

**Presentation of the French System :
CTI as Contributing to the Continuous
Improvement and the Search of
Excellence of Engineering Education
Institutions
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**C.T.I. Commission
des Titres d'Ingénieur**

C.T.I

Commission des Titres d 'Ingénieur

Since 1934 - Main characteristics : parity between academics and industrials

32 members

8

**Academics from the
Min.of Higher Education**

8

**Representatives of
industry**

8

**Repres. of other Ministries
and/or private institutes**

8

**Representatives of
Engineering Assoc.
And trade unions**

CTI Missions

- **Accredit new engineering curricula**
- **Periodically assess existing curricula (6 years)**
- **Participate in the design of engineering training courses**
- **Assist every body involved in engineering training in a global reflection on future evolution**
- **Assess curricula, on requested, put forward by foreign institutions**

CTI Missions

CTI's missions & roles : Outcomes

1. STATE SYSTEM :

- CTI acts on behalf of the Education Minister
- CTI acts as adviser to the Minister for Education and others
- The governor in charge of any institute makes decisions following the CTI 's recommendations

2. PRIVATE SYSTEM :

- CTI acts on behalf of the Education Minister
- The school makes its decision, after a meeting of the board of governors, in response to CTI's comments.

Number of degrees awarded in engineering (1999)

1 - STANDARD TRAINING

- Initial training	22280
- Specialization	1003
- Continuous education	377
- Promoting schools	934

2 - OTHER TYPES OF TRAINING

- Qualified engineer : industrial techniques	1507
- State recognized engineers	120

TOTAL **26221** (25098 in 1996)

CTI

Engineering training in France

Major trends

- Mathematics as a tool for modeling
- Basic physics and chemistry (all students)
- Detailed knowledge of the curriculum specialty
- Broad training in communication, social and human sciences, management, etc.
- Fluent use of one, preferably two, foreign language, including English; ability to work in a foreign environment
- Professional skills developed by alternation and project work in industry

CTI

- Status and organization of an institute delivering the degree of « qualified engineer »

1 - CTI defines the institute by an « entrepreneurial » model

2 - Four principles :

- legal recognition
- autonomy
- external members of the board
- strong management

CTI

International awareness

- 1 - The practice of foreign languages
- 2 - Foreign students at the institute and student exchanges
- 3 - Recognition / accreditation involving foreign institutes
- 4 - Degrees awarded by foreign institutes
- 5 - International recognitions : memorandum of understanding with ABET 1998, agreement for mutual recognition between CTI and Canadian Engineering Council dated 21 september 1999
- 6 – Bologna agreement and engineering studies in France

Bologna Agreement & Engineering studies in France

- Bologna scheme
- 3 years of general scientific and technological education Equivalency with Bachelors's study
- 2 years of specialized engineering education Equivalency with Master's degree
- Usual scheme in France
- 2 years general education
maths, physics, chemistry
- 3 years sciences for engineering, technology and projects
Specialization, management and communication, foreign languages
Additional management etc highly specialized formation, 4-6 months stay in industry

CTI

Gateway to working in industry

1 - Alternation : standard training

Cooperative education - Apprenticeships

2 - Project - based learning

3 - New technologies

4 - Increasing industrial participation in the training of engineers

5 - Development of entrepreneurship

CTI criteria

1 - **General presentation of the establishment**

(new curriculum; global environment of the school; etc)

2 - **Curriculum** (detailed organization of studies;

balance between scientific, technical, and general programs; student recruitment procedures, presence of foreign students; part of continuing education : assessment procedures of students, industrial block release)

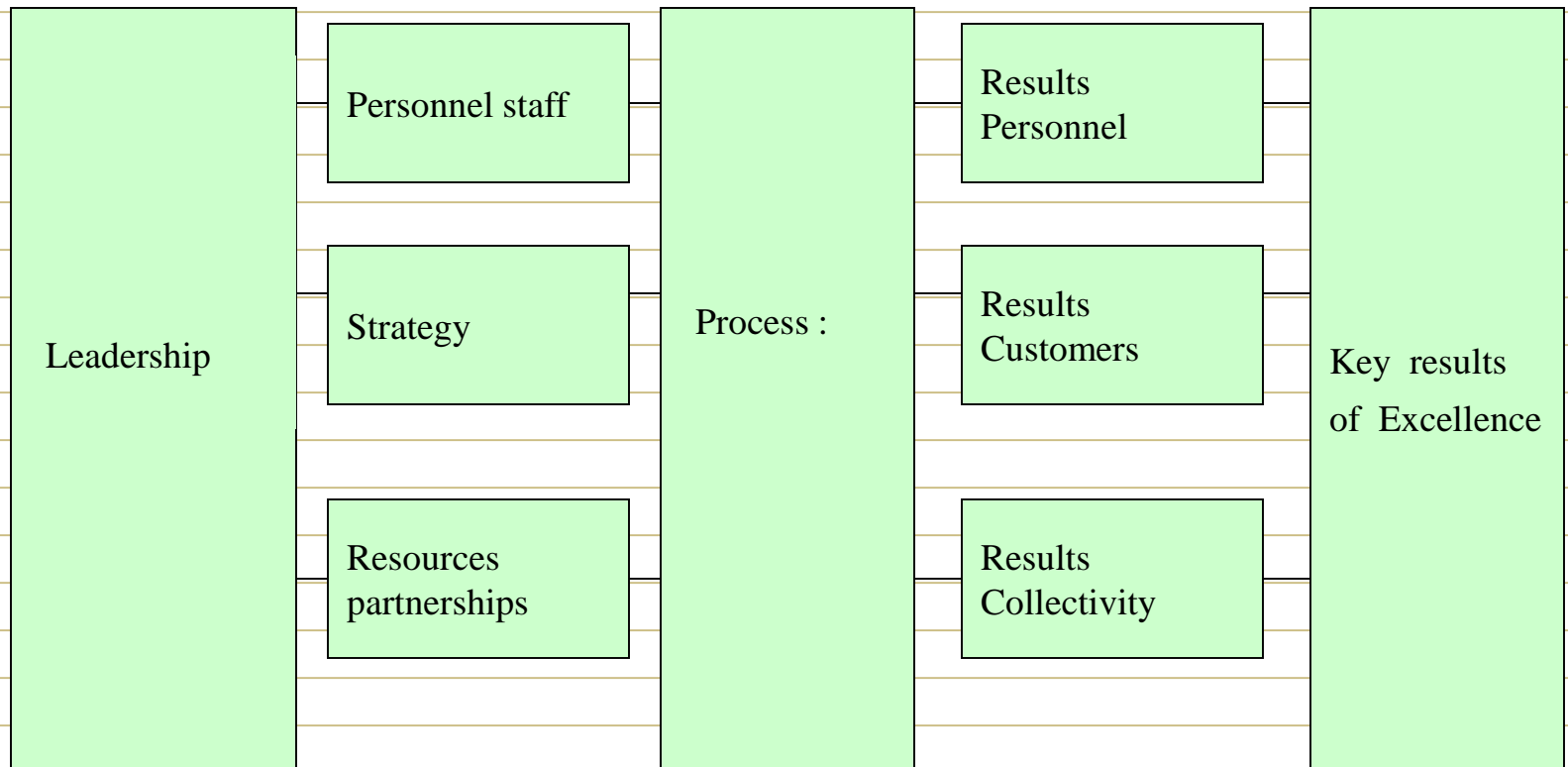
3 - **Human resources and scientific environment**

(number and quality of scientific staff : research activity : course-related research etc.)

4 - **Finance, equipment and premises**

(premises; educational equipment, resources; assessment of training costs,..)

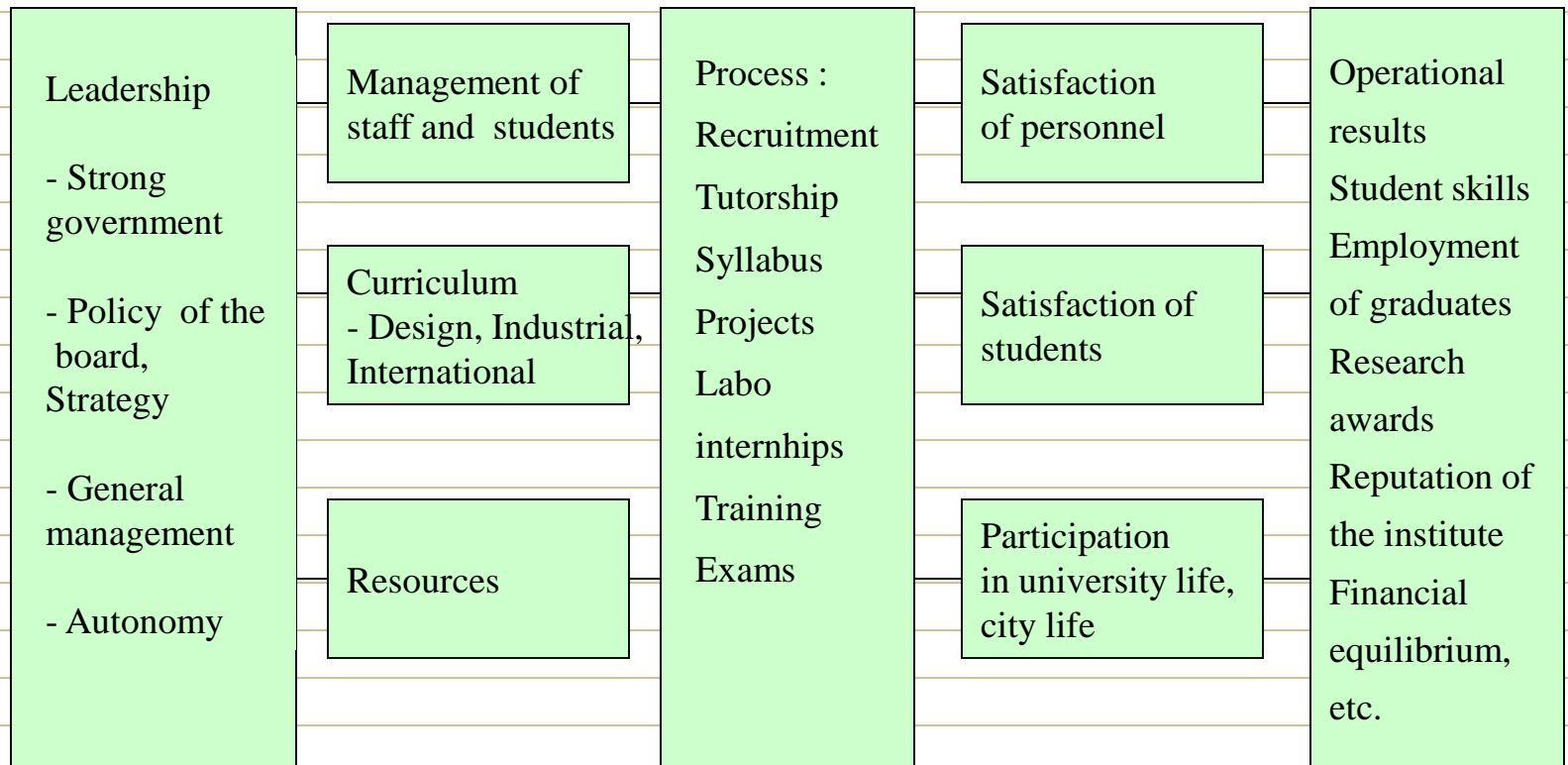
The European Model for Total Quality Management, EFQM



Resources

Results

The European Model for Total Quality Management, EFQM



Resources

Results

CTI Utility : an example

1 - Renewal for 6 years is not automatic

2 - Results : 129 accreditations for 6 years

29 accreditations for 3 years

6 accreditations for 2 years

4 accreditations for 1 years

Conclusions

- 1 - CTI has defined its orientations and references, close to ISO and EFQM models**
- 2 - CTI notification are followed by actions**
- 3 - CTI has the role of adviser, not censor**
- 4 - CTI fosters alignment with other national systems**