POLITECNICO DI TORINO

EVALUATION REPORT

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TABLE OF CONTENTS

FOREWORD

1.   The concept of the Institutional Evaluation Programme

1.1   Introduction

The Institutional Evaluation Programme (IEP) is an independent membership service of the European University Association (EUA) that offers evaluations to support the participating institutions in the continuing development of their strategic management and internal quality culture.

The distinctive features of the Institutional Evaluation Programme are:
- A strong emphasis on the self-evaluation phase
- A European and international perspective
- A peer-review approach
- A support to improvement

The focus of the IEP is the institution as a whole and not the individual study programmes or units. It focuses upon:
- Decision-making processes and institutional structures and effectiveness of strategic planning
- Relevance of internal quality processes and the degree to which their outcomes are used in decision making and strategic planning as well as perceived gaps in these internal mechanisms.

1.2   The philosophy

The central mission of the IEP is to strengthen the strategic steering capacity of higher education institutions and to enhance their autonomy and their accountability to the public.

IEP wishes to offer an external diagnosis provided by experienced university leaders and experts coming from different higher education systems in Europe. This diagnosis should explain the quality nodes and the main actors in the university's daily decision-making processes. It should be a tool for institutional leadership preparing for change. The IEP does not wish to provide the university with a blueprint for its development; rather the review process is a consultative one or, in Martin Trow's terminology, an *"external supportive review"*[1].

Through an evaluation of higher education institutions in the context of their specific mission and goals, the IEP actively supports higher education institutions in fulfilling their public mission by providing recommendations on the full range of their activities (research, teaching and learning and service to society) and on their institutional organisation, processes, policies, structures and quality culture. These supportive recommendations are based on European and international good practices.

1.3   The methodology

The methodological instrument of the IEP focuses on the universities' capacity to change, including their strategic planning and internal quality monitoring, and examines if all the preconditions are assembled to make each and every institution more adaptable and responsive to the changing higher education environment at local, national, European and international level.

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[1] M. Trow: "Academic Reviews and the Culture of Excellence", Studies of Higher Education and Research, 1994/2.

More specifically, the evaluation is guided by four central strategic questions which are based on a "fitness for (and of) purpose" approach:

- What is the institution trying to do (and why)? This (twofold) question refers to the vision, mission and aims of the institution. A clear strategy is important in order to decide on priorities, strategic objectives and the means to reach these objectives.

- How is the institution trying to do it? The evaluation investigates the way in which the institution attempts to fulfil this mission in terms of organisation, governing structures and processes.

- How does the institution know it works? This question points at the necessity to have sound quality arrangements in place. The evaluation team looks at the institutional policies and practices regarding quality and other relevant processes in terms of actors, structures and procedures.

- How does the institution change in order to improve? This is a key question for IEP evaluations. It is the institution's capacity for change and improvement that allows it to deal with a fast-changing environment and to respond to evolving needs.

2. Institutional evaluation of the "Politecnico di Torino"

In June 2010, the Rector of the "Politecnico di Torino" (PdT), Professor Francesco Profumo, requested an evaluation by the Institutional Evaluation Programme (IEP). In October 2010 the IEP Steering Committee appointed the following as members of the evaluation team for the PdT:

- Julio Pedrosa, former Rector, University of Aveiro, Portugal, as team chair

- Erdal Emel, former Vice Rector, Uludağ University, Turkey

- Edward Jezierski, former Vice Rector, Technical University of Lodz, Poland

- Kristine Bak Nielsen, MSc student, Roskilde University, Denmark

- Dionyssis Kladis, professor, University of the Peloponnese, Greece, former Secretary for Higher Education in Greece, as team coordinator

The two visits to the PdT took place in May 2011 and October 2011.

INTRODUCTION

3.   The evaluation process

3.1   Outline of the two visits

In keeping with the framework of the IEP, the institutional evaluation of the PdT consisted of several phases. First, the evaluation team received a 40-page ***self-evaluation report*** (SER) with informative appendices illustrating the development of PdT over the last few years. The SER was produced by a Self-Evaluation Steering Group, appointed by the Rector of the PdT, and chaired by Professor Romano Borchiellini, Vice Rector for facility management of the PdT. The Self-Evaluation Steering Group coordinated the overall self-evaluation process as well.

Upon receiving the SER, the evaluation team made the ***first visit*** to the PdT on 29-31 May 2011 to get acquainted with the institution and to help clarify any issues arising from the SER. The ***second visit*** of the evaluation team took place on 16-19 October 2011. During the two visits, the evaluation team had the opportunity to discuss the situation of the PdT with many of its actors and with the main stakeholders, in particular:

- with the leadership of the PdT
- with the leadership, with members of the academic staff and with students from all its five (5) Faculties and from the Doctorate School of the PdT
- with members of the Academic Senate and the Council
- with members of the Evaluation Board
- with the Board of Directors of Departments
- with persons involved in the research structures
- with persons of key Committees
- with key persons of administration
- with members of the student union and representatives of other student associations
- with a representative group of foreign students
- with external partners and other stakeholders.

There were also intense and in depth discussions with the Rector, Professor Francesco Profumo, with the Deputy Rector, Professor Marco Gilli, and with the Self-Evaluation Steering Group. The evaluation team, therefore, had the opportunity to meet the broad spectrum of actors at PdT. At the same time, the evaluation team had also the opportunity to discuss with the external partners on the role of the institution and their relations with it. All meetings and discussions were efficiently organised by Mrs. Orsola Xhumari (from the Planning, Administration and Finance Office of PdT), who was the contact person with the evaluation team. In the first visit Mrs. Laura Pedron was the second contact person with the evaluation team.

On the last day of the second visit, the chair of the evaluation team, Professor Julio Pedrosa, presented the team's ***oral report*** to an audience consisting of the Deputy Rector, the leadership of the PdT and members of the university community. The oral report constitutes the basis of the present ***evaluation report***, which also results from all written information, from interviews with

various actors in the institution and with external partners and from the evaluation team's observations during the two visits.

3.2 Outline of the review

As mentioned in the SER and as was explained by the Self-Evaluation Steering Group, the self-evaluation process was a positive experience apart from the fact that few people were actively involved. Furthermore, the self-evaluation process helped in a better self-knowledge in the Politecnico through collecting important data.

The SER was not discussed in advance with the community. This means that this is a self-reflection of the Politecnico at the top level.

The evaluation team appreciated the work done in the SER, which covered almost all issues. However, at the end of the first visit, the evaluation team asked for additional information which was provided by the PdT in the agreed time. The evaluation team considered the SER as an honest and critical analysis of the situation, presenting at the same time the vision and the expectations of the PdT for the future.

The evaluation team wants to express its gratitude to the people of the PdT for the openness and willingness to discuss all issues during all our meetings. Finally, the evaluation team would like to express its sincere thanks to the Rector, Professor Francesco Profumo, and the Deputy Rector, Professor Marco Gilli, for their organisation before and during our two visits and for their generous hospitality.

3.3 Outline of the evaluation report

The IEP is not concerned with the assessment of the quality of teaching and research activities; rather, it is concerned with the assessment and the improvement of the existing mechanisms and processes for strategic management and quality assurance and, in that context, with the assessment and the improvement of the capacity of the HEIs to adapt to the rapidly developing higher education environment in Europe and in the world. In this regard, the evaluations conducted by the IEP should rather be considered as audit evaluations.

In this context, the evaluation team's task is to scrutinise the mechanisms existing in the reviewed institution for quality assurance and its capacities for strategic change. This evaluation report, therefore, emphasises the current strengths and weaknesses regarding the capacity for change and expresses a number of recommendations that may be taken into account in the future development of the PdT. Of course, so to best understand some of the remarks presented in this report, it may be necessary to be familiar with the SER of the PdT. Furthermore, the comments are based on two intense and rather short visits: one two-day preliminary visit and one three-day main visit. The evaluation team also collected a significant amount of information on the Italian higher education system, especially in regards to the recent reform, but it is not possible for the analysis to go into such details. The comments and recommendations, therefore, will be confined mostly to major issues of concern within the PdT. The recommendations, together with the corresponding reasoning and analysis, appear underlined in the text of the evaluation report. A summary of recommendations is presented on page 23. It should also be noted that throughout the body of the evaluation report,

many ideas of the evaluation team appear; we do not consider them as real recommendations but as reflections which the PdT can discuss.

4. The overall context of the institutional evaluation of PdT

4.1 The profile of the PdT

The Politecnico di Torino has a long history going back to 1859, when its predecessor (the "Scuola di Applicazione per gli Ingegneri" - "Technical School for Engineers") was founded, and to 1906, when the Politecnico was founded as the "Regio Politecnico di Torino" ("Royal Turin Polytechnic").

The PdT is not a general/comprehensive university, since it is specialised in engineering and architecture. It is currently distributed in five campuses in the metropolitan area of Turin, but its main activities are located in the two major campuses in the city of Turin. The Cittadella Politecnica is the main headquarters of the PdT. It is almost entirely devoted to engineering and it is also the place where the Rectorate of the Politecnico is located. The Valentino Castle is the second campus (the historical headquarters of the Politecnico) and is devoted to architecture.

The activities of the PdT are currently performed by five Faculties (two for architecture and three for engineering). The following Table 1 shows the distribution of students (1st cycle and 2nd cycle) in the five Faculties during the academic year 2009-10. It should be noted that there was a fourth Engineering Faculty (Engineering II) located at the Vercelli campus, 80 kms away from Turin, which closed in the academic year 2009-10.

Table 1
Number of students per Faculty (academic year 2009-10)

Faculties	Students (1st and 2nd cycle)				
	1st cycle	1st cycle on-line	2nd cycle	Total	Percentage
Architecture I (architecture and urban design)	2,654	0	530	3,184	12.0%
Architecture II (architecture and environment)	2,369	0	1,218	3,587	13.5%
Engineering I (classical engineering)	8,414	748	3,203	12,365	46.6%
Engineering III (information technology)	2,452	759	1,644	4,855	18.3%
Engineering IV (management and industrial engineering)	1,392	266	874	2,532	9.5%
Total	*17,281*	*1,773*	*7,469*	*26,523*	*100.0%*

Source: Politecnico di Torino, Self-Evaluation Report 2010, Appendices, p. 8.

The following Table 2 shows the overall distribution of students enrolled in all types of educational programmes of PdT during the academic year 2009-10 (including students enrolled in the old-type Master programmes)

Table 2
Number of students in all types of educational programmes
(academic year 2009-10)

Doctorate School	751
School of specialisation	32
Old Order courses	1,048
Individual teaching	614
1st level Master	73
2nd level Master	226
Faculties (1st cycle and 2nd cycle)	26,523
Total	*29,267*

Source: Politecnico di Torino, Self-Evaluation Report 2010, Appendices,
p. 7.

The academic staff of the PdT consists of 873 professors and researchers, of which 507 were involved in teaching. This results in a ratio of students per teaching staff equal to 28:1 (including only students in the first two cycles, according to Table 1 above). The technical and administrative staff of the PdT consists of 876 employees, which results in a ratio 1:1 between academic staff and technical/administrative staff[2].

The Politecnico di Torino is one of the four universities of the Piedmont Region. The following Table 3 shows the distribution of new students enrolled in each one of these Universities in academic year 2008-09 allowing thus for a comparison of their sizes, although the number of new students enrolled in the Politecnico di Torino refer only to first cycle students, since there are no single-cycle students in PdT as there are in the other universities.

Table 3
Number of new students enrolled in the Piedmont Universities
(academic year 2008-09)

Università di Torino	11.003	65,3%
Politecnico di Torino	4.067	24,2%
Università del Piemonte Orientale	1.713	10,2%
Università di Scienze Gastronomiche	53	0,3%
Total Piedmont	*16.836*	*100,0%*
Total Italy	*295.961*	

Source: Politecnico di Torino, Self-Evaluation Report 2010, Appendices, p.
11.

From another perspective, the Politecnico di Torino is one of the four Italian Universities specialised in engineering, architecture or design, the other three being the Politecnico di Milano, the Politecnico di Bari and the Universita IUAV di Venezia (the acronym IUAV referring to its previous name, the "Istituto Universitario di Architettura di Venezia").

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[2] Politecnico di Torino, Self-Evaluation Report 2010, p. 5.

4.2   The national, regional and institutional context

When the Rector of the PdT submitted his request to the IEP in June 2010, the Politecnico was in the middle of the implementation of its strategic plan 2007-2012. At the same time, significant changes to the Italian higher education landscape were introduced by the new Law 240/2010, in effect since January 2011, affecting primarily the internal governance system and the academic structure of the universities.

We can add here that the overall higher education landscape in Italy was also affected by three more elements of higher education policies by that time. These three elements are the following:

- The establishment of the National Agency for the Evaluation of Universities and Research Institutes (ANVUR), that started operating in 2011, consolidating education and research evaluation and aiming for the first time in Italy to evaluate the efficiency and effectiveness of teaching activities as well, on the basis of the international quality standards;

- The legislative initiatives between 2004 and 2007 marking the final stage of implementation of Bologna reforms in Italy regarding degree structure and aiming at the rationalisation of the first two cycles of studies;

- The introduction of a new system of allocation of resources from the Ministry of Education, University and Research, reserving a part to be allocated on the basis of performance (2009).

The strategic plan 2007-2012 of the PdT was conducted in the period 2005-2007. It reflects the vision and mission of the Politecnico and it outlines the policies in order to achieve its goals at international, national, regional and institutional level. The strategic plan took due consideration of the higher education landscape in Italy (at least with regards to the elements that were already known in the period 2005-2007), but it also took into consideration the characteristics of the environment in which the Politecnico is operating (city of Turin and region of Piedmont) and the needs of society to which it had to be accountable.

According to its strategic plan, the vision and the mission of the PdT can be summarised in its aims:

- to be an international research university
- to add technology transfer to research and education
- to be a university open to the city (Turin) and the region (Piedmont)
- to strengthen its bonds with business, industry and labour market
- to strengthen its links with society.

According to the SER[3], one of the primary drivers towards the above vision and mission was the transformation of the city of Turin during the last decade *"from a metropolis with strong industrial connotation linked to a few industrial groups and a culture of widespread mechanical and electronic skills, to a metropolitan area that has invested in infrastructures for urban requalification, internationalisation and communications."* This transformation is related to *"important programmes of education, training and research targeted on increasing the city's ability to attract young people, businesses, investors and elements with high innovative potential."*

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[3] Politecnico di Torino, Self-Evaluation Report 2010, p. 17.

With regards especially to the need to strengthen the links of the Politecnico with society, we can identify the driver in the phrase *"In a time of major transition and change, the university system is becoming more and more a reference point for society."*[4]

In one of our discussions, the Rector of the Politecnico made specific reference to two facts which are directly related to this transformation of the city. The first one was the crisis in Fiat in 2005 and the following merger with General Motors that marked the internationalisation of local industry, while the second one was the Winter Olympic Games in 2006 that marked the future development of the city. According to the Rector, these two facts gave the Politecnico the opportunity to reconsider its relationship with industry as a technical university, but also to reconsider its relationship with the city and the region. By then the mission of the PdT focused on education and research. It was then, and in that context, when the Politecnico decided to extend its mission to technology transfer and services, aiming at forging better links with industry and society at large and at the same time opening up to new resources. The further development of the entrepreneurial attitude within the PdT (called by the Rector "new entrepreneurship") was the reasonable result of these strategic decisions of the Politecnico.

Besides the vision and mission of the PdT, the strategic plan 2007-2012 also outlines the policies required for its implementation. We consider as most important among these policies the following:

- An advanced educational model (through rationalisation of first and second cycles and through strengthening and reorganising the third cycle)
- A new model of governance
- Regional networking
- Synergies with the region
- A policy for internationalisation
- Raising and improving the human capital
- Improving the quality culture within the Politecnico.

According to the strategic plan, regional networking can be realised in the Regional University System in Piedmont, which comprises four universities (Università di Torino, Politecnico di Torino, Università del Piemonte Orientale, Università di Scienze Gastronomiche) attended by 110.000 students and which offers significant opportunities of co-operation thanks to complementarity of the universities[5]. Furthermore, the strategic plan refers as an example of good practice for synergies with the region the agreement signed by the four Piedmontese universities and the Regional Government of Piedmont in July 2006, aimed at identifying strategies and objectives for growth, internationalisation, technology transfer and shared and coordinated services to the territory[6].

Considering the content of the current section of the report, it can be said that the institutional evaluation found the PdT in a transitional phase, which was characterised on the one hand by the initiatives for the implementation of the strategic plan 2007-2012 and on the other hand by the changes of the higher education landscape in Italy. It is important to note that between the first and the second site visits the Rector of the PdT had been appointed chair of the National Research

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[4] Politecnico di Torino, Strategic Plan 2007-2012, p. 15.
[5] Politecnico di Torino, Strategic Plan 2007-2012, p. 16.
[6] Politecnico di Torino, Strategic Plan 2007-2012, p. 16.

Council (August 2011), while after the second site visit he was appointed to the position of the Minister of Education, University and Research in the new Italian government (December 2011). This means that the Politecnico is now in the process of electing a new Rector. Another development after our second site visit was the approval by the Ministry of Education, University and Research of the Statute of the PdT which was published in the Official Gazette in 6 December 2011. Coming to the end of this section, it is worthwhile to add that any implications of the current economic crisis in Italy have not been considered as affecting this transitional phase. However, this development is yet more evidence of the fluidity and the uncertainty of the external conditions under which the institutional evaluation was conducted.

MAIN FINDINGS OF THE REVIEW

5.   Governance

5.1   Governance at institutional level

The need for revision of the governance structures of the PdT had already been raised in the strategic plan 2007-2012, but this revision has been consolidated in the changes stipulated by the new Law 240/2010. In fact, the new Law introduces the dual model of governance at the level of the institution, with a Council[7] (including lay members) in charge primarily of administrative, financial and strategic management and a Senate (Academic Senate) in charge primarily of academic governance. The European experience in the dual model shows that, although the division of responsibilities between the two governance bodies may be clear in the text of a legal document, it is not always easy to avoid overlapping, interferences, controversies and lack of clarity in practice. Difficulties in functioning - or even malfunctioning - between the two bodies may occur for two reasons and the institution should be prepared to follow the new experience carefully. The first area to pay attention to is the adequate integration of the external members of the Council. Dealing with this issue will be facilitated in the case of the PdT, where only three out of the eleven members of the Council are external, appointed by the Senate. The second area which should be looked at is the communication and articulation between Council and Senate, taking into consideration that the members of the two bodies are different and they may have different attitudes and different approaches to the issues they deal with.

In fact, the evaluation team believes that the effective and efficient operation of the dual model of governance requires close cooperation between the two bodies and with the institution as a whole and good coordination amongst all parties. But, above all, it requires conditions for building and maintaining trust between the two bodies and across the institution. For the evaluation team, the fact that, according to the Statute of the Politecnico as approved by the Ministry of Education, University and Research and published in the Official Gazette, the Rector is the chair of both bodies is the best guarantee for the success of the dual model of governance in the PdT. Furthermore, the evaluation team believes that the Rector chairing both bodies is in a position to ensure appropriate operation of them in such a way that the sense of community and the ownership of the institutional project is consolidated and reinforced.

5.2.   Governance at Department level

Besides the governance model at institutional level, the PdT has to reconsider the issue of governance at the intermediate level. This need has resulted from the academic restructuring, i.e. from the abolition of the Faculties, the introduction of a new role for the Departments and the change in the number and nature of Departments. This means that a "new governance" structure is required at Department level as well. Two challenges can be identified for the governance at Department level. The first challenge is the new role of the Departments (see next section 6). In this respect, governance becomes too complex. On the one hand, it has to deal with day-to-day management of research, teaching and learning and knowledge transfer activities, as well as with

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[7] We use the term "Council" for the Italian term "Consiglio di Amministrazione".

management of resources and infrastructures. On the other hand, Departments have to be able to design, implement and consolidate policies and strategies at this level.

The second challenge is the need for coordination between Departments, changing from the situation in which the coordination was ensured through the Faculties. <u>In the absence of these structures of intermediate governance, a new system for the coordination of the Departments has to be developed, either by the Departments themselves or with the cooperation and under the umbrella of the central bodies. This can also be achieved through partial coordination between Departments according to affinities among disciplines. Whatever the final solution, it has to guarantee the effective coordination of the Departments</u>.

It could be said that the decrease in the number of Departments from 18 to 11 makes coordination easier, although it may contribute to induce changes in homogeneity inside Departments, calling for articulation at this level too (regarding study programmes, research initiatives and staff synergies) and this will be another challenge for Departmental governance.

6.   Academic restructuring: from Faculties to Departments

The academic restructuring of the Politecnico is the result of the provisions of the new Law 240/2010. The previous structure comprised Faculties and Departments, the Faculties being the basic academic units carrying the overall responsibility for education and the Departments being lower units primarily responsible for research. According to the new Law, the Departments undertake the responsibility for education as well, becoming the basic academic units. There is a second element in the new Law affecting academic restructuring which requires a minimum number of at least 35 professors and researchers for a Department to exist in the new framework. Under these circumstances, the pre-existing 18 Departments of the PdT have now been reduced to 11. Among these Departments, there is one inter-university Department in cooperation with the "Università di Torino" (Department of Territorial Studies and Planning), while a second inter-university Department with the same University is scheduled for the future (Department of Life Sciences). <u>This is a movement with great potential in creating bridges among Universities in Torino that the PdT would do well to explore.</u>

The evaluation team understands that the new structure, and especially the size and the mission of the Departments, <u>points to a holistic approach of their operation, which in turn requires effective internal structures in academic, governance and administration terms</u>. We have already dealt with the issue of governance at Department level in the previous section. <u>What we want to add here is that appropriate internal academic structures should be developed in the Departments considering the need to improve the capacity for multidisciplinary research and to have the Departments equipped with a strong administrative structure</u>.

7.   Doctorate School

The Doctorate School was established by the PdT in 1999 as a specific structure, separately from the structure of the Faculties and the Departments, with the aim of managing all the doctoral programmes in the Politecnico. The evaluation team appreciates this initiative of the Politecnico, since a strong doctoral programme should be an asset for any university. Doctoral education is the bridge between education and research in a university, being at the same time the last step in higher education and the very first step along the research path. <u>In this regard, doctoral education needs to</u>

be integrated into both the educational and research strategies of a university. Consequently, the PdT needs to strengthen the position of the Doctorate School with respect to research and education structures.

The evaluation team understands that the establishment of a separate Doctorate School was a necessity for the PdT at a time when the academic responsibilities for education and research belonged to different academic structures (Faculties and Departments respectively). Today, with the responsibility of both education and research concentrated in the Departments, these units have responsibilities for the design and implementation of both educational and research strategies in the respective scientific areas. In this new reality, close links and clear relationships between the Doctorate School and the Departments need to be established. At the same time, doctoral education should be also integrated into the overall research strategy of the PdT, which means that the Doctorate School needs to strengthen its links with the research structures at institutional level (e.g. Senate and Vice Rectorate in charge of research).

During our discussions in the Politecnico, we found evidence of difficulties and problems in the functioning of the Doctorate School. Some of them were associated with students' entrance to the programme, selection criteria and allocation of grants. Others concerned academic staff, e.g. the fact that teaching in the Doctorate School is not counted in the overall teaching load of the academic staff. These are issues that deserve attention and the evaluation team is sure that the Politecnico is in position to handle them. Indeed, these problems offer the evaluation team the opportunity to raise the issue of governance of the Doctorate School and of the position of the School in the University organisation. Effective governance is a necessity not only in order to manage the overall operation of the School or to cope with the problems, but also in order to foster institutional ownership in doctoral education in the PdT.

Finally, we would like to focus our attention on two contradictory issues regarding doctoral education in the PdT. The first issue is the ratio between doctoral students and academic staff (professors and researchers). According to the data presented in section 4.1 (Table 2 and paragraph below Table) the number of doctoral students in 2009-10 was 751 while the number of academic staff was 873. These numbers result in a ratio 1:0,86 between doctoral students and academic staff, indicating very good conditions for a successful and effective supervision of doctorates. The second issue is that this ratio is the result of too few students enrolled for the doctorate in the PdT. Indeed, comparing the numbers of students in the three cycles (Tables 1 and 2 in section 4.1), it is clear that the percentage of doctoral students is very low when compared either with the number of students in 2nd cycle (10,1%) or with the total number of students in the first two cycles (2,8%).Considering these findings, the evaluation team believes that the PdT should establish effective policies in order to raise the number of doctoral students.

8.   Administration

The issues related to administration have an important position in the strategic plan 2007-2012 of the Politecnico. The evaluation team noted that there is a well developed centralised administrative system in the PdT, from information technology to financial management, from internationalisation to research project management and so on. Nevertheless, we believe that the real challenge for the future is to have such a centralised system working together and close to the decentralised activities, structures and people that make the institution operate at the desirable high level. In this respect, we

believe that an academic restructuring, with all educational and research responsibilities and activities concentrated in the Departments, offers a good opportunity for the Politecnico to assign a proper administrative structure to each Department and an adequate articulation between central and Departmental administration. However, apart from being an opportunity, this development is in fact a necessity for the Departments in order to cope with their new roles and their new tasks. Furthermore, we want to add that the effective coordination of these decentralised structures and the effective two-way communication between them and the central administration are the precondition for the success of these policies.

9.   Teaching and learning

The vision of the PdT is to be a world-class university, while still having a large number of students. As was clearly stated by the leadership of the Politecnico in our discussions, the PdT has to maintain large number of students because it is the only University for engineering and architecture in the region of Piedmont. This is an obligation deriving from its social responsibility. In this regard, it has to keep open access for all its study programmes with the exception of architecture (since it is a study programme leading to regulated profession). In parallel, it should be mentioned here that the continuous increase of the numbers of students comes also from the increase of numbers of international students due to the internationalisation policy of the PdT and its ever growing reputation outside Italy.

The efficient management of large number of students is a vital necessity for an institution that wants to be an international research-oriented high-class university at the same time. In this regard, the evaluation team appreciated the efforts made by the Politecnico to deal with those challenges. We would like to mention here the centralised system that has been developed in order to manage the efficiency of the classrooms and commend the PdT for that.

Another issue that we would like to mention is the management of first-year students and the rationalisation of the first year of studies. Besides open access, the Politecnico recruits the best students. However, a selection procedure has been established in the beginning of first year. This procedure ends with special tests on basics, after which almost 50% of students drop out. The evaluation team was informed that this drop-out is not a compulsory result of failure (e.g. because of closed number of places) but should rather be attributed to the fact that this procedure helps a significant number of first-year students to realise that they do not have the attributes or the attitude to follow studies in engineering or architecture. Apart from this selection procedure, the evaluation team would also like to highlight the decision of the Politecnico to organise the studies in a common first year where students are studying the basics of engineering distributed to classes according to their names and not according to the programme in which they have registered. This system supplies students with very good knowledge in the basic sciences, but it also helps them to reconsider their choices and change programme in the second year if they want.

The evaluation team considers the above two initiatives as good practices in the efficient management of large numbers of students, even though the second one aims to wider goals. However, the evaluation team has to raise here the problems related to teaching, and especially to teaching staff. We want to quote a phrase from the Self-Evaluation Report: *"The academic personnel are the most important resource for the university institution, its 'intangible capital' on which the*

creation, valorisation and fertilisation of 'knowledge' depend."[8] We fully share this view. But, in order for the teaching staff of a university to play this important role, proper conditions should be ensured. What we saw in the PdT is that the large numbers of students have resulted in the overload of teaching staff. As we were informed, things are getting worse, due to cuts in new recruitments for academics in the universities and the fact that researchers are no longer obliged to get involved in teaching. We were also informed that, according to the new Law, only research - and not teaching - is considered for the assessment and promotion of academics. We have to point out an inconsistency here, if we consider that academics have to be overloaded with teaching in order to meet the needs of larger and larger numbers of students. This inconsistency brings us to the need to consider two issues: the status and teaching responsibilities of all the personnel working in the PdT, from PhD students to full professors, together with incentive policies for the academics, covering teaching, research and cooperation with society. We are aware that human resource management is among the priorities of the strategic plan 2007-2012 of the Politecnico. <u>What we would like to stress here, however, is the need to develop clarification of personnel status and incentive policies for academics which should balance education, research and knowledge transfer</u>.

In a section dealing with teaching and learning we also want to discuss two issues related to the Bologna reforms. The first issue is related to the degree structure. We were informed that in the Politecnico almost all graduates from 1st cycle continue to 2nd cycle with the only exception of industrial design. This can be attributed to the lack of clarity in the characteristics of the two degrees. We are aware that the rationalisation of the courses of first two cycles and the validation of the corresponding learning paths were among the axes of the strategic plan 2007-2012. We expect that the finalisation of this process, which occurred in the academic year 2010-11[9], will foster clarification of the characteristics of the two degrees and rationalise the orientation of the students. The second issue is related to the approaches to education based on student-centred learning. We tried to discover whether and how is it applied in the Politecnico. Our perception was that this educational approach is not favoured in engineering programmes, where more or less structured learning is required in order to absorb and understand the information and knowledge provided. However, <u>we believe that, even in engineering programmes, student-centred learning can offer opportunities for innovation and can help students to improve their generic competences which should be valued in engineering studies as well.</u>

Closing this section and summarising our findings, <u>we stress once again the difficulties connected with the continuous increase of the number of students, which raises the question of the impact of this development in consolidating the Politecnico as an international research-oriented high-class university. In this regard, we have the impression that it is probably the time to raise the issue of *numerus clausus* in the Politecnico engineering programmes</u>.

10.   Students

In all our meetings with students, we had the impression that students are satisfied with their studies, the facilities and the University as a whole. The only complaints we heard referred to crowded classes and the large number of contact hours (average 6 per day and 30 per week). We understand that these two problems are connected on the one hand to the continuous increase of

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[8] Politecnico di Torino, Self-Evaluation Report 2010, p. 21.
[9] Politecnico di Torino, Self-Evaluation Report 2010, p. 40.

number of students in the PdT and on the other hand to the nature of engineering studies. In parallel, the students stressed the need for more space to enable them to work and study after finishing their normal classes, a need which in our view should be considered by the Politecnico.

The evaluation team was especially interested in issues related to the overall activities of students in the Politecnico and in issues related to their participation in governance and decision-making bodies. We were told that there are many associations organised by students, all oriented towards student life, but in general student participation in these associations is low. We were told that this is however the case in all Italian universities. The explanation given to us by the students themselves is that students want simply to follow their lessons and they are not interested in associations and in community actions. The new Statute of the PdT provides for student participation in the main governance bodies at institutional level (5 student representatives in the Senate and 2 student representatives in the Council). In general, it can be said that student participation is about 15% in every governance and decision-making body at any level in the Politecnico. However, the active involvement of students in the procedures requires further improvement. We can for example mention the low participation of students (about 12%) in the elections for their representatives in the various bodies which is organised by the administration of the Politecnico and which is done electronically.

The evaluation team appreciates the provisions of the new Statute of the PdT with regards to student participation in governance and decision-making. However, we consider it necessary that the leadership of the Politecnico should "identify ways of increasing actual student involvement in governance" and in the life of the institution, recalling the related statement of the European Ministers in the Berlin Communiqué in 2003.

11.   Research and technology transfer

The Politecnico has put a lot of effort into creating high quality research and in technology transfer, the latter characterising the decision of the Politecnico in the period 2005/2006 to add technology transfer to education and research in the institutional mission. This development aimed on the one hand to foster better links with industry and society at large and on the other hand to open access to new resources. In this respect, the Politecnico is also devoting a lot of energy into promoting fundraising.

The above trends and goals seem apparent and should be anticipated for a university aiming to be an international research-based high-quality university, according to its vision. What is not apparent is the success of the Politecnico in meeting those challenges across the institution. These findings, together with the indicators for the research and the number of publications, show that the PdT is being successful in this.

The efforts that have been done in mapping the research capacity of the Politecnico create a good basis for developing multidisciplinary research which is extremely relevant for applied research and technology transfer activities.

The evaluation team appreciated the work done by the Politecnico as a whole (its leadership and its human potential) in the area of research and technology transfer. We consider as evidence of this success the fact that the Rector of the Politecnico was appointed chair of the National Research

Council in August 2011. Hence, <u>the evaluation team would emphasise the need to consolidate the inscription of the knowledge transfer and valorisation mission across the whole institution, to foster multidisciplinary and interdisciplinary research and to consider the need to maintain a proper balance between education, research and knowledge transfer.</u> We understand that the new academic structure, bringing both the education, research and knowledge transfer responsibilities to the Departments, offers better opportunities to the PdT in order to satisfy those needs. At the same time, the evaluation team considers as quite important the fact that the PdT is already planning to create interdisciplinary research structures and theme areas of research ensuring conditions for developing critical masses[10].

12.   Internationalisation

Internationalisation is an important element in the strategy of the PdT and it has been developed significantly in recent years. Indeed the Politecnico considers this development as strongly connected to international competitiveness and the evaluation team shares this view. Among the various elements of this strategy, the evaluation team considers more important the initiatives regarding cooperation and networking at institutional level with international organisations and with universities in Europe and beyond, the organisation of processes for international students, measures fostering incoming and outgoing mobility of students and staff, and internationalisation of research.

The evaluation team wants to stress especially the efforts of the PdT to create a very helpful and friendly place for foreign students of all kinds (full study students or incoming mobility students) which helps international students to be well integrated into Italian student life and also its efforts to offer full administrative support to all internationalisation activities.

13.   Links with society and industry

The evaluation team was impressed by the level of cooperation of the Politecnico with the city, industry and the Piedmont region. It is not only an issue of actions, it is also and primarily an issue of attitude. We are aware that building strong ties with local or regional institutions, enterprises and professional organisations is among the priorities of the strategic plan of the Politecnico, in parallel with its aim to be *"a university with regional outreach, open to the city and the local territory."*[11] We had the opportunity to see that these plans have already been transformed into actions and have already produced the anticipated results. Evident results of this development can be seen at the related initiatives at the Cittadella Politecnica area and at the Mirafiori area. Further evidence can be found in the industrial partnerships for research and technology transfer and other platforms of cooperation. We also had the opportunity to share these thoughts with the external partners of the PdT during our meetings. They all value the spirit and the attitude of cooperation found in the leadership of the Politecnico and in the individual members of the academic community.

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[10] Politecnico di Torino, Self-Evaluation Report 2010, p. 15.
[11] Politecnico di Torino, Strategic plan 2007-2012, p. 37.

14.   Quality culture

The term "quality culture" defines the overall attitude of a HEI which focuses on the concept of "quality" and which, thus, applies to issues like quality assurance, quality assessment, quality improvement, etc. In the context of the IEP's methodology, quality assurance offers the means through which a university will be in position to know whether it is doing well and accomplishing its chosen mission and goals. It certainly comes from the necessity of going beyond data, figures, statistics, quantitative elements and it deals with the qualitative dimension. Quality is a central element in European higher education today. Furthermore, it has also assumed a key role in the Bologna Process, and the *"European Standards and Guidelines for Quality Assurance in Higher Education" (ESG)*[12], adopted by the European Ministers in Bergen in May 2005, have built a European perspective and a European context for quality assurance in higher education. It is worthwhile to note that every country participating in the Bologna Process is committed to developing its own quality assurance system in compliance with the above ESG.

For its own part, EUA actively encourages its member universities to implement their own internal quality assurance mechanisms and to develop a quality culture. As stated in the Berlin Communiqué (2003)[13], *"in consistency with the principle of institutional autonomy, the primary responsibility for quality assurance in higher education lies with each institution itself and this provides the basis for real accountability of the academic system within the national quality framework"*. It is a task therefore for every European HEI to develop its own structures and procedures ensuring genuine quality assurance.

In the present case of the PdT, the evaluation team noticed with satisfaction the long standing effort for internal quality assurance procedures in consistency with the European Standards and Guidelines. The Evaluation Board (Nucleo di Valutazione) is the body responsible for internal quality assurance as is the case in all Italian universities. The new Law 240/2010 has modified the composition of the Evaluation Board, providing for a majority with external members. We noticed with satisfaction the participation of a student representative among the five members of the Evaluation Board according to the new Law and in compliance with the ESG. The new Law has also upgraded the role of the Evaluation Board. It is now one of the main organs of the Politecnico and it oversees all quality procedures inside the institution. However, in our meetings we were told that the Evaluation Board operates in compliance with the Ministry of Education, University and Research and tries to meet the challenges issued by the Ministry, in order to maximise performance within the Politecnico.

The evaluation team has the impression that there are two parallel structures with regard to internal quality assurance in the PdT. On the one hand the Evaluation Board is the organ in charge and on the other hand there is a Vice Rector for quality, evaluation and accreditation who is not a member of the Evaluation Board. Nevertheless, this Vice Rector oversees the internal quality assurance processes at the various levels of the Politecnico and coordinates their activities. We believe that the Politecnico should find ways to clarify roles and to establish synergies between those two structures in order to avoid overlapping or controversies in action. Developing a quality culture throughout the

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[12] Standards and Guidelines for Quality Assurance in the European Higher Education Area, 3rd edition, ENQA, Helsinki, 2009.
http://www.enqa.eu/files/esg_3edition%20(2).pdf
[13] European Ministers in charge of Higher Education, Berlin Communiqué, September 2003.

Politecnico is the common aim of both structures. And we believe that the instrument to use in organising and promoting these synergetic processes is the European Standards and Guidelines.

Another issue that we would like to touch upon here is the fact that the quality issue in the PdT is strongly connected with the notion of ranking. A whole section of the Self-Evaluation Report was devoted to the performance of the Politecnico in various ranking exercises[14]. In many of our meetings we were also told about these performances. To us, the quality of the Politecnico would be visible and evident even if we were not aware of its ranking performances. In any case, it is up to each university to decide whether it will participate in ranking exercises and what use it will make of the outcomes of these exercises. However, we would like to add here that there is a real difference between focusing efforts on the improvement of the overall quality inside the university and on the development of a real quality culture, and focusing efforts on the improvement of your position in a ranking table.

Our last point in the section focused on quality culture is related to the evaluation of courses and teaching by the students. We are aware of the progress done during the last two years, especially through the introduction of electronic surveys which have resulted in an increase of the involvement of students. However, we believe that more improvement is needed here; both in the procedures for this evaluation and in the impact the evaluation should have on the quality of teaching. The content of the questionnaires needs to be improved and at the same time the number of answers from the students to the questionnaires needs to be increased. This is something that can be achieved if real impact of the outcomes of the questionnaires is ensured. What the students complained about was that they cannot affect the quality of teaching or the content of courses or study programmes simply by filling questionnaires. In this regards, methods should be found to motivate students and teachers to participate actively in the process and make best use of the questionnaires and the students' responses. In other words, the PdT should implement a systematic way to gather, use and feedback to students what actions have resulted from their questionnaires. Finally, the teaching evaluation process should be carried out with the proper methodology and should be integrated into the overall internal quality assurance process.

15.   Capacity for change

15.1   The general perspective

Alongside quality assurance issues, the Institutional Evaluation Programme focuses on the capacity for change. The reason for this is a widespread conviction that European HEIs are exposed to increasing demands from society and the labour market and in many countries they are also exposed to growing competition from other institutions of higher education. Especially with regards to European HEIs, the new landscape resulting from the emerging European Higher Education Area and the principles of the Bologna Process is one more reason and necessity for change.

If the HEIs do not seize the initiative themselves and show their capacity for improving, adapting, changing and showing adaptability to radically new conditions in an era of mass higher education, then there may be risks that even the important core academic values, which we undoubtedly all want to preserve, might be in jeopardy.

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[14] Politecnico di Torino, Self-Evaluation Report, pp. 6-8.

The capacity for change firstly requires the identification of all the factors requiring change, as well as of the features and the content of the change needed. Secondly, it requires each HEI to determine its own mission in conjunction with the changes needed and to set its priorities. Thirdly, it requires determining the strengths and weaknesses of each HEI with respect to its own identity and characteristics and to the existing external conditions. Finally, it requires an efficient mechanism to assess continually the course of each institution towards its objectives, towards the changes required.

But above all, the capacity for change requires inspiration. It requires inspired, motivated and determined people. It is extremely important to realise that elements of strategic planning do not themselves change HEIs. Changes in institutions have to be driven by people: staff and students, with an inspired leadership making sure that the actions in the action plans are under way and that the milestones are achieved.

15.2 The perspective of the Politecnico di Torino

During the last decade, the Politecnico di Torino had the opportunity to prove its capacity for change, its capacity to adapt to changing external conditions, but even more its capacity to affect the external conditions in a proactive manner. The strategic plan 2007-2012 is proof of the way in which the PdT faces the challenges for the future and for the means that it uses for this purpose. Among the changing conditions in which the PdT had to plan and implement its own changes, we can mention the following which, in our view, are of major importance:

- The Bologna reforms and the emergence of the European Higher Education Area
- The increasing demands of internationalisation
- The changing needs of the local and regional environment
- The changing relationships with industry and business
- The changes in the higher education legislation.

We visited the Politecnico in the last phase of its strategic plan 2007-2012 and we had the opportunity to realise how effectively and efficiently this plan is implemented even if many conditions have been changed since 2007 when it was decided. The adaptability of the strategic plan is yet more proof of the capacity of the Politecnico for change. Having all these in mind, we can conclude that the Politecnico has the appropriate qualities and drive to meet the challenges for the future even if a serious new condition, the economic crisis in Italy and in Europe, has been added to this future.

We can mention some of these qualities of the PdT, as we perceived them through our overall institutional evaluation experience:

- A clear mission, inspired vision and realistic objectives
- Effective strategic planning
- Action plans and milestones
- Effective and efficient leadership
- Quality culture
- Human capital

- Mutual trust and effective interaction with society at large and economy.

In this respect, <u>our only recommendation would be that the PdT maintains and further improves these qualities in order to strengthen its capacity for change, reinforcing internal trust and ownership for the mission and strategic developments</u>.

CONCLUSIONS AND RECOMMENDATIONS

16.   Conclusions

The Politecnico di Torino is an excellent modern university that has undergone many changes during the last decade, especially after 2005 when the external conditions started to change rapidly and continuously. The strategic plan 2007-2012 has been the vehicle on which the PdT is moving towards the challenging future.

The present report reflects our understanding and assessment of the impact that all these changes induced to the overall operation of the Politecnico. It was not an easy task given the transitional situation in which the Politecnico happens to be today. We have seen how the Politecnico has been proactive in preparing the process of change. And we have also seen that the Politecnico has undertaken significant initiatives to develop infrastructures, to mobilise resources from several sources and to improve its internal operational activities.

Furthermore, the present report aims to give our view on the qualities of the Politecnico and its capacity to meet successfully the challenges of the future. These challenges should be considered as opportunities for the PdT. On the one hand, they offer a clear perspective for the future and, on the other hand, they operate as driving forces motivating and stimulating all the actors inside the Politecnico. From the evaluation team's viewpoint, the PdT has great strength to rely on in order to face its challenging future. And our analysis has convinced us that the PdT is heading in the right direction for this future.

It is in that context that the evaluation team tried to approach the work done by the PdT. Our recommendations are intended to be our own contribution to the process of change and to help the PdT to make the most of the opportunities open to it and to cope with the threats scattered along its route to the future. At the same time, our report aspires to function as an inspiration for the Politecnico as a whole, but more specifically for all those people, students and staff, who have a concern for its future. We hope that the work done by our evaluation team, including the present report, offers a real help to the PdT for its future steps.

17.   Summary of recommendations

In this section of the report we summarise the main recommendations, as they have appeared underlined in the respective sections of the text.

Section 5.1: Governance at institutional level

1.   The evaluation team believes that the effective and efficient operation of the dual model of governance requires close cooperation between the two bodies and with the institution as a whole and good coordination amongst all parties. But, above all, it requires conditions for building and maintaining trust between the two bodies and across the institution. For the evaluation team, the fact that, according to the Statute of the Politecnico as approved by the Ministry of Education, University and Research and published in the Official Gazette, the Rector is the chair of both bodies is the best guarantee for the success of the dual model of governance in the PdT. Furthermore, the evaluation team believes that the Rector chairing both bodies is in a position to ensure appropriate

operation of them in such a way that the sense of community and the ownership of the institutional project is consolidated and reinforced.

Section 5.2: Governance at Department level

2.   The evaluation team believes that, besides the governance model at institutional level, the PdT has to reconsider the issue of governance at the intermediate level. This means that a "new governance" structure is required at Department level as well.

3.   The evaluation team believes that, in the absence of structures of intermediate governance, a new system for the coordination of the Departments has to be developed, either by the Departments themselves or with the cooperation and under the umbrella of the central bodies. This can also be achieved through partial coordination between Departments according to affinities among disciplines. Whatever the final solution, it has to guarantee the effective coordination of the Departments.

Section 6: Academic restructuring: From Faculties to Departments

4.   The pre-existing 18 Departments of the PdT have now been reduced to 11. Among these Departments, there is one inter-university Department in cooperation with the "Università di Torino" (Department of Territorial Studies and Planning), while a second inter-university Department with the same University is scheduled for the future (Department of Life Sciences). The evaluation team considers it a movement with great potential in creating bridges among Universities in Torino, that the PdT should explore.

5.   The evaluation team understands that the new structure, and especially the size and the mission of the Departments, points to a holistic approach of their operation, which in turn requires effective internal structures in academic, governance and administration terms. What needs to be added here is that appropriate internal academic structures should be developed in the Departments considering the need to improve the capacity for multidisciplinary research and to have the Departments equipped with a strong administrative structure.

Section 7: Doctorate School

6.   The evaluation team believes that doctoral education needs to be integrated into both educational and research strategies of a university. Consequently, the PdT needs to strengthen the position of the Doctorate School with respect to research and education structures.

7.   The evaluation team believes that, in the new reality of the PdT, close links and clear relationships between the Doctorate School and the Departments need to be established. At the same time, doctoral education should be also integrated into the overall research strategy of the PdT, which means that the Doctorate School needs to strengthen its links with the research structures at institutional level (e.g. Senate and Vice Rectorate in charge of research).

8.   The evaluation team raises the issue of governance of the Doctorate School and of the position of the School in the University organisation. Effective governance is a necessity not only in order to

manage the overall operation of the School or to cope with the problems, but also in order to foster institutional ownership in doctoral education in the PdT.

9.   The evaluation team believes that the PdT should establish effective policies in order to raise the number of doctoral students.

Section 8: Administration

10.   The evaluation team believes that an academic restructuring, with all educational and research responsibilities and activities concentrated in the Departments, offers a good opportunity for the Politecnico to assign a proper administrative structure to each Department and an adequate articulation between central and Departmental administration. Furthermore, the evaluation team wants to add that the effective coordination of these decentralised structures and the effective two-way communication between them and the central administration are the precondition for the success of these policies.

Section 9: Teaching and learning

11.   The evaluation team would like to stress the need to develop clarification of personnel status and incentive policies for academics which should balance education, research and knowledge transfer.

12.   The evaluation team believes that, even in engineering programmes, student-centred learning can offer opportunities for innovation and can help students to improve their generic competences which should be valued in engineering studies as well.

13.   The evaluation team stresses the difficulties connected with the continuous increase of the number of students, which raises the question of the impact of this development in consolidating the Politecnico as an international research-oriented high-class university. In this regard, the evaluation team has the impression that it is probably the time to raise the issue of *numerus clausus* in the Politecnico engineering programmes.

Section 10: Students

14.   The students stressed the need for more space to enable them to work and study after finishing their normal classes, a need which in the view of the evaluation team should be considered by the Politecnico.

15.   The evaluation team considers it necessary that the leadership of the Politecnico should "identify ways of increasing actual student involvement in governance" and in the life of the institution.

Section 11: Research and technology transfer

16.   The evaluation team would emphasise the need to consolidate the inscription of the knowledge transfer and valorisation mission across the whole institution, to foster multidisciplinary and

interdisciplinary research and to consider the need to maintain a proper balance between education, research and knowledge transfer.

Section 14: Quality culture

17. The evaluation team believes that the Politecnico should find ways to clarify roles and to establish synergies between those two structures in order to avoid overlapping or controversies in action. Developing a quality culture throughout the Politecnico is the common aim of both structures. The evaluation team believes also that the instrument to use in organising and promoting these synergetic processes is the European Standards and Guidelines.

18. The evaluation team believes that more improvement is needed here; both in the procedures for this evaluation and in the impact the evaluation should have on the quality of teaching. The content of the questionnaires needs to be improved and at the same time the number of answers from the students to the questionnaires needs to be increased. This is something that can be achieved if real impact of the outcomes of the questionnaires is ensured. What the students complained about was that they cannot affect the quality of teaching or the content of courses or study programmes simply by filling questionnaires. In this regards, methods should be found to motivate students and teachers to participate actively in the process and make best use of the questionnaires and the students' responses. In other words, the PdT should implement a systematic way to gather, use and feedback to students what actions have resulted from their questionnaires. Finally, the teaching evaluation process should be carried out with the proper methodology and should be integrated into the overall internal quality assurance process.

Section 15.2: Capacity for change - The perspective of the Politecnico di Torino

19. The only recommendation from the evaluation team in this point would be that the PdT maintains and further improves its qualities in order to strengthen its capacity for change, reinforcing internal trust and ownership for the mission and strategic developments.

ENVOI

Coming to the end of this report, the evaluation team feels the need to express once again its sincere thanks to everyone in the PdT for the excellent arrangements provided to make our two visits a challenging and delightful, although very intensive, experience. At the same time, the evaluation team wishes to thank the PdT for the generous and overwhelming hospitality.

The evaluation team also wants to express its gratitude to the staff and students of the PdT for the openness and willingness to discuss with us all issues concerning the Politecnico during all our meetings. It has been a great pleasure and a very stimulating experience for us to be introduced to the PdT in a period of rapid changes in external conditions and in a time of significant changes in the internal structures of the Politecnico.

As a final word, the evaluation team has been positively impressed by the commitment and the engagement of all in the PdT, especially of its leadership. We are convinced that the initiatives undertaken by the leadership of the Politecnico are contributing to take it in the right direction in order to meet the challenges of the future - and we strongly support the leadership along this road. Besides, we are convinced that the PdT does have the capacity to meet these challenges.