



Commission
des titres d'ingénieur

CTI's Internal Quality Assurance System

Short description, main tools and examples of monitoring indicators

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1. DESCRIPTION OF CTI'S IQA SYSTEM AND MAIN TOOLS AND ACTIVITIES

CTI put into place an internal quality system in 2008. Since then, CTI has been committed to deploying its internal quality assurance and to developing specific tools for the tracking and control of its assessment and accreditation process.

As stated in the ESG standard 3.6., this system includes:

- **Defining, assuring and enhancing the quality and integrity of CTI's activities** through steering committees and working groups which submit their proposals to be discussed and - where appropriate - voted during meetings of the Board and plenary assembly.
- By-laws and charters which describe and guarantee the appropriate professional and ethical behaviour of CTI members, experts, observers, staff.
- Training sessions for members and experts to ensure their appropriate ownership of **CTI's guidelines and processes and prepare their expected behaviour during evaluation procedures.**
- Internal and external feedback mechanisms, for instance through:
 - o satisfaction surveys filled in by HEIs, experts, members;
 - o meetings and working groups with stakeholders;
 - o an annual conference;
 - o **transversal analysis and reports on CTI's procedures; ...**
- Communication and information on all activities, internally with members, experts and staff; externally with stakeholders, including the relevant ministries which publish a yearly joint decree listing all accreditation decisions.
- Promote the academic and professional recognition of the engineering degree and support the institutions by:
 - o publishing the results of the accreditation procedures and information on the level and contents of the engineering degree;
 - o handing out certificates to graduates confirming the level and programme outcomes of the degree;
 - o **having CTI's standards and guidelines certified by CNEFOP** (and thus qualifying accredited programmes for public funding for continuing education) see chapter 9.7.4. below
 - o signing agreements with foreign organisations;
 - o participating in European projects;
 - o organising and participating in national and international events;
 - o transversal analysis and reports on the engineering education and profession.

Evidences and references

Evidence 9.6.1.: [Link to CTI's website page on internal quality assurance](#)

Evidence 9.6.2.: [Link to CTI's website page on CTI's steering committees](#)

Evidence 9.6.3.: [Link towards the by-laws and charters on CTI's website](#)

Evidence 9.6.4.: [Internal satisfaction survey addressed to CTI members](#)

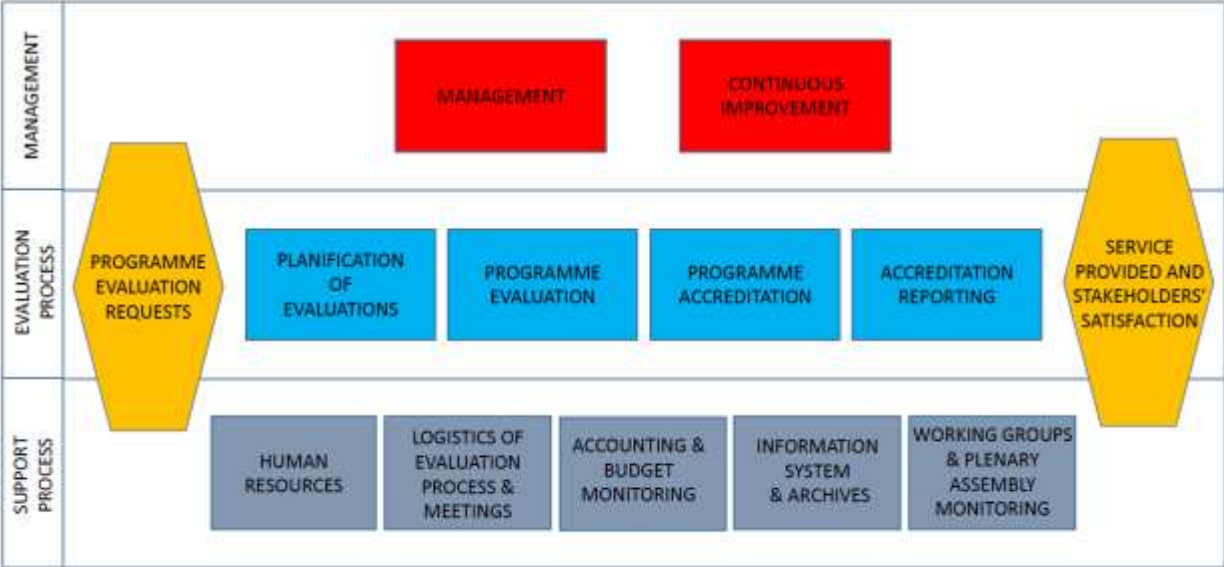
Evidence 9.6.5.: [Internal satisfaction survey addressed to CTI French and international experts](#)

Evidence 9.6.6.: [Annual satisfaction survey addressed to deans of HEIs](#)

Evidence 9.6.7.: [CTI's standards and guidelines \(R&O\), Volume 4](#): In-depth thematic notes

2. MAPPING DIAGRAM

COMMISSION DES TITRES D'INGENIEUR :
MAPPING OF THE INTERNAL QUALITY ASSURANCE SYSTEM



3. CTI'S QUALITY OBJECTIVES AND IMPLEMENTATION PRIORITIES AS REGARDS STAKEHOLDERS

Level / stakeholder	Objectives	Implementation priorities
Internal / CTI	Professionalism Efficiency Consistency, objectivity of decisions	Formalisation and clarity of procedures Periodic self-assessment
HEIs' level	Transparency and clarity Credibility and legitimacy Solid external assistance for continuous improvement	Formalisation and updates of standards and procedures Answers and specific information as needed Clarity of decisions, reports, and system indicators
National and international level : French Higher Education Ministry, HEIs associations, Higher education partners, International organisations...	Credibility and legitimacy Recognition	External evaluations Answers and specific information as needed Shared projects and publications that comply with the CTI missions and objectives
General public, students, families...	Transparency Information	Clear and reliable public information on HEIs and evaluated programmes

4. EXAMPLE OF RESULTS OF SATISFACTION SURVEYS

4.1. 2016-2017 survey addressed to HEIs

The following figures are abstracts from the 2016-2017 survey addressed to HEIs. The results were analyzed by the *Quality and Communication* and *Audit* steering committees.

Afterwards they were disseminated (leaflet and oral presentation), as well as the key actions taken, to the Engineering Deans and other partners and stakeholders at CTI's annual conference. They are also published on CTI's website (https://www.cti-commission.fr/wp-content/uploads/2018/02/CTI_Colloque_Champs_sur_Marne_2018_Diaporama_4_Enquete_qualite_communication_2016-2017.pdf).

- ✓ Survey conducted each year, at the end of the accreditation campaign
- ✓ Sent to all French and international HEIs having undergone an audit procedure, periodic or not
- ✓ Results communicated to the panel of experts
- ✓ Data processed individually (each HEI) and globally (only French HEIs)

Satisfaction survey addressed to the evaluated HEIs

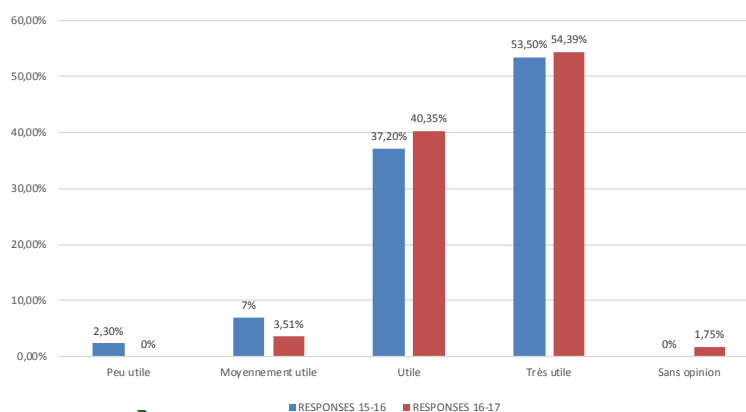
Section Communication / preliminary information / general organization of the procedure

Q5 : Was CTI's website useful for your accreditation application?

Key actions :

New website launched at CTI's 2017 annual conference, since then:

- Online release of the English version
- Implementation of the « agenda » tool
- Graphic adaptation in line with the different private sections
- Search engine evolutions



+3,04% of « Useful » or « Very useful » answers



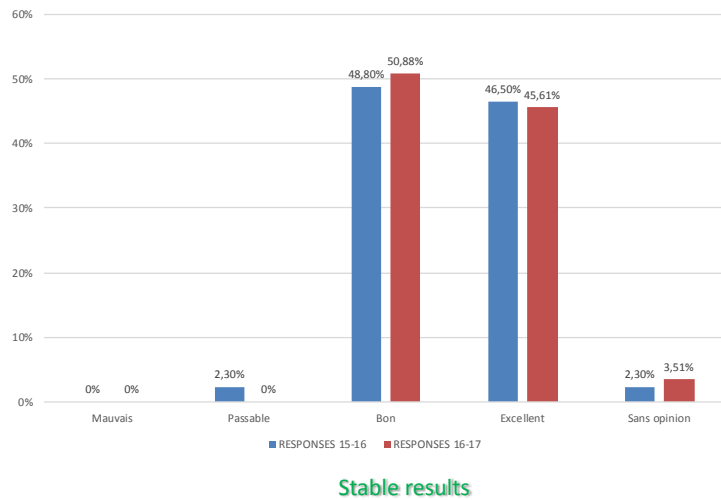
Satisfaction survey addressed to the evaluated HEIs

Section Communication / preliminary information / general organization of the procedure

Q6 : How do you assess the support provided by CTI and the Registry throughout the process?

Improvement tracks :

- Information towards HEIs at the beginning of the campaign
- Members and experts' training



Satisfaction survey addressed to the evaluated HEIs

Section Accreditation renewal / self-assessment :

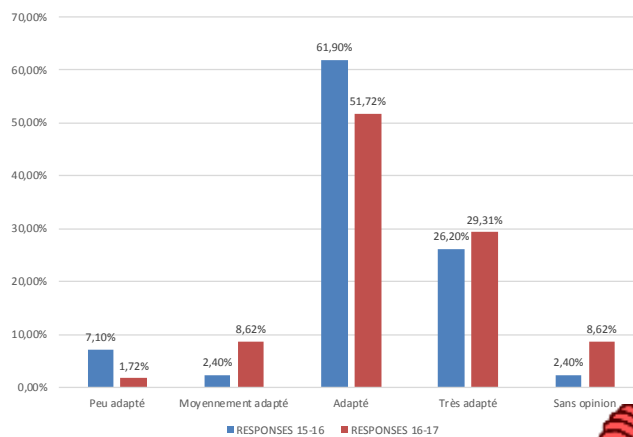
Q7 : Does the new periodicity of the systematic evaluation seem appropriate for your school?

Key action :

Implementation of risk-based audits (EHEA trend)

Audit steering committee :

≈ 50% of periodic files
HEIs load linked also to dynamism / new projects



- 7,07% of « Suitable » or « Very suitable » answers



Satisfaction survey addressed to the evaluated HEIs

Section *Site visit* :

Q11 : How do you assess the relevance of the composition of the audit team ?

Key actions :

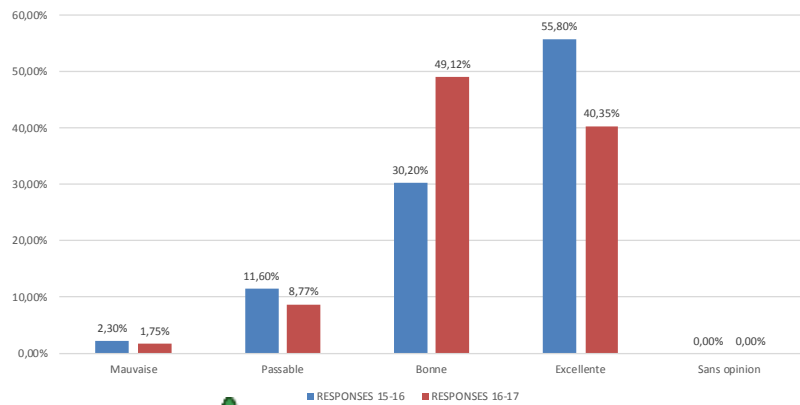
Experts committee + focused

- On **skills**
- On the **size** of the panels

R&O working group :

Focus of the experts also on

- Process, QA
- Global ecosystem



+3,47% of « Good » or « Excellent » answers

Satisfaction survey addressed to the evaluated HEIs

Section *Site visit* :

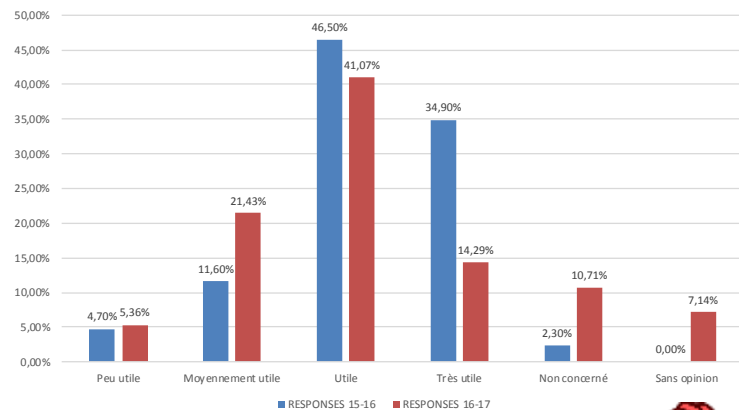
Q12 : How do you perceive the contribution of the engineering student experts in the audit team?

Key action :

Dedicated training session for EEI

Improvement tracks :

Focus on EEI's role during members and experts' training sessions



-26,04% of « Useful » or « Very useful » answers



Satisfaction survey addressed to the evaluated HEIs

Section Site visit :

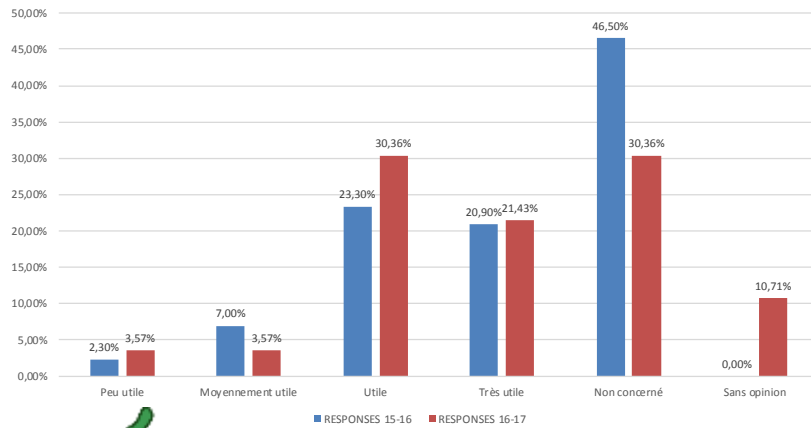
Q13 : How do you perceive the contribution of the international experts in the audit team ?

Key actions :

- Experts committee : systematic Eint
- Annual consultation members/RP about E/Eint/EEI

Improvement track :

Members and experts' training about French HE context



+7,59% of « Useful » or « Very useful » answers



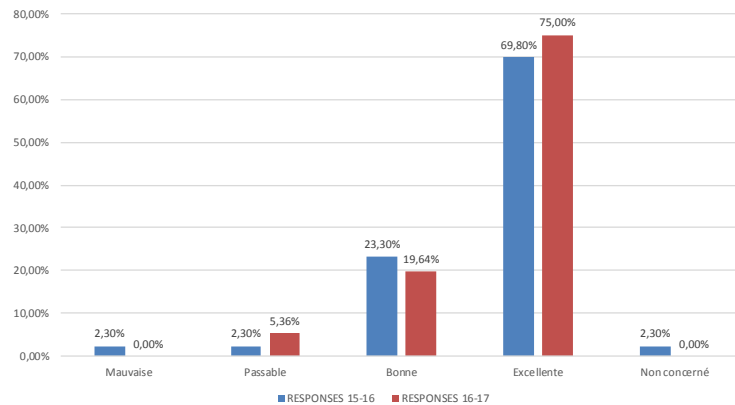
Satisfaction survey addressed to the evaluated HEIs

Section Site visit :

Q19 : How do you assess the quality of the exchanges between the HEI and the audit team during this visit?

HEIs words:

Richness
Opening
Enhances reflection
Continuous improvement



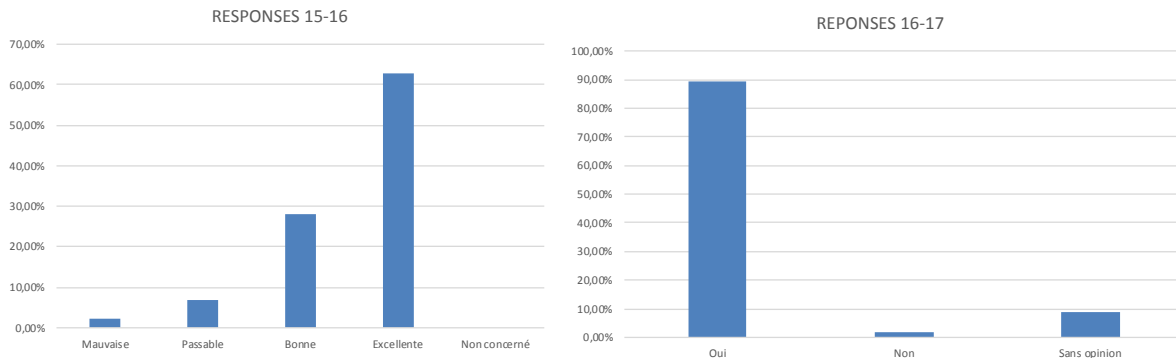
Stable results



Satisfaction survey addressed to the evaluated HEIs

Section Site visit :

Q21 : Did you perceive the required neutrality from the audit team during this visit?



Key actions :

- Revision of the deontology charter
- Dedicated training module « deontology »
- Revision docs. « Panel chair role » et « Expert role »

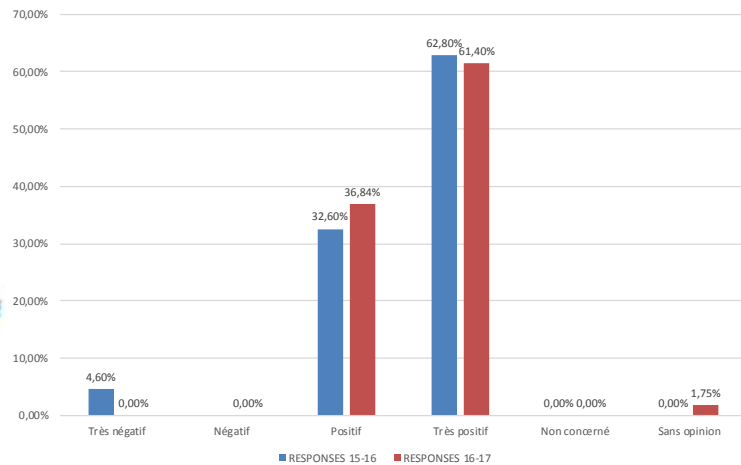
Stable results

Satisfaction survey addressed to the evaluated HEIs

Section Site visit :

Q22 : How do you estimate the impact for your HEI of the site visit?

HEIs words:



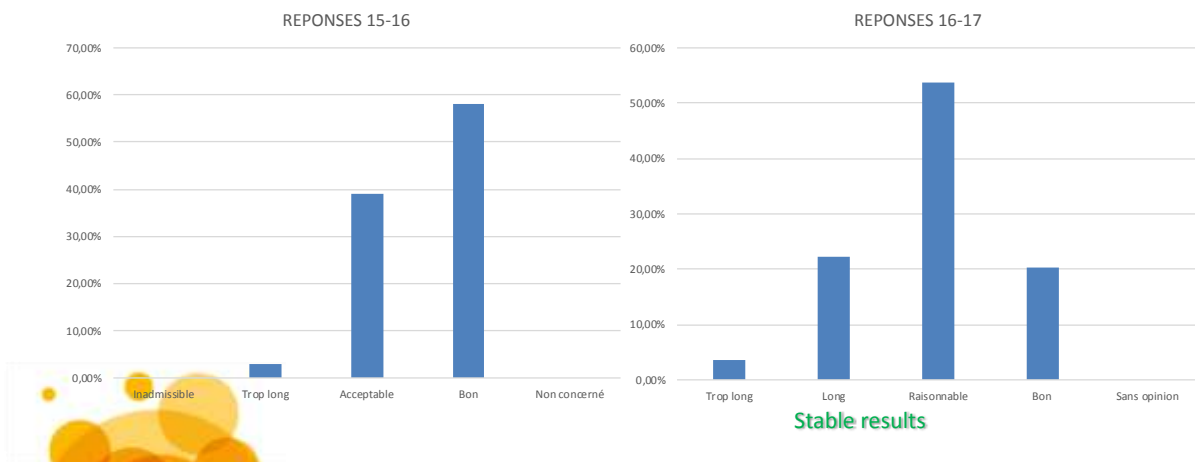
Stable results

Satisfaction survey addressed to the evaluated HEIs

Section CTI's mission report and decision report :

Q23 : What is your opinion on the delay between the submission of your self-assessment report and the publication of CTI's decision report?

Key action : For R2019 work on the timing to shorten time between RAE submission and Plenary session



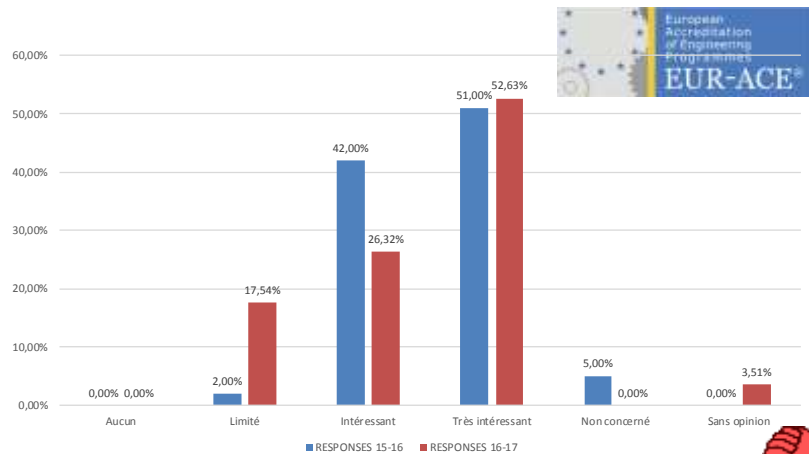
Satisfaction survey addressed to the evaluated HEIs

Section CTI's mission report and decision report :

Q25 : What is the interest for your HEI to be part of a European programme certification system?

Key actions :

- Label charter of use
- Increased communication (CTI and ENAEE)
- Development of the label attribution without CTI accreditation (abroad)
- Members and experts' training



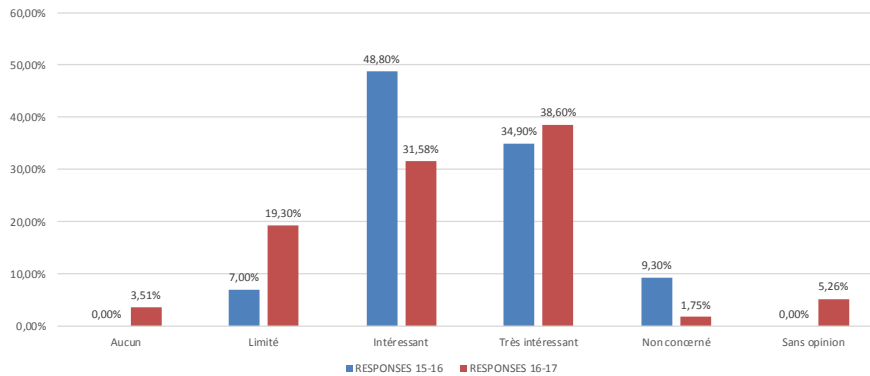
- 14,05% of « Interesting » or « Very interesting » answers



Satisfaction survey addressed to the evaluated HEIs

Section CTI's mission report and decision report :

Q26 : How do you assess the added value of the EUR-ACE® label on your international policy?



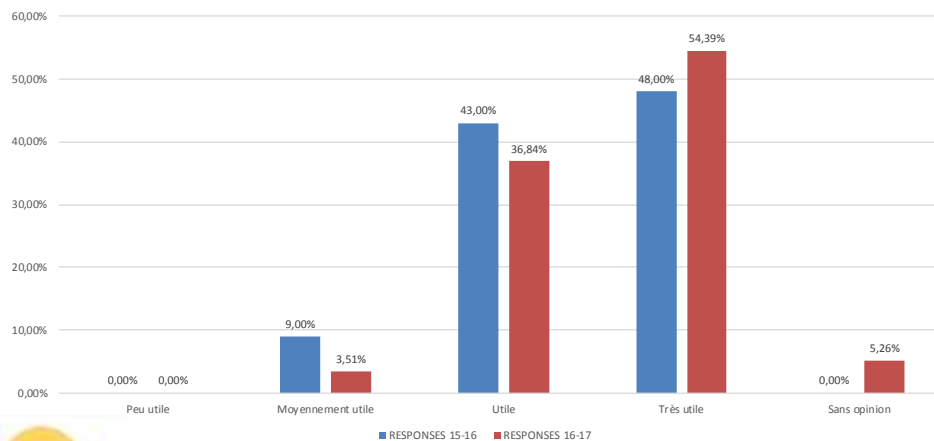
- 13,52% of « Interesting » or « Very interesting » answers



Satisfaction survey addressed to the evaluated HEIs

Section Accreditation renewal / self-assessment :

Q8 : Do you think that the writing of the self-assessment report has contributed to the quality assurance system of your HEI ?



Stable results

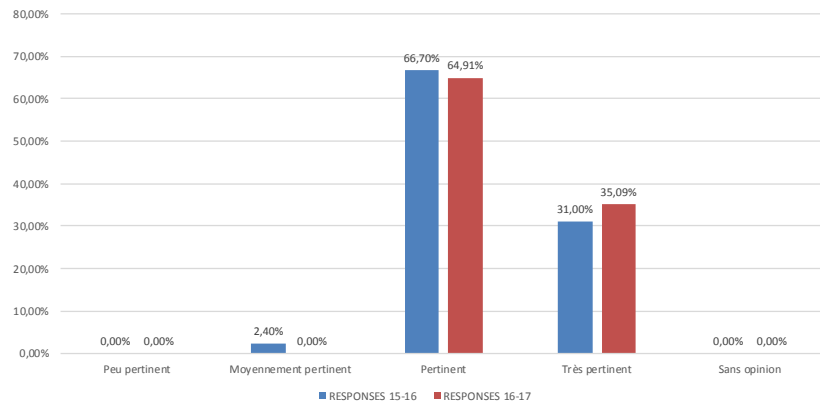
Satisfaction survey addressed to the evaluated HEIs

Section Criteria and tools Q27, 28 et 29

How do you assess the relevance of the major evaluation criteria used by CTI?

Key actions :

- CDEFI consultation for R&O's revision
- Common reflection on HEIs typologies
- Decision reports for public HEIs within Universities decline the recommendations per faculty



Stable results – 100% satisfaction

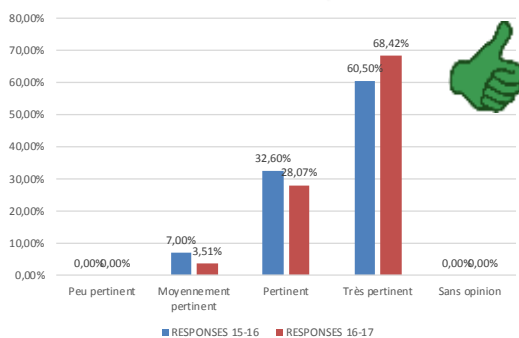
Satisfaction survey addressed to the evaluated HEIs

Section Criteria and tools Q27, 28 et 29

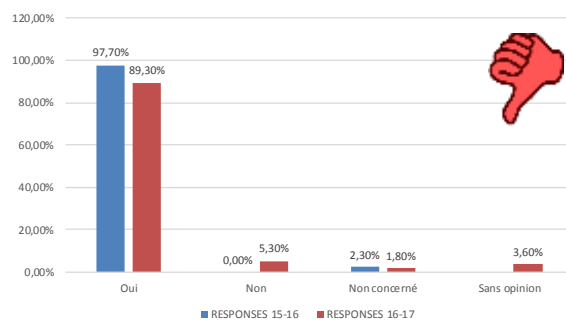
How do you assess the value of CTI's online reference document: Self Assessment Guide?

Do the documents listed in the Self Assessment Guide correspond to those requested on site by the audit team?

+3,39% of « Relevant » or « Very relevant » answers



- 8,4% of « Yes »



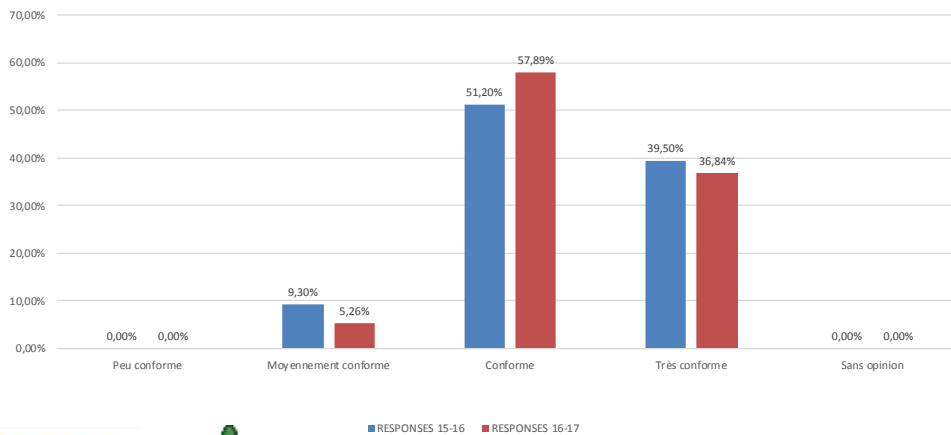
Improvement tracks :

- Systematically consult documents
- Dedicated training module « GAE » in the next session

Satisfaction survey addressed to the evaluated HEIs

Section *The accreditation process* :

Q33 : Is the content of the mission report consistent with your own vision of your HEI?

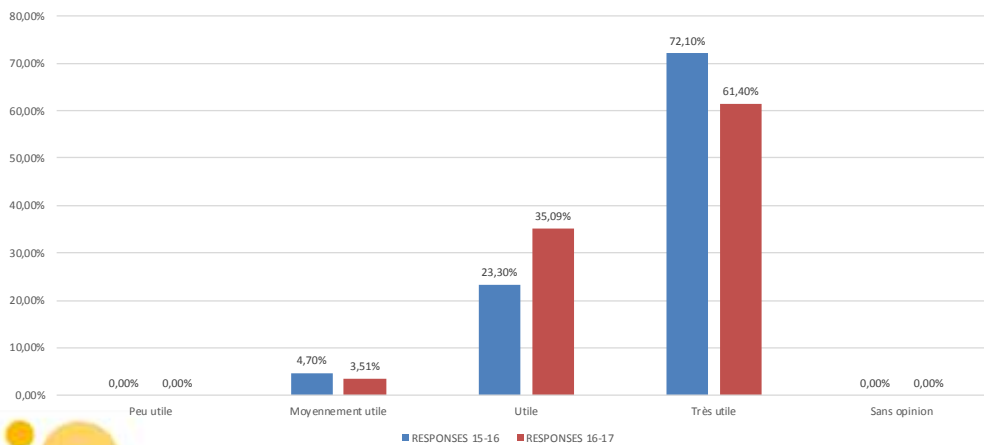


+ 4,03% of « Consistent » or « Very consistent »

Satisfaction survey addressed to the evaluated HEIs

Section *The accreditation process* :

Q34 : Will decision reports and recommendations be useful for your continuous improvement process?

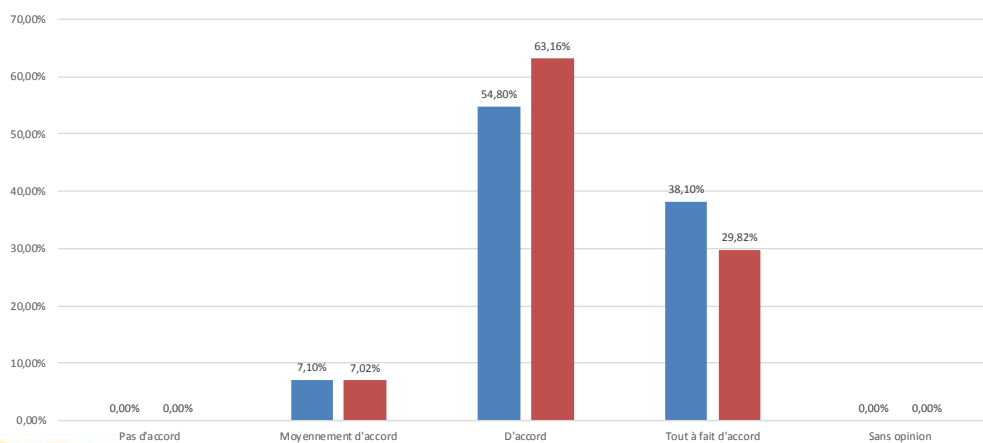


Stable results

Satisfaction survey addressed to the evaluated HEIs

Section *The accreditation process* :

Q35 : Do you overall agree with the recommendations stated in the decision report?



Stable results

Satisfaction survey addressed to the evaluated HEIs

Section *The accreditation process* :

Q36 : How do you consider the impact of the whole accreditation process?

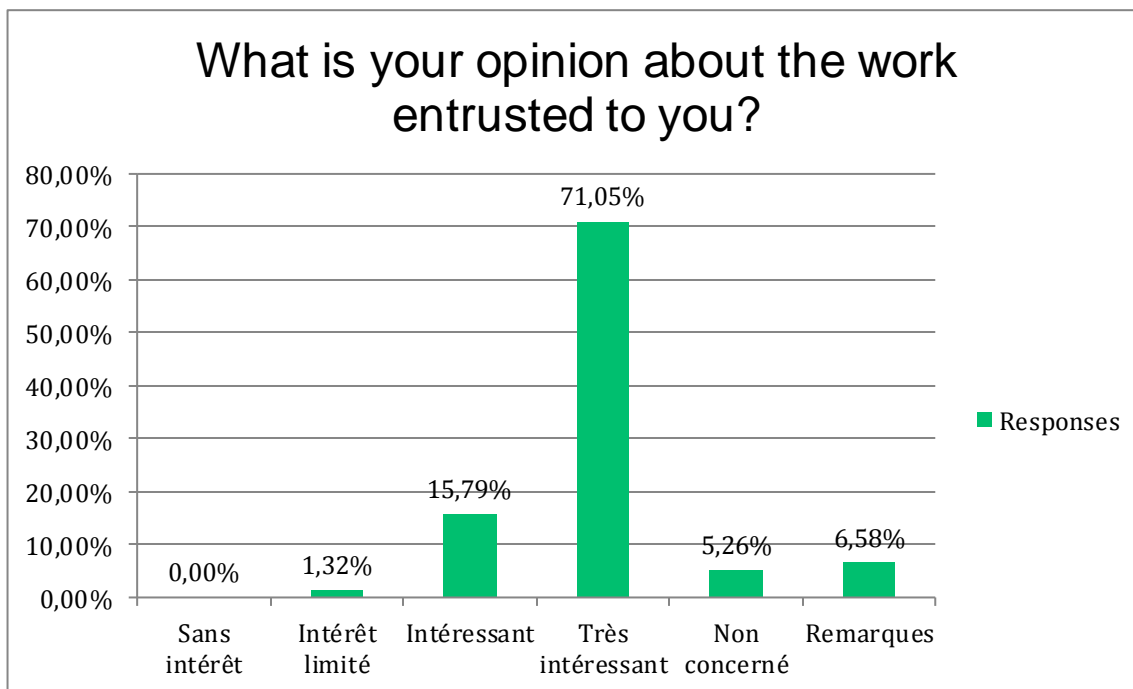
	IMPACT DÉTERMINANT	IMPACT IMPORTANT	IMPACT MOYEN	IMPACT NUL	SANS OPINION	TOTAL
Sur l'école	49.12% 28	47.37% 27	3.51% 2	0.00% 0	0.00% 0	57
Sur le personnel enseignant	21.05% 12	63.16% 36	14.04% 8	1.75% 1	0.00% 0	57
Sur le personnel Ingénieur, technique, administratif et de service	12.50% 7	53.57% 30	26.79% 15	7.14% 4	0.00% 0	56
Sur les élèves ingénieurs	5.26% 3	52.63% 30	36.84% 21	5.26% 3	0.00% 0	57
Sur l'environnement professionnel de l'école	21.05% 12	40.35% 23	35.09% 20	1.75% 1	1.75% 1	57

4.2. 2016-2017 survey addressed to experts

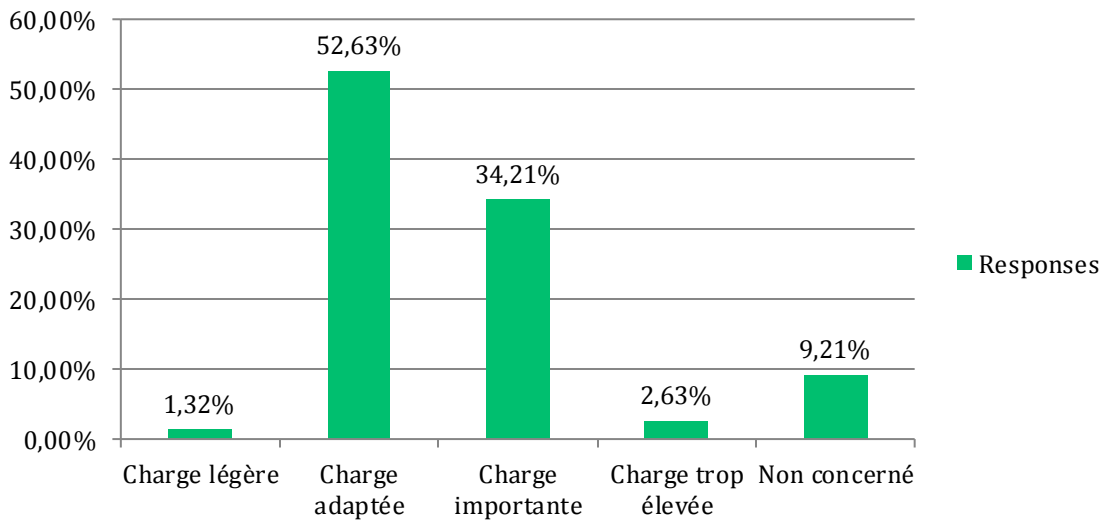
The following figures are the results of the 2016-2017 survey addressed to experts. The results were analyzed by the *Quality and Communication* and *Audit* steering committees.

Afterwards they were disseminated, as well as the key actions taken, to the Plenary assembly and to the experts during several meetings.

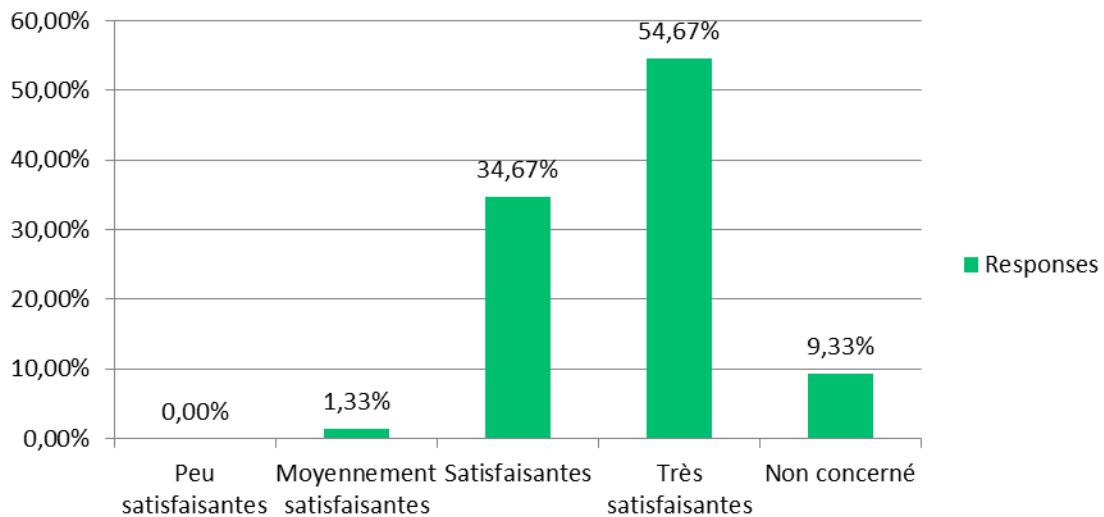
- ✓ Survey conducted each year, at the end of the accreditation campaign
- ✓ Sent to all current experts and to all outgoing experts (field experts, international experts and engineering student experts)
- ✓ Data exploited globally (all fields) and individually (for 1 free field about the additional topics/WG experts would like to get involved in)



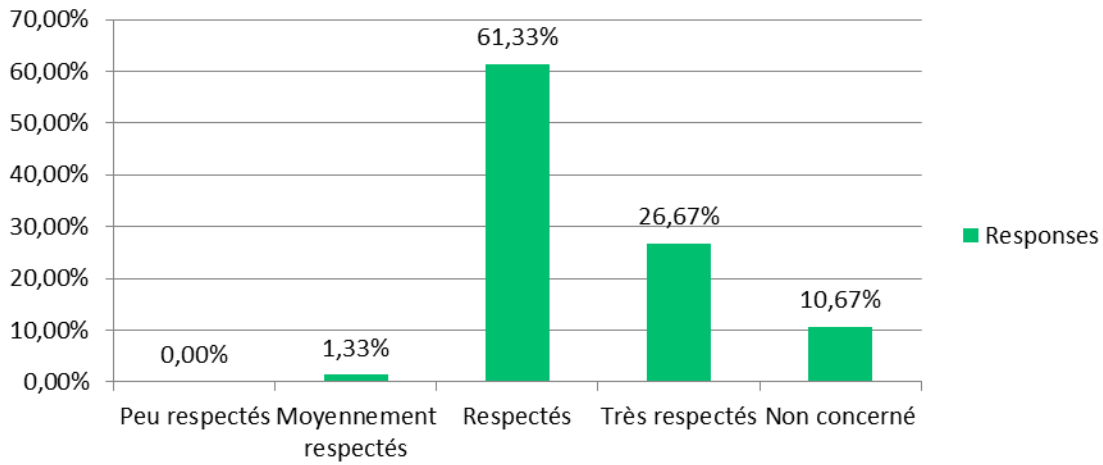
What do you think about the workload per audit?



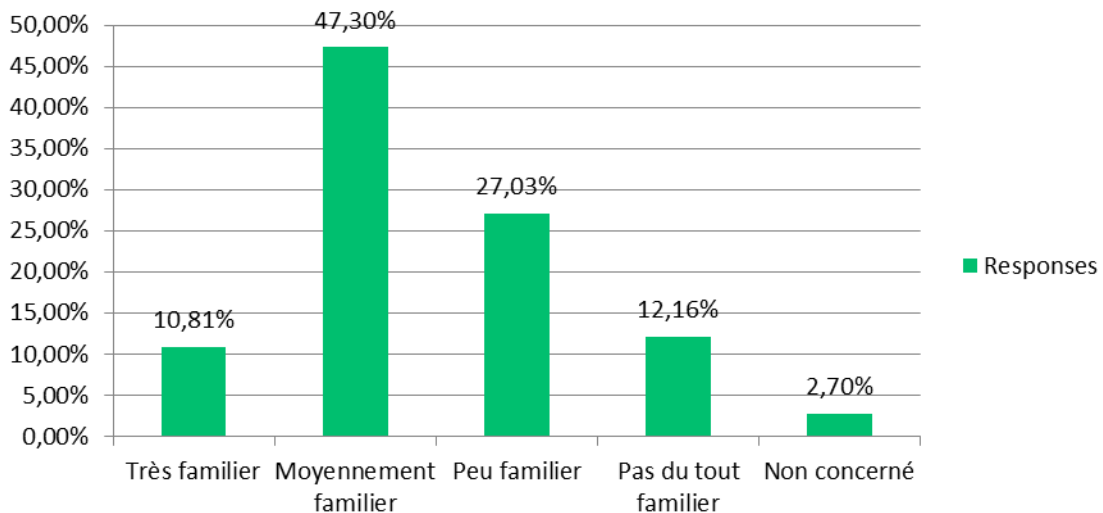
What is your opinion on the material conditions of the site visits?



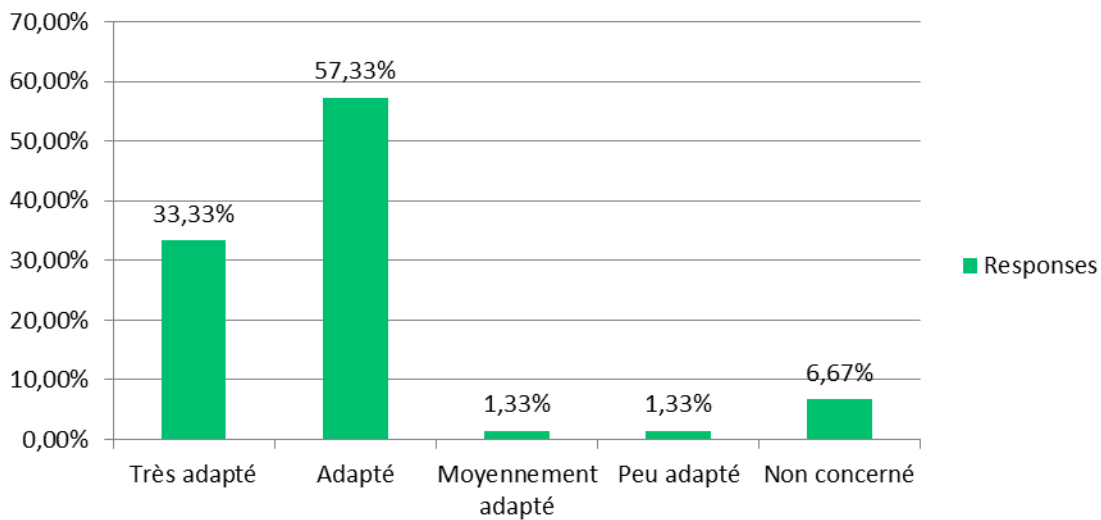
Were CTI procedures and standards & guidelines respected in the evaluation procedure?



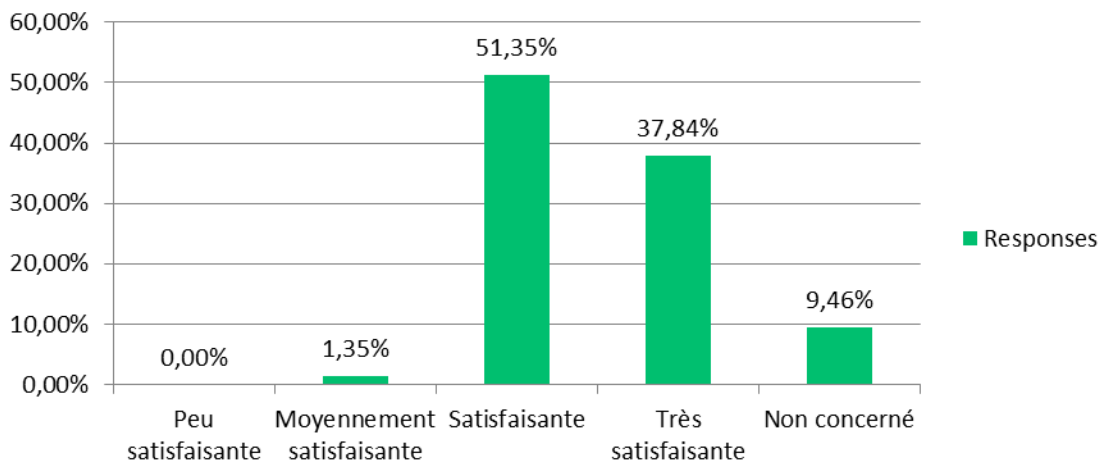
Are you familiar with EUR-ACE® procedures and standards & guidelines?



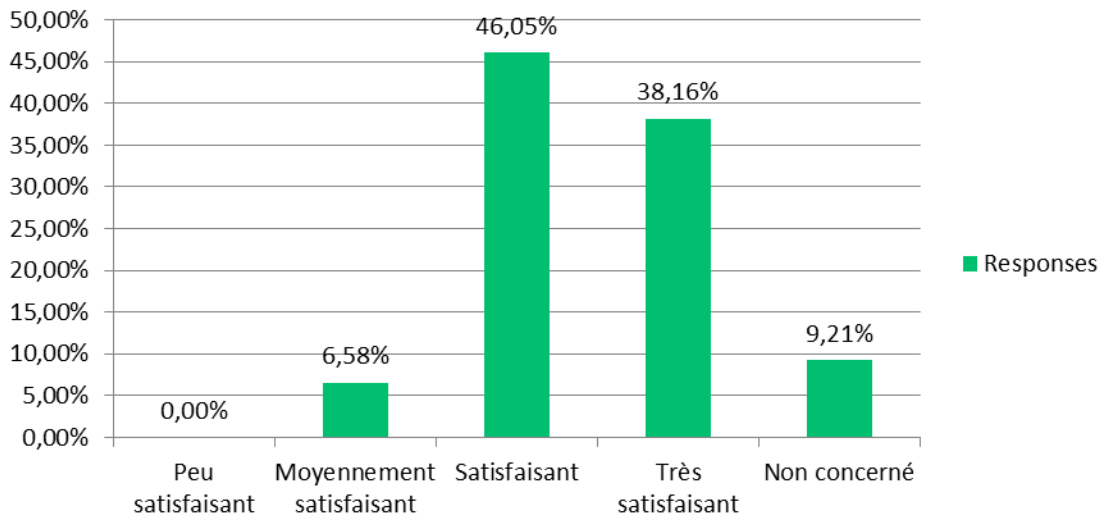
Do you think your profile was appropriate for the mission(s) you performed?



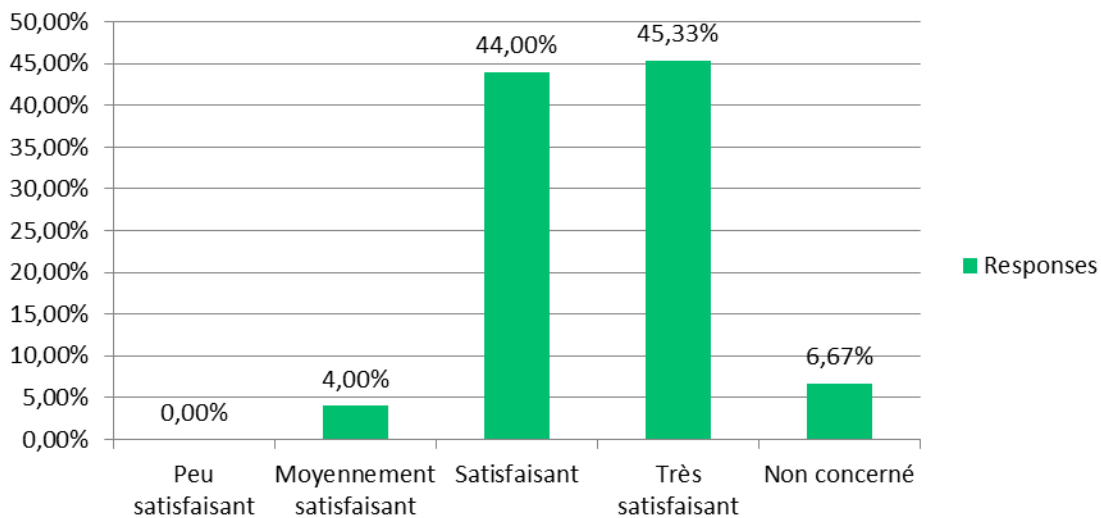
What is your opinion on the way the results of your work were taken into account?



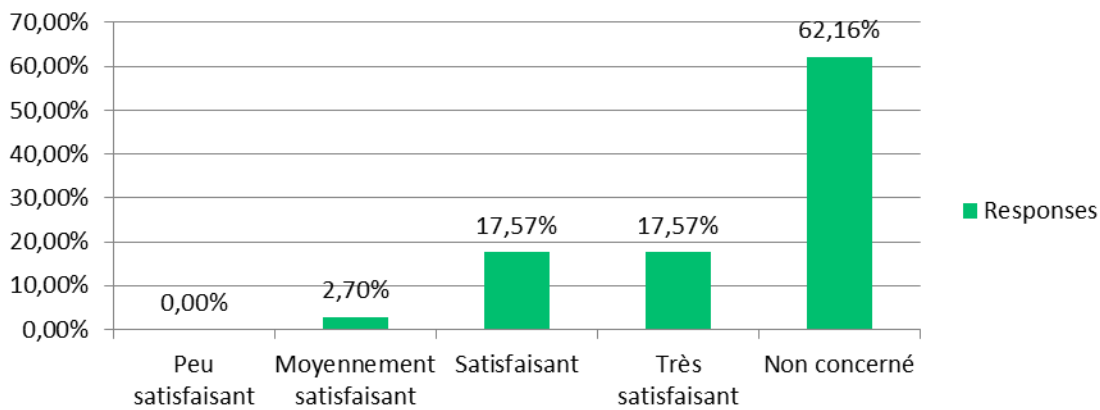
What is your opinion on your overall level of training for your CTI missions?



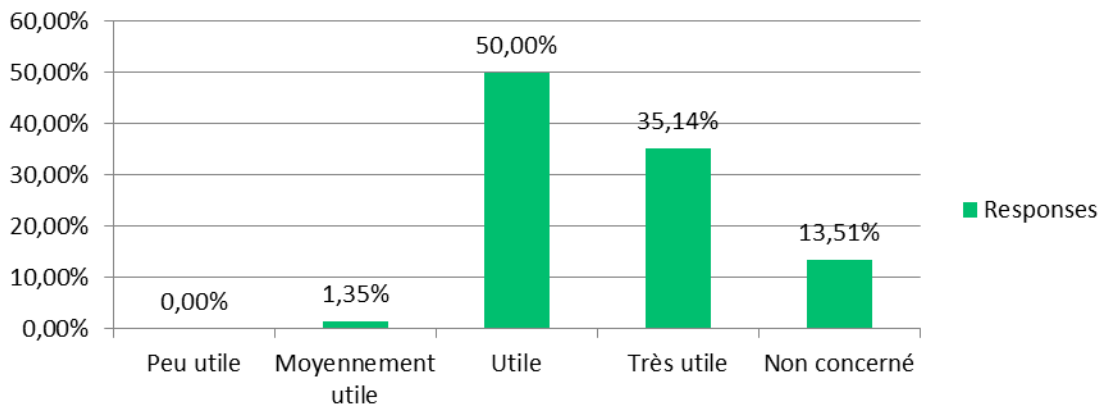
What is your opinion on your overall level of information for your CTI missions?



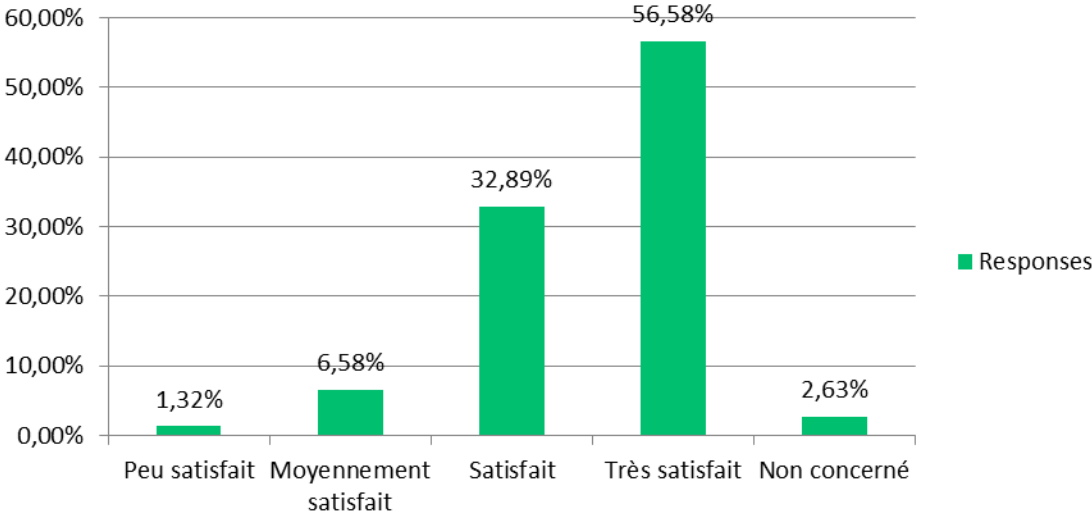
Did the training & networking day of June 9, 2017 give you sufficient information and tools for your participation in the audits?



What is your opinion on the 2016 version of CTI's online Standards&Guidelines? ([Http://fond-documentaire.cti-commission.fr/](http://fond-documentaire.cti-commission.fr/))



Are you satisfied with your involvement with CTI?



Évaluations relevant du calendrier périodique

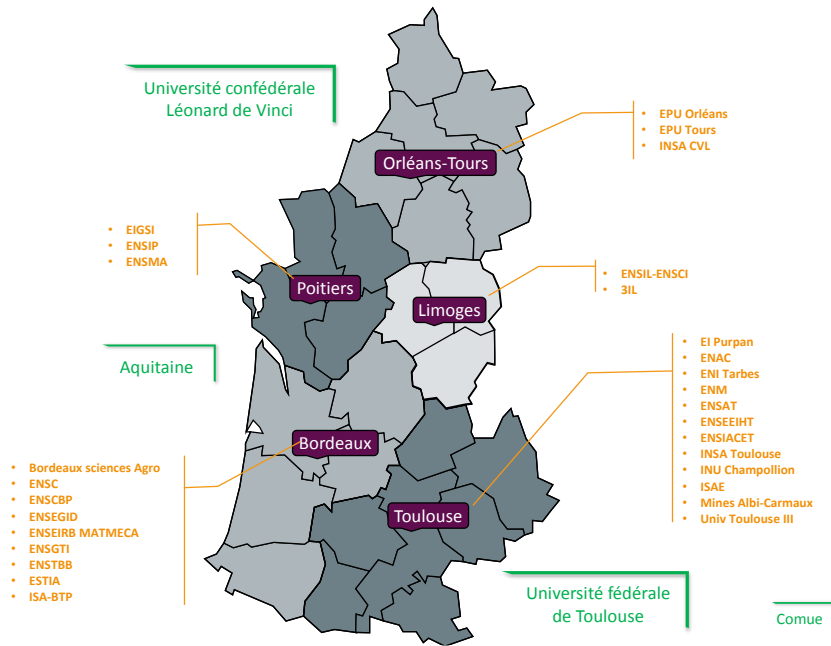
ÉVALUATIONS TYPE A
dans **5** académies
29 écoles
70 formations

-> **65** titres d'Ingénieur à ré-accréditer

-> **5** nouveaux titres d'Ingénieur

-> Fusion ENSIL-ENSCI
-> Nouveau site EIGSI à l'étranger

-> Consultation du site Nouvelle Aquitaine
-> Consultation de Bordeaux INP
-> Consultation de réseaux : Gay Lussac, Ecoles du Ministère en charge de l'agriculture



Évaluations hors du calendrier périodique en France

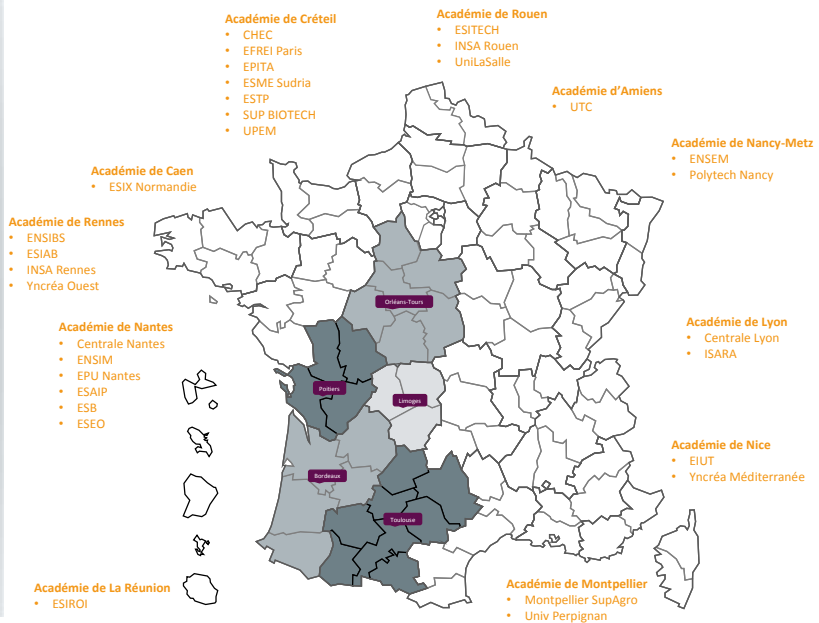
ÉVALUATIONS TYPE B, C, D, E
dans **11** académies
31 écoles
62 dossiers

15 écoles
-> **22** titres d'Ingénieur à ré-accréditer

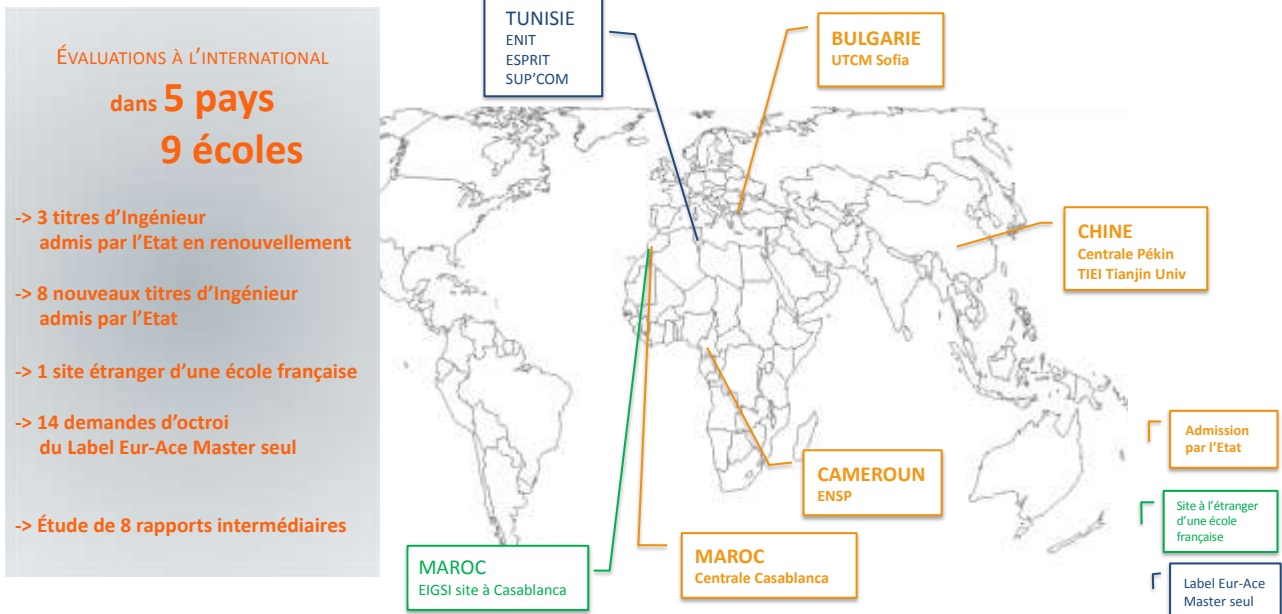
21 écoles présentant de nouveaux projets :
-> **14** nouveaux titres d'Ingénieur
-> **1** titre d'Ingénieur spécialisé
-> Fusions, transformations d'écoles, nouveaux sites de formation etc.

-> Étude de 23 rapports intermédiaires

Création de 2 nouvelles écoles :
-> **1** école d'ingénieur Post-Bac
-> **1** école de spécialisation



Évaluations à l'international



Caractéristiques des missions

68 missions en 2016-2017

	2014-2015	2015-2016	2016-2017
Nombre d'établissements évalués	69	88	68
publics	46	51	43
privés	15	13	16
consulaires	3	1	1
établissements étrangers	5	23	8



Campagne 2016-2017

250 journées de mission relevant de l'activité d'accréditation périodique

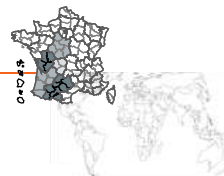
soit **49,4 %** de l'activité totale de la campagne 2016-2017

86% des missions en France pour des écoles du MESRI

	2014-2015	2015-2016	2016-2017
Nombre d'établissements publics évalués dont	46	51	43
sous tutelle du ministère en charge de l'enseignement supérieur	36	43	37
sous tutelle du ministère en charge de l'agriculture, l'alimentation	4	3	2
sous tutelle du ministère en charge de l'économie, l'industrie	3	3	1
sous tutelle du ministère en charge de la défense, l'armée	2	0	1
sous tutelle du ministère en charge de l'écologie, la transition énergétique	1	2	2

2016-2017 Campaign					
Audits France	M	148	implications	39	personnes
Audits France	E	53	implications	43	personnes
Audits France	EI	22	implications	21	personnes
Audits France	EEl	43	implications	28	personnes
Total Audits France		266		131	

Caractéristiques des missions



Campagne 2016-2017

Missions en Europe et en Afrique francophones ainsi qu'en Asie

	2014-2015	2015-2016	2016-2017
Nombre d'établissements étrangers évalués dont	5	23	8
en Chine	2	2	2
en Belgique	1	17	-
au Burkina Faso	1	-	-
en Suisse	1	-	-
au Viêtnam	-	4	-
en Bulgarie	-	-	1
au Cameroun	-	-	1
au Maroc	-	-	1
en Tunisie	-	-	3

126 journées de mission
à l'étranger

soit **25 %** de l'activité
à l'international

en France

380 journées de mission
125 auditeurs

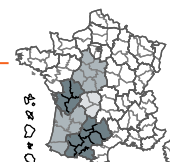
à l'international

126 journées de mission
35 auditeurs

Résultats des accréditations en France

90 % d'accréditations maximales

	Nombre de formations	Accréditation maximale	Accréditation restreinte	% d'accréditation maximale
Renouvellement des accréditations (dossiers type A et B)	80	78	2	97,5%
Accréditation de nouveaux projets (dossiers type D et E)	16	8	8	50%



Campagne 2016-2017

Sur **52** avis ou décisions d'accréditation

6 sont assortis d'une **injonction** soit 11,5 %

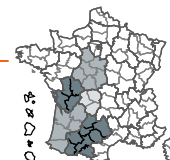
12 sont complétées par une demande de **rapport intermédiaire** soit 23 %

Cursus évalués

FISE : 49 %
FISA : 23 %

	2014-2015	2015-2016	2016-2017
Nombre de cursus de formation évalués dont	312	349	204
en formation initiale sous statut d'étudiant (FISE)	133	190	99
en formation initiale sous statut d'apprenti (FISA)	87	70	47
en formation continue (FC)	92	89	58

Résultats des accréditations en France



Campagne 2016-2017

Création de 5 nouvelles spécialités en 2016-2017

3 nouveaux titres en FISE à Polytech Nancy :

- « **Energétique et Mécanique** »
- « **Génie industriel et Gestion des risques** »
- « **Systèmes et Technologies de l'information** »

1 création de titre en FISE à SUP BIOTECH (nouvelle école d'Ingénieur) :

- Domaine des **biotechnologies**

1 Création de titre d'Ingénieur spécialisé en FISE au CHEC (école de spécialisation) :

- Domaine de la **construction**

Résultats des évaluations à l'international



Campagne 2016-2017

46 % d'accréditations maximales pour les diplômes étrangers admis par l'Etat

	Nombre de formations évaluées	Accréditation maximale	Accréditation restreinte	Non accréditées	% d'accréditation maximale
Renouvellement des diplômes admis par l'Etat (dossiers type H)	3	3	0	0	100 %
Nouvelles demandes d'admissions par l'Etat (dossiers type G)	10	3	5	2	30 %

86 % d'accréditations maximales pour les octrois du Label Eur-Ace Master seul

	Nombre de formations	Accréditation maximale	Accréditation restreinte	% d'accréditation maximale
Renouvellement des labellisation Eur-Ace Master (dossiers type H)	2	2	0	100 %
Nouvelles demandes de labellisation Eur-Ace Master (dossiers type G)	12	10	2	83,3 %

6. Examples of follow-up of accreditation procedures

6.1. 2019-2020 Audit planification board

https://www.dropbox.com/s/pw5rptez0yoowxt/Projet_R2020_20181105.xlsx?dl=0

6.2. International pluriannual audit monitoring board

https://www.dropbox.com/s/n1dgg97sgd5ir1t/R%C3%A9cap_audits_%C3%A9tranger_V13septembre2018.xlsx?dl=0

7. Training sessions for CTI members and experts, 2017-2018

CTI organises regularly training sessions for its members and experts. These sessions may take various forms, either regular one day training programmes for members and experts or one-day workshops or shorter tutoring sessions for small groups adapted to defined profiles (new members, student experts, ...); specific topics (joint procedures, role of different panel members, ...) or updating (evolution of the standards and guidelines of CTI, EUR-ACE®, ESG, ...)

During the period 2017-2018, following training sessions were organized:

- June 19th 2017, Paris, training programme for all experts
- September 11th 2017, Paris, seminar for all members
- October 10th 2017, Paris, tutoring session for members **on the registry's database**
- October 13th 2017, Paris, training programme for new student experts
- February 13th 2018, Champs-sur-Marne (Greater Paris region), for all experts and members, **participation in CTI's annual conference**
- March 13th 2018, Paris, two tutoring sessions for members on **CTI's extranet**
- April 10th 2018, Paris, tutoring session for members on simplified procedures
- April 11th 2018, Paris, tutoring session for members on simplified procedures
- May 15th 2018, Paris, **tutoring session for members on CTI's extranet**
- July 9th 2018, Paris, training programme for new members (module I)
- September 10th 2018, Paris, training programme for new members (module II)
- September 11th 2018, Paris, tutoring session for members on joint Hcéres-CTI procedures
- October 3rd 2018, Bruxelles, training programme for members and experts participating in joint AEQES-CTI evaluation procedures in Belgium
- October 5th 2018, Paris, training programme for new student experts
- December 10th 2018, Paris, training programme for new members (module III) & for all members and experts
- December 11th 2018, Paris, tutoring session for members on EUR-ACE®