. Fleismann, G. Inglebert, A. Mora, P-R Martin, B. Remaud, H. Schoorens, P. Vareine

### **4.30 – 5.30 pm:**

Discussion with the members of the CTI concerning the conclusions of the visit.

- This visit mainly took place at the CTI's offices, allowing the EERC to have access to paper archives and printouts of web documents concerning the way the CTI works. While at the MESR, EERC members visited the CTI's administrative registry. (The files of the institutions which the EERC had decided to consult had to be brought from the CTI's administrative registry to the CTI's offices in order to be placed at disposal of the committee)
- The scheduling of the EERC's visit allowed the members to meet all the concerned stakeholders who had been recommended by the CTI and the NVAO during the meeting between the NVAO, the President and the



Secretary of the EERC and 2 members of the CTI on the 2<sup>nd</sup> of July 2007 in Brussels.

## **2.6. Description of the CTI**

### *2.6.1. The CTI's history*

In 1929, the French Vice-Secretary of State for Technical Education appointed the *Commission du Titre d'Ingénieur (Commission for French Engineer's Degrees)*. This commission, which was first concerned with private educational institutions only, functioned for two and a half years. Its work was then promulgated and extended to all French higher education curricula by the law of 10<sup>th</sup> July 1934. This law officially founded the *Commission du Titre d'Ingénieur*. This commission validates, both from an academic and a professional point of view, the curricula leading to the French degree of chartered engineer.

Other French laws, such as the "Savary" law in 1984, completed the system. However, the obligation for periodic evaluation (every 6 years) by the CTI, as applied to all existing curricula for the higher education of chartered engineers in France, has been implemented only since 1997.

### *2.6.2. The main missions and activities of the CTI*

The main missions and activities of the CTI fall under 3 categories:

#### A. Definition of the procedures and criteria for evaluation and accreditation

Since the CTI has been entrusted by French law with accrediting the curricula of institutions of French higher education for chartered engineers, it has had to define the procedures and criteria for such accreditation. The results of this process are the documents of reference of the CTI, approved in plenary assembly and then published. These documents, R&O and GAE, which are updated and published every 3 years, provide the directors of institutions of higher education for engineers with the most recent policy and criteria of the CTI. These criteria conform to French national laws and regulations. They are defined in liaison with the CTI's concerned stakeholders.

It is to be emphasised that the programme of study leading to the French title of chartered engineer lasts a total of 5 years after the Higher Secondary Leaving Certificate/ A levels (in France, after *le baccalauréat*, diploma awarded at the end of successful higher secondary studies). However, the pathways to obtaining this degree can be different: full-time student status, apprenticeship ("*alternance*") status or continuing (adult) education status.

#### B. Evaluation of study programmes

First consulting documentary sources and subsequently on site in institutions concerned, the CTI examines requests for updates on accreditation, projects concerning the creation of new curricula and changes in existing curricula, as well as requests by foreign institutions for the French status of "admission by the state" (*Admission par l'état*).

A calendar for the examination of accreditation requests, kept up to date by the CTI's administrative registry can be found on the CTI's website.

The evaluation of these accreditation requests is conducted by a team composed of 2 to 5 CTI members and outside "associate experts". These people are chosen from a list to be found on the CTI website, in compliance with ethical criteria and clauses excluding certain participants, which are both defined in specific charters concerning the composition of such teams. Sometimes a student from a French school of engineers participates in the evaluation process. (For the moment, recourse to this option is only taken on an experimental basis.)

The evaluation process is composed of 3 parts:

- Examination of a report, written by the institution requesting accreditation according to the indications given in R&O (This report is about 40 pages long, not including appendices)
- On-site visit to allow the CTI evaluation team to meet all players within the institution (Director, Executive Board, professors, researchers, administrative staff, students, etc.) as well as its main outside stakeholders
- Writing by the CTI evaluation team of a mission report, including proposals regarding the duration of the accreditation and recommendations (This report is about 10 pages long). This report, without conclusions and proposals is sent to the director of the school so that he gives its observations.

The procedure for initial accreditation as well as the procedure for the renewal of accreditation are clearly laid out in R&O (pages 38 and 39).

C. The opinion or decision to accredit an institution to award the degree of French "chartered" engineer (*ingénieur diplômé*).

On the bases of the information contained in the report submitted by the institution and in the CTI evaluation committee's mission report, the CTI in plenary assembly thoroughly discusses and takes a position as to the measures to be taken concerning the accreditation request.

Both the institution and the ministry or ministries concerned are informed of the length of the period of accreditation and of specific recommendations expressed by the CTI. If the institution is public, the CTI evaluation committee merely states an opinion and if the institution is private, the committee actually makes the decision as to whether or not to accredit the school and its curriculum which has been evaluated.

The CTI's activities concern all educational training leading to the French degree of "chartered" engineer.

The chartered engineer, according to French regulations, holds a degree equivalent to that of "Master" (French decree no. 99-747, 30<sup>th</sup> August 1999, mentioned in the "*Cahier Complémentaire*" of R&O, Section XIIIa, page 25).

This level of educational training must be assessed both when it is initially created and periodically thereafter. For the CTI, this obligation leads to the examination of 80 to 100 accreditation request files each year.

In addition, the CTI also carries out complementary activities which facilitate the efficiency of its missions. Some examples are: conducting studies, cooperative consultations (for example, with directors of institutions who provide feedback on the CTI's activities), defining strategic trends, international policy, communication, promotion and defence of the French degree of chartered engineer.

The results, which will be presented in the remainder of this report concern: firstly, in Paragraph 3, the correlation of the CTI's criteria with those of the ENQA and, secondly, in Paragraph 4, the evaluation of the CTI's functioning with respect to its national missions in France. Paragraph 5 will include conclusions and recommendations concerning these two aspects.

### **3. Findings concerning respect of ESG criteria (ENQA)**

Described below are the results of the discussion among EERC members which took place at the end of the meetings in Paris with the CTI's stakeholders.

#### **3.1. ESG 3.1/ ENQA Criterion 1: Use of external QA procedures**

**Conclusion:** The CTI is partially compliant.

In fact, the required conditions are fulfilled except Points 2-5 (Communication) and 2-4 (Students).

A focus of attention concerns external communication in the broad sense. This communication, directed towards the general public, must be improved. Although CTI stakeholders do appreciate the reference documents edited by CTI (R&O), they are not satisfied with the lack of information concerning the accreditation procedure itself:

- website quite difficult to read
- dates of visits by the outside "associate experts" to institutions requesting accreditation unclear
- list and credentials of the outside "associate experts" not necessarily available.

Another point concerns notification by the CTI of the final decision to the institutions which have been evaluated. This communication process is long and further complicated by the DGES's role. The CTI's recommendations must be considered as a part of a deliberate improvement process by institutions requesting evaluation. Losing an entire year (out of a 6-year accreditation period) due to problems which solely concern the notification the decisions already made by the CTI is unfortunate for all involved.

Lastly, even if the presence of student experts on some CTI evaluation committees has been instituted on an experimental basis this year, it will now be

necessary to define a realistic and feasible procedure, given the delay in providing the dates of CTI evaluation committees' visits to concerned institutions. In addition, satisfying the explicit request of the BNEI to be represented within the CTI would necessitate a change in laws and statutes governing the CTI's activities.

### **3.2.ESG 3.2/ ENQA Criterion 2: Official Status**

**Conclusion:** The CTI is totally compliant.

Meetings with CTI's stakeholders in the French ministries concerned, as well as documents available to the public, show that this status is perfectly identified and acknowledged.

### **3.3.ESG 3.3/ ENQA Criterion 1: Activities**

**Conclusion:** The CTI est totally compliant.

The activities described in the documents confirmed by the interviews with stakeholders concerned by CTI's decisions conform to those of an evaluation agency.

However, it is to be noted that the CTI's activities are limited to the French "chartered" engineer (*ingénieur diplômé*) degree level, which is equivalent to that of a Master's degree. CTI's activities are, however, not associated with shorter, "technical" curricula (Bachelor's degree level).

### **3.4.ESG 3.4/ ENQA Criterion 3: Resources**

**Conclusion:** The CTI is partially compliant.

This is the CTI's weak point; the agency lacks the resources necessary to ensuring its mission.

This is a very strong recommendation, despite the fact that the perception of the CTI by its various stakeholders is good. (This positive perception is in fact a result of the expertise of CTI's internal human resources, qualifying them for the evaluations they carry out. It is to be noted that all CTI staff work on a volunteer basis.)

The above-mentioned human resources are not used efficiently, owing to the fact that there is no backup function within the agency. The CTI's work is successfully carried out utilising its long experience of the tasks it was founded to accomplish. Nevertheless, it sorely lacks material resources, logistics, backup staff and permanent office space. This lack of resources results in the lack of a totally coherent and efficient internal quality assurance scheme.

A part of the accreditation procedure is carried out by the CTI's administrative registry, which is located at the DGES (at the French Ministry of

Education), to which it reports. Some of the CTI's stakeholders complained because their accreditation files had been lost; others mentioned lacking necessary information.

The administrative registry could be integrated into the CTI, but this is impossible as long as the CTI does not possess an adequate infrastructure.

### **3.5.ESG 3.5/ ENQA Criterion 4: Mission statement**

**Conclusion:** The CTI is substantially compliant.

The CTI has an historic mission defined by French law.

Since its founding, the CTI, like all European accreditation agencies, has set broader objectives. It is therefore necessary to complete the basic missions originally defined for the CTI by updating its "mission statement" and by adopting an overall strategic plan for the agency.

As an example, neither international initiatives nor quality improvement appear in the CTI's present mission statement, despite the fact that the CTI actively works in these two fields of activity.

### **3.6.ESG 3.6/ ENQA Criterion 5: Independence**

**Conclusion:** The CTI is conditionally compliant.

In practice, the CTI is an independent agency, even if "officially" this is not the case. For the time being, the CTI is "not compliant" as regards this criterion, but it will become so providing that the commitment (made by the DGES during its meeting with the EERC September 2007) is honoured.

In order to do so, however, it is mandatory that the CTI obtain written confirmation of the above-mentioned commitment. The DGES's commitment was that when it hands down or makes known the final decision to an evaluated institution, and after an obligatory discussion (between the institution and the CTI) of any conflicting opinions following the CTI's evaluation, the DGES will set forth its final decision in accordance with that of the CTI.

Moreover, this entails the CTI's informing the institutions it evaluates as to the results of its evaluation and publicising its decisions in a more rapid and "transparent" manner.

Concerning the above point, certain CTI stakeholders called the attention of the EERC to disparities existing between verbal recommendations made known by the CTI's evaluation committee members at the end of the evaluation process and those which were ultimately made to the evaluated institution by the DGES.

### **3.7.ESG 3.7/ ENQA Criteria 6 and 8: External quality assurance criteria and processes**

**Conclusion:** The CTI is compliant.

The CTI's methods, criteria and procedures are indeed predefined and made accessible to the public.

Problems concerning Criteria 2.4 (Communications) and 2.5 (Students) become apparent when examined according to ESG 3.1. These problems are, namely, the requirement to publicise decisions made and to allow student participation in the evaluation process.

### **3.8.ESG 3.8/ ENQA Criterion 7: Accountability procedures**

**Conclusion:** The CTI is compliant.

The EERC, aware that the resources criterion had already been taken into account in ESG 3.4, considered that, for the evaluation according to ESG 3.8, this criterion should not penalize the CTI a second time.

Nevertheless, an efficient internal quality assurance process must be implemented. The CTI cannot require that the institutions which it evaluates observe quality assurance if the CTI itself fails to do so.

It appears clearly to us that the lack of resources has not allowed the CTI to fully implement quality assurance within its own organisation. It would be necessary, for example, to be able to locate among files (currently archived with the CTI's administrative registry at the DGES) the lists of documents which these files should include and of the evaluation reports issued by the CTI. It is noteworthy, however, that archives which concern formal notifications of the results of the CTI's evaluation reviews are more accessible, (for example, minutes of the CTI's plenary sessions, AEF news, the Education Ministry newsletter and publications in the Official Government Bulletin (*Journal Officiel*)).

## **4.Findings concerning the way the CTI fulfils its (French) national mission**

The CTI's mission can be described as being three-fold:

### **4.1.Definition criteria and procedures of evaluation and accreditation**

The CTI conforms totally to these criteria, based on the reference documents (R&O and GAE) which were provided beforehand by the CTI to the EERC prior to their evaluation visit.

Certain stakeholders have pointed out the interest of these reference documents, as well as that of studies conducted by the CTI, both (for the ministries concerned) as a source for defining a policy for development of the

educational institutions which are under their responsibility and (for to the directors of these institutions) as a source for further improving the institutions they manage.

#### **4.2.Evaluation of study programmes**

The CTI totally conforms to this aspect of its mission. This can be verified thanks to such complementary documents as the minutes of the CTI's plenary assemblies as well as the files in the archives of evaluated institutions and internal CTI documents, in addition to the contents of interviews conducted with various partners.

#### **4.3.Opinion or decision to accredit institutions to award the degree of French chartered engineer**

The CTI totally conforms to this aspect of its mission, proof of such being both notifications of the CTI's decisions to the institutions which it has evaluated, and testimony from concerned French ministries and directors of the evaluated institutions.

It must be emphasised here that the EERC noted that the CTI enjoys the strong and total support of all its stakeholders.

### **5.Conclusions**

#### **5.1.Conclusion concerning compliance of the CTI with ENQA/ESG**

Concerning ENQA criteria, the CTI is "substantially compliant": all evaluations as regards any of the criteria linked to ESG are positive except the conditional point concerning "independence", which is to be dealt with rapidly.

**The recommendation of the EERC is therefore to prolong the CTI's membership in the ENQA. This membership could be provisional (e.g. of limited duration), allowing the CTI both to improve its resources (cf internal quality assurance process) and to definitively resolve the matter of its own independence.**

#### **5.2.Conclusion concerning the way the CTI fulfils its (French) national mission**

The CTI totally conforms concerning its mission in France, according to its three-fold orientation [cf above, Paragraph 4, "Findings concerning the way the CTI fulfils its (French) national mission"]

#### **5.3.Recommendations**

##### *5.3.1.Independence*

- **Attain true independence** thanks to the procedure explained in Paragraph 3.6 above. Attaining such independence must be considered a high priority and,

as such, must be reached quickly, because the EERC and CTI's stakeholders have become aware of the fact that this lack of independence results in dysfunctions observed in the CTI's communications with the educational institutions which it evaluates.

#### *5.3.2. Resources*

- **Obtain the means to realise its ambitions:** support resources are necessary to improve its overall logistics. (Institutions could contribute resources to their own evaluation by the CTI, for example, financial support and/or material support and/or staff.)

#### *5.3.3. Quality assurance*

- **Establish a coherent system of quality assurance** which would also integrate currently subcontracted work (such as that of the CTI's administrative registry)

#### *5.3.4. Student participation*

- **Include students in the evaluation process.** The procedures for this participation will take into account the relevant pilot projects in progress.

#### *5.3.5. Communications*

- **Enhance the quality of communications:** include on the CTI website the list and credentials of CTI's outside "associate experts", generally improve this site and ensure that the evaluation calendar and the decision-making process are "transparent" and thus irreproachable.

- **Reduce the time taken to inform the institutions** of the decisions made, following the discussions of any differences of opinion between an evaluated institution and the CTI.

#### *5.3.6. Positioning with respect to the AERES*

- Given that the AERES is in the process of establishing itself, the EERC members asked CTI stakeholders how they perceived the respective positions of the two organisations. From their replies, it became apparent that **neither a merger of the two organisations nor adoption by the CTI of the AERES's methods was desirable.** The CTI's methods are appreciated within the institutions which it evaluates. Non-academic stakeholders fear the possible bias of AERES's overly academic perspectives on the study programmes in French institutions of higher education for engineers, whereas the CTI's particular strength is its joint academic and professional orientation.

However, concern for economical use of the means placed at their disposal (for example, shared premises) and for procedures (for example, avoiding two successive evaluations by the CTI and the AERES of the same institution according to the same criteria), leads us to recommend that, **while the CTI and the AERES cooperate with each other, the CTI continue to maintain its own specific procedures and its joint academic and professional model.**



### 5.3.7.Mission Statement

- **Update the mission statement** so that the CTI becomes an organisation whose written mission (as per the "Savary" law, mentioned previously in this report) corresponds to the reality of what the CTI actually does.

### 5.3.8.Avenues for thought concerning future orientations

**All the stakeholders expressed their great satisfaction with respect to the CTI, whose action they consider to be indispensable.** The positive aspects which were mentioned are, among others, its objective judgement, its joint academic and professional composition, its approach to quality assurance and its adherence to the concept of "learning outcomes" in its approach.

**The international activity of the CTI is also one of its strong points** (membership in the ENQA, partnerships with the ECA and Eur-ACE plus bilateral projects with other agencies).

However, **some comments, albeit minor**, were heard during discussions:

- the risk of excessively equating evaluated institutions with one another: the difficulty of distinguishing among educational institutions which are very different when evaluating them according to the same criteria (the "name" of each French school for engineers remaining an important factor in the reputation of their respective degrees)
- the risk of extreme formalisation of procedures
- the necessity of making certain evaluation criteria more workable
- the pitfall of excessive paperwork

## 6.Appendices

### 6.1.Glossary of abbreviations used

<b>AERES</b>	<i>Agence d'Evaluation de la Recherche et de l'Enseignement Supérieur</i>
<b>BNEI</b>	<i>Bureau National des Elèves Ingénieurs</i>
<b>CDEFI</b>	<i>Conférence des Directeurs des Ecoles Françaises d'Ingénieurs</i>
<b>CEFI</b>	<i>Centre d'études des formations d'ingénieur</i>
<b>CFDT</b>	<i>Confédération Française Démocratique du Travail</i>
<b>CFI</b>	<i>Centre des Formations Industrielles</i>
<b>CGC</b>	<i>Confédération Générale des Cadres</i>
<b>CGE</b>	<i>Conférence des Grandes Ecoles</i>
<b>CGPME</b>	<i>Confédération Générale des Petites et Moyennes Entreprises</i>
<b>CNISF</b>	<i>Conseil National des Ingénieurs et des Scientifiques de France</i>
<b>CTI</b>	<i>Commission des Titres d'Ingénieur</i>
<b>DGES</b>	<i>Direction Générale des Enseignements Supérieurs (part of the French Ministry of Education)</i>
<b>ECA</b>	<i>European Consortium for Accreditation in Higher Education</i>
<b>EERC</b>	<i>External Evaluation Review Committee (for evaluation of the CTI in 2007)</i>
<b>EHEA</b>	<i>European Higher Education Area</i>

<b>EIC</b>	<i>Ecole d'Ingénieurs de Cherbourg</i>
<b>ENQA</b>	European Network for Quality Assurance
<b>ENSAIT</b>	<i>Ecole Nationale Supérieure des Arts et Industries Textiles</i>
<b>ENSAM</b>	<i>Ecole Nationale Supérieure d'Arts et Métiers</i>
<b>ENSCP</b>	<i>École Nationale Supérieure de Chimie de Paris</i>
<b>ENSEEIH</b>	<i>Ecole Nationale Supérieure d'Electrotechnique, d'Electronique, d'Informatique, d'Hydraulique et des Télécommunications</i>
<b>ENSIETA</b>	<i>Ecole Nationale Supérieure des Ingénieurs des Etudes et Techniques d'Armement</i>
<b>ENSMD</b>	<i>Ecole Nationale Supérieure des Mines de Douai</i>
<b>ESG</b>	European Standards and Guidelines
<b>EUR-ACE</b>	(Organisation for) Accreditation of European Engineering Programmes and Graduates
<b>FESIC</b>	<i>Fédération d'Ecoles Supérieures d'Ingénieurs et de Cadres</i>
<b>GAE</b>	<i>Guide d'Auto-Evaluation</i> (a CTI document)
<b>ISTIL</b>	<i>Institut des Sciences et Techniques de l'Ingénieur de Lyon, (within Lyon's Université Claude Bernard)</i>
<b>MEDEF</b>	<i>Mouvement des Entreprises en France</i>
<b>MESR</b>	<i>Ministère des Enseignements Supérieure et de la Recherche</i>
<b>NVAO</b>	<i>Nederlands-Vlaamse Accreditatieorganisatie</i>
<b>OAQ</b>	<i>Organ für Akkreditierung und Qualitätssicherung der Schweizerischen Hochschulen</i> (Center of Accreditation and Quality Assurance of the Swiss Universities, a Swiss accreditation committee)
<b>PDE</b>	<i>Promotion et Défense des Etudiants</i>
<b>R&amp;O</b>	<i>Références et Orientations</i> (a CTI document)
<b>SupElec</b>	<i>Ecole Supérieure d'Electricité</i>
<b>UGEI</b>	<i>Union des Grandes Ecoles Indépendantes</i>
<b>IGICT-CGT</b>	<i>Union Générale des Ingénieurs, Cadres, Techniciens) – (Confédération Générale du Travail)</i>

## 6.2. Outline of the self evaluation report of CTI

### ***Introduction***

#### ***SECTION ONE: DESCRIPTION OF NATIONAL ENGINEERING EDUCATION SYSTEM***

##### ***A. TRAINING AS AN ENGINEER***

###### **1. Engineering practice**

- 1.1. Definition
- 1.2. Functions of the engineer
- 1.3. Fields of the activities of the engineer
- 1.4. Abilities and competencies required by the engineer

###### **2. Ways to acquire the engineer degree**

- 2.1. Classical engineering education
- 2.2. Apprenticeship or continuing education programmes, with alternating periods, by cooperation between the academic institutions and the companies

2.3. Validation of the knowledge and competences acquired through the experience

### **3. Other alternatives**

- 3.1. Engineering programmes with international cooperation
- 3.2. Specialized engineering programmes

### **4. Engineering institutions**

## ***B. LEGAL AND ADMINISTRATIVE FRAMEWORK OF ENGINEERING EDUCATION***

### **1. The engineering degree "Titre d'Ingénieur"**

- 1.1. Historical background of the "Titre d'Ingénieur"
- 1.2. Characteristics of the "Titre d'Ingénieur"
- 1.3. Different "Titres d'Ingénieur" degrees

### **2. Assessment and accreditation context**

- 2.1. European authorities
- 2.2. The French State
- 2.3. The AERES
- 2.4. The CTI

## ***C. THE " COMMISSION DES TITRES D'INGÉNIEUR"***

### **1. General organisation of the CTI**

- 1.1. CTI missions
- 1.2. Composition of the CTI
- 1.3. CTI activities
- 1.4. Internal organisation of the CTI

### **2. Policy of CTI**

- 2.1. Partnership with companies
- 2.2. Institutions involvement in research activities
- 2.3. European and international orientation of the CTI
- 2.4. Competences approach by CTI
- 2.5. Quality assurance management by CTI

## ***SECTION TWO: APPLICATION OF THE EUROPEAN ORIENTATIONS TO IMPLEMENT THE EUROPEAN HIGHER EDUCATION AREA***

## ***D. THE IMPLEMENTATION OF THE EUROPEAN ORIENTATIONS***

### **1. The initial orientations of the Bologna process (1998)**

- 1.1. A system of readable and comparable degrees, together with the Diploma Supplement
- 1.2. A system essentially based on two main cycles
- 1.3. A system of credits, such as in the ECTS system
- 1.4. Mobility for students and for teachers
- 1.5. European co-operation in quality assurance, towards comparable criteria and methodologies
- 1.6. European dimension in higher education: integrated programmes and inter-institutional co-operation

## **2. Further developments, also in the UE framework**

- 2.1. Lifelong learning (Prague 2001)
- 2.2. Involvement of the students (Prague 2001)
- 2.3. Attractiveness of the European higher education area (Prague 2001)
- 2.4. Knowledge based society with two pillars, Higher education and research (Lisbon strategy 2000 and Berlin 2003)
- 2.5. Social dimension of the EHEA and involvement of social partners (Bergen 2005)
- 2.6. European Qualifications Framework (VET - Bruges – Copenhagen process 2002)

## ***E. STANDARDS AND GUIDELINES FOR QUALITY ASSURANCE IN THE EUROPEAN HIGHER EDUCATION AREA (ESG)***

### **Part 1: European standards and guidelines for internal quality assurance within higher education institutions**

- 1.1. Policy and procedures for quality assurance
- 1.2. Approval, monitoring and periodic review of programmes and awards
- 1.3. Assessment of students
- 1.4. Quality assurance of teaching staff
- 1.5. Learning resources and student support
- 1.6. Information systems
- 1.7. Public information

### **Part 2: European standards and guidelines for the external quality assurance of higher education**

- 2.1. Use of internal quality assurance procedures
- 2.2. Development of external quality assurance processes
- 2.3. Criteria for decisions
- 2.4. Processes fit for purpose
- 2.5. Reporting
- 2.6. Follow-up procedures
- 2.7. Periodic reviews
- 2.8. System-wide analyses

### **Part 3: European standards and guidelines for external quality assurance agencies**

- 3.1. Use of external quality assurance procedures for higher education
- 3.2. Official status
- 3.3. Activities
- 3.4. Resources
- 3.5. Mission statement
- 3.6. Independence
- 3.7. External quality assurance criteria and processes used by the agencies
- 3.8. Accountability procedures

## ***F. IMPLEMENTATION OF THE EUROPEAN ORIENTATIONS OF WHICH THE CTI IS A MEMBER***

### **1. ECA**

- 1.1. Implementation of ECA standards
- 1.2. Implementation of mutual recognition policy

### **2. EUR-ACE**

- 2.1. Implementation of EUR-ACE standards scope
- 2.2. Implementation of EUR-ACE label

## **SECTION THREE: ADAPTATION OF ENGINEERING EDUCATION TO THE NEEDS OF THE COMPANIES AND THE SOCIETY AS A WHOLE**

### **G. IMPLEMENTATION BY THE CTI OF THE LAW IN RELATION TO THE ACCREDITATION OF INSTITUTIONS**

#### **1. An organisation specific to the engineering programmes**

- 1.1. Joint academic and professional action
- 1.2. Control of the accreditation criteria
- 1.3. CTI activities linked to the "Titre d'Ingénieur" degree

#### **2. Accreditation criteria specific to engineering programmes**

- 2.1. Mission and organization: institution / school / training
- 2.2. Relationship and partnership: institution / school / training
- 2.3. Student recruitment
- 2.4. Educational programme
- 2.5. Graduate employment
- 2.6. Quality assurance and continuous improvement procedures

#### **3. Assessment and accreditation rules**

- 3.1. Reasons for evaluation and accreditation
- 3.2. Evaluation and accreditation process
- 3.3. Future steps regarding the accreditation process

### **H. RESULTS AND FUTURE PROSPECTS**

#### **1. CTI activity**

Statistics and comments

#### **2. Quantitative and qualitative results**

- 2.1. Recruitment and educational programmes: results of the accreditation
- 2.2. Adaptability of graduates to the professional world, nationally and internationally

#### **3. Current CTI improvement**

- 3.1. Yearly assessment survey by institutions
- 3.2. CTI internal assessment: SWOT analysis
- 3.3. CTI action plan (October 2006): taking responsibility for internal assessment.

### **Appendices**

- Data
- CTI reference documents and documentation
- ESG correspondences