

**POLITECNICO DI TORINO
(POLYTECHNIC UNIVERSITY OF TURIN)
TURIN, ITALY**

FOLLOW-UP EVALUATION REPORT

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1. Introduction

This report is the result of a follow-up evaluation of the Politecnico di Torino (Polytechnic of Turin) in Turin, Italy. The acronym “PdT” will be used for the institution throughout the present report. EUA’s Institutional Evaluation Programme (IEP) originally evaluated PdT in 2011 and submitted the report to the university in February 2012. In November 2014, the Rector of PdT, Professor Marco Gilli, who was the Deputy Rector during the original evaluation, requested a follow-up evaluation by the Institutional Evaluation Programme (IEP) of the European University Association (EUA).

The follow-up evaluation was undertaken by IEP. The evaluation team was composed of the following members:

- Sijbolt Noorda, former President, University of Amsterdam, the Netherlands, as team chair
- Erdal Emel, former Vice-Rector, Uludağ University in Bursa, Turkey
- Marija Vasilevska, Master student, University of Ss. Cyril and Methodius, Macedonia
- Dionyssi Kladis, Professor Emeritus, University of the Peloponnese, Greece, former Secretary for Higher Education in Greece, as team coordinator

Professors Erdal Emel and Dionyssi Kladis were part of the IEP evaluation team that conducted the original evaluation of PdT in 2011-12.

1.1 The Institutional Evaluation Programme and the follow-up evaluation process

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. IEP is a full member of the European Association for Quality Assurance in Higher Education (ENQA) and is listed in the European Quality Assurance Register for Higher Education (EQAR).

In line with the EUA’s Institutional Evaluation Programme as a whole, the follow-up process is a supportive one. There is no prescribed procedure, and it is for the institution itself to set the agenda in the light of its experiences since the original evaluation. The institution is expected to submit its own self-evaluation report, which will describe the progress made, possibly indicating barriers to change.

The rationale is that the follow-up evaluation can assist the institution in evaluating the changes that have been made since the original evaluation: What was the impact of the original evaluation? What use has the institution made of the original evaluation report? How far has it been able to address the issues raised in the report? The follow-up evaluation is also an opportunity for the institution to take stock of its strategies for managing change in the context of internal and external constraints and opportunities.

As for the original evaluation, the follow-up process is also guided by four key questions, which are based on a 'fitness for (and of) purpose' approach:

- What is the institution trying to do?
- How is the institution trying to do it?
- How does the institution know it works?
- How does the institution change in order to improve?

Monitoring the impact of the recommendations presented in the original report, and assessing the changes that have been made since the original evaluation in the light of these recommendations, are among the primary aims of the follow-up process. However, since the overall evaluation process is dynamic and not static, the follow-up evaluation should also take into account contextual changes, reforms and new developments, both within the institution and within its wider environment, and adapt its recommendations accordingly. Furthermore, the follow-up process can also review and give feedback on any problems that may have occurred in the implementation of the original recommendations.

Finally, follow-up evaluations provide valuable information on the relevance and the adequacy of the Institutional Evaluation Programme itself, indicating areas of consolidation and improvement that would benefit all EUA's members.

1.2 The profile of PdT

The main characteristics of PdT had been outlined in detail in the report of the original evaluation in 2012.

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

The Politecnico di Torino is one of four universities in the Piedmont region, the other three being the Università di Torino, the Università del Piemonte Orientale and the Università di Scienze Gastronomiche. In addition, 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 Università IUAV di Venezia (the acronym IUAV referring to its previous name, the "Istituto Universitario di Architettura di Venezia").

According to the strategic plan 2007-2012, the mission and vision of PdT are reflected 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 the labour market

- to strengthen its links with society.

These aims still define the philosophy of PdT, dominating also its new strategic plan 2014-2020 under the title “Politecnico-Horizon 2020”.

1.3 The evaluation process

The self-evaluation process

The self-evaluation process at PdT was undertaken by a self-evaluation group, appointed by the Rector and chaired and coordinated by the Deputy Rector, Professor Laura Montanaro. The self-evaluation group was composed of eight members as experts in different fields and representatives of the overall institutional complexity of PdT. It was also supported by members of administrative staff.

The self-evaluation group prepared a very informative 30-page Self-Evaluation Report (SER), which was made available to the evaluation team four weeks before the follow-up site visit. The SER focused on the developments and progress made in PdT in relation to the recommendations addressed to the university in the context of the original evaluation (as outlined in the corresponding 2012 Evaluation Report). The SER was accompanied by the new strategic plan 2014-2020 of PdT (“Politecnico-Horizon 2020”) with the corresponding action plan, together with annexes and appendices with statistical and other data.

The evaluation team appreciated the work carried out in preparing the SER and considered it to be a fair and self-critical analysis of the current situation and of the developments since 2011.

As mentioned in the SER and in various meetings, the original evaluation process was considered as very helpful to PdT and was followed by significant initiatives towards the implementation of most of its recommendations.

The follow-up site visit

The follow-up site visit took place on 27-30 October 2015. During the visit, the evaluation team had the opportunity to meet many of the key actors in PdT as well as the main stakeholders, namely:

- the senior leadership of PdT;
- the self-evaluation group;
- representatives of the Academic Senate;
- the Institutional Quality Assurance Committee (PQA);
- members of the Committee for Research, Technology Transfer and Services to Community (CARTT);
- persons in charge of PhD programmes;
- heads of Central Administration Areas;
- student representatives;

- representatives of the coordinators of the “collegi” (for “collegi” see below, page 11);
- key persons and student representatives of one “collegio” (“Collegio of Electronics, Telecommunications and Physical Engineering”);
- international researchers and international PhD students, and
- main outside partners.

A number of informative, intense and in-depth discussions took place with the Rector of the university, Professor Marco Gilli. All meetings and discussions were efficiently organised by the Deputy Rector, Professor Laura Montanaro, who was the liaison person for the evaluation team. The overall logistics of the follow-up visit were well organised and arranged by Mrs Cristina Orlando, member of the administrative staff of PdT.

On the last day of the follow-up visit, the Chair of the evaluation team, Professor Sijbolt Noorda, presented the team’s oral report to an audience made up of the leadership of the university, together with some members of the university community who had participated in the meetings with the evaluation team during the follow-up visit. The oral report summarised this present evaluation report.

The evaluation team would like to express its gratitude to colleagues in PdT for their openness and willingness to discuss all issues during all the meetings. Finally, the evaluation team would like to express its sincere thanks to the Rector of the university, Professor Marco Gilli, for his generous hospitality.

The evaluation report

The present evaluation report is in line with the aims of IEP, both general and more specific ones referring to follow-up evaluations, as outlined above. The evaluation report takes into account all the data provided to the evaluation team in the SER and corresponding additional information. The recommendations, together with the arguments on which they are based, appear in italics in the text of the evaluation report, while a summary of recommendations is presented in the last section of the report. Finally, it should be noted that during the site visit and in this report, the evaluation team, offers some reflections and has made numerous suggestions for PdT to consider, in addition to the recommendations.

2. Methodology and context of the follow-up evaluation

2.1 Methodology of the follow-up evaluation

As mentioned earlier in this report, the follow-up evaluation focuses on the recommendations of the original evaluation, reviewing whether and to what extent they have been implemented by the university. In doing so, the evaluation team has taken into account the relevant changes that have occurred since 2011, both at the level of the institution and at the national level. These may be changes related either to the overall context (institutional, regional, national) or to internal conditions. Clearly, there are also changes related to new reforms, new initiatives and new actions undertaken by the institution, which may affect the current follow-up evaluation irrespective of the 2012 recommendations. In the various sections of the present report there will be reference to these changes whenever they are relevant.

Evidently, the follow-up evaluation looks to PdT's strategies for institutional development. Therefore, the institution's strategies for the future (as documented in the strategic plan 2014-2020), its current transformation agenda, together with its quality policies and its capacity for sustainable change, are the central focus of the follow-up evaluation.

2.2 Key changes since 2011

Key changes concerning context

In the view of the evaluation team, three developments in the institutional context of PdT since the original evaluation of 2011-12 can be considered to be of major importance. The first is the new statute of PdT which came into force in December 2011 and which among other things defined the academic restructuring of PdT. The second key change is the new strategic plan 2014-2020, to which the symbolic title "Politecnico-Horizon 2020" has been given. The reason for this title is explained in the strategic plan as follows:

[The strategic plan's] time perspective overlaps with the European 7th Framework Programme and on the other hand it is a plan projected towards the priorities of Horizon 2020, whose aim is to make our university officially recognised among the top European Technical Universities.

The new statute and the new strategic plan constitute the institutional context for the present and the near future of PdT. In addition, the evaluation team sees the new leadership of PdT, in office since 2012, as the third major change in terms of the institutional context. It is the vision of the new leadership that is being reflected in the basic strategic choices of PdT and it is also the new leadership that should ensure the effective and efficient implementation of the strategic choices.

In terms of the national context, the present legislative framework for Italian higher education (Law 240/2010) can also be considered as a new development since its implementation largely took place after the original evaluation of 2011-12. In addition, the establishment of the Italian Agency for the Evaluation of Universities and Research Institutes (ANVUR), which began its operations in 2011, is another new development in the national context.

From the SER and the various meetings during the follow-up visit, it appears that there are two more key changes at national level that affect the strategic choices of Italian universities. The first is the new decree issued in February 2013 by the Italian Ministry of Education (MIUR) in view of the evaluation of PhD programmes, requiring their rationalisation and re-organisation, while the second is the new legislative and funding framework, which affects, amongst other things, the recruitment of academic staff.

Key changes concerning student enrolment

Changing student enrolment evidently affects the strategy of PdT and its operations.

a) Student staff ratio

The overall number of students in the three degree levels increased from 26,500 (in 2009-10) to 33,000 (in 2014-15). At the same time the total number of academic staff has decreased from 839 (in 2011) to 798 (today). The deteriorating student staff ratio clearly is and should be a concern for PdT.

b) Out of region students

In the academic year 2013-14, the percentage of students who came from outside Piedmont has surpassed, for the first time, the percentage of Piedmontese students, showing an increasing appeal of PdT. One of the reasons that may explain this increased attractiveness is that the employment rate of PdT second level (MSc) students one year after graduation remains high 84.4% (well above the national average of 68.2%).

c) Internationalisation of studies

There is significant progress in the performance of PdT in the internationalisation of studies. In the academic year 2014-15, 18% of the overall number of students in PdT were international, coming from over 100 different countries. In the academic year 2013-14, the number of incoming international students was 1,099, while the number of outgoing students was 927. Finally, in the academic year 2014-15, 18 out of the 30 MSc programmes were taught entirely in English.

Increased enrolment evidently increases demand for facilities. The evaluation team learned about the measures taken by PdT in view of the spatial problems of the institution. At the time of the original evaluation there were already serious concerns raised by PdT students. In

this regard the recent extensions to the main campus of the university (“Cittadella Politecnica”) are a welcome step in the right direction.

2.3 The new strategic plan “Politecnico-Horizon 2020”

The new strategic plan of PdT for the period 2014-2020 further extends and broadens the philosophy and aims of the previous strategic plan 2007-2012 which determined the institutional context of the original evaluation of PdT in 2011-12. As the Rector stated during the meeting with the evaluation team, the main drivers for the new strategic plan were the following:

- Entrepreneurial vision
- Efficient organisation
- Resource optimisation

The new strategic plan sets the mission and the vision of PdT on the following axes:

Mission

- To create and disseminate knowledge
- To train architects and engineers with professional skills and social responsibility
- To contribute to the cultural progress and to a competitive and sustainable development of the local community and of the country

Vision

- To make an open community grow in a stimulating multidisciplinary and multicultural international environment
- To find recognition of the value of our university among the top technical universities in Europe and in the world
- To contribute to the technological and economic development and to the competitiveness of the local community and of the country

In accordance with the above mission and vision, the new strategic plan has defined the following four main priorities:

- The aptitude for quality education
- The centrality of research and knowledge sharing
- The human capital value
- Assessment as a tool for development

Based on these main priorities, the new strategic plan has been translated into a detailed action plan containing many new actions and initiatives, but also continuing earlier priorities such as, for example, enhancing the internationalisation policies of PdT.

3. Main findings and recommendations of the follow-up evaluation

3.1 Governance at institutional level

The 2012 recommendations on the dual model of governance (Academic Senate and Board of Governors) contained three lines of advice: a) ensuring effectiveness and efficiency, b) ensuring vertical links and communication paths, spread of information and sharing of culture within PdT at all levels, and c) promoting sense of community and ownership within PdT.

The evaluation team observes that all three recommendations have been successfully addressed by the leadership of PdT, as evidenced by its strong commitment to make the dual mode of governance work well. The most important of the measures and initiatives taken are outlined below.

Ensuring effectiveness and efficiency:

- The Rector chairs both governance bodies (Academic Senate and Board of Governors)
- Joint meetings of the two bodies are held to discuss issues of wider interest for the university
- Mixed committees are established for major issues (e.g. strategic plan)
- The establishment of the Institutional Quality Assurance Committee (PQA) as a means to improve effectiveness of the dual model of institutional governance, as it interacts with both bodies and links all other relevant structures within PdT.

Ensuring vertical communication:

- All heads of departments participate in the Academic Senate (either with or without voting rights)
- The Rector has taken initiatives towards ensuring dissemination of information across PdT
- The assignment of responsibilities for quality within departments (“Responsibles for quality”) supports sharing quality culture on a broader level.

These measures and initiatives, in conjunction with the overall attitude of the university leadership, promote a sense of community and ownership within PdT, which was the third suggestion set out in the respective 2012 recommendation.

3.2 Academic restructuring: from faculties to departments

The 2012 recommendations also discussed the new academic structure of PdT, in which departments replaced faculties as basic academic units. The 2011-12 evaluation team noted the need for developing a new intermediate governance structure at department level, ensuring at the same time an effective coordination and a strong administrative support structure. It also referred to the need for appropriate internal academic structures that would carry responsibility for the overall operation of the study programmes at Bachelor and Master levels. These structures should also promote a multidisciplinary attitude in research and

education within the departments, and in addition build bridges and establish synergies with other higher education institutions in Turin.

With regard to the new academic structure, the present evaluation team observed that, in line with the 2012 recommendations, the governance at the intermediate level has been modified by decreasing the number of departments (from 18 to 11), by improving the role of heads of departments and by equipping the departments with an adequate administrative support structure properly coordinated by the central administration.

Furthermore, the establishment of the “collegi” [the Italian term “collegio” - “collegi” is used in the SER and in all English texts by PdT] as a new internal academic structure for teaching and learning can be considered as a perfect implementation of the 2012 recommendations. There are in total 15 “collegi” at PdT. Each “collegio” offers educational programmes within the respective specific thematic area at Bachelor and Master levels, having one “coordinator” for all its programmes and one “responsible” for each individual programme. A “collegio” may be related to one or more departments relevant for the programmes offered by the “collegio”, while a committee composed of the Vice-Rector for education and the “coordinators” of all “collegi” is responsible for the coordination of all educational programmes offered by the “collegi”.

The evaluation team welcomes the introduction of the “collegi” as a true structural improvement for teaching and learning in PdT.

There is, however, some internal criticism on the degree of effectiveness of the “collegi” as documented in the SER of PdT (pp. 8-9). It seems that the small size of some “collegi” and the somewhat high number in total may limit cooperation and an exchange of views on a broader level, and impede interdisciplinary educational initiatives.

The evaluation team learned that the recently elected Academic Senate will continue to discuss this issue “with the aim to check the situation and provide solution in order to improve the efficiency and effectiveness of the management of the educational activities” (SER, p. 9).

The evaluation team shares much of the above analysis and, as a contribution to the on-going debate, recommends that PdT should:

- 1. give more power and freedom of manoeuvre to the “collegi” in the interest of study programme innovations;*
- 2. avoid merging “collegi” in such a way that too large units of undergraduate students are being created, which would harm the learning experience;*
- 3. indeed promote inter-disciplinarity, especially during the 2nd and 3rd cycles.*

Finally, the evaluation team was very pleased to see that, in line with the 2012 recommendations, PdT has intensified its combined efforts with the Università di Torino in important fields of research and education (e.g. biomedicine).

3.3 Doctorate School

The PhD programmes of PdT are organised through a separate structure based on the Doctorate School. The 2012 recommendations focused on four issues.

The first issue referred to the need for doctoral education to be integrated into both the educational and research strategies of the university and that, in this regard, the position of the Doctorate School be strengthened with respect to educational and research structures in PdT.

The second issue referred to the need for closer links between the Doctorate School and the departments in the context of the new academic structure of PdT.

The third issue referred to the need for effective governance of the Doctorate School in order to manage its overall operation but also in order to foster institutional ownership of doctoral education in PdT.

Finally, the fourth issue referred to the need to increase the number of doctoral students in PdT.

The evaluation team notes with satisfaction that all four issues raised by the 2012 recommendations have been successfully addressed by PdT. The main development in this regard is the establishment of the “collegi” also at PhD level, a structure similar to the one established for the first and second cycles of studies. Each “collegio” is responsible for the operation of one PhD programme while at the same time each PhD programme is assigned to one department. In this regard, 16 “collegi” are responsible for 16 PhD programmes. This structure ensures a close and clear relationship between “collegi” and departments, while it is also a step towards strengthening the position of doctoral studies with respect to the educational structures of PdT.

Furthermore, the position of the Doctorate School with respect to research and educational structures of the university has been strengthened by including the head of the Doctorate School in the Committee for Research, Technology Transfer and Services to Community (CARTT) together with the Vice-Rector for research, the Vice-Rector for quality, the head of Specialising Master and Lifelong Learning School, and the heads of all departments.

As for the effective governance and management of the Doctorate School, this is ensured through the restructuring of the Board of the Doctorate School, consisting now of the head of the Doctorate School, the coordinators of all 16 “collegi”, five external academics and two student representatives.

Finally, PdT has decided to increase the number of PhD fellowships and the number of PhD students, which is also in line with the 2012 recommendations.

3.4 Administration

The 2012 recommendations on administration focused on the need to adapt the administrative system and processes of PdT to the new academic structure and especially to the new roles of the departments. The evaluation team learned that, in line with these recommendations, the administrative support of the departments has been strengthened; effective coordination has been introduced and a clear distinction of roles has been achieved between the management/administration of departments and the central administration, with the latter being responsible for coordination of the action plan through which the strategic plan is to be implemented. The budget of the university is a characteristic issue indicating the above distinction of roles. The budget appears as a university unified balance-sheet, considering the institution as a whole as a management unit, but respecting at the same time the management and accounting autonomy of the departments.

3.5 Teaching and learning

The 2012 recommendations on teaching and learning had two dimensions:

- a) didactic/pedagogical, aiming at student-centred learning, and
- b) curricular, aiming at learning outcomes and generic competences.

The evaluation team has noted that the second dimension has been successfully addressed by initiatives on soft skills and interdisciplinary skills through the Doctorate School and the Specialising Master and Lifelong Learning School, as well as by the priority PdT has given to additional study paths for top talents.

With regard to point a) above, the evaluation team believes that student-centred learning has not been realised to its full potential. More can and should be done, in terms of teaching and programme design, and in terms of the learning experience, study modes and methods used.

Teaching perspective

The student-centred learning approach requires an even wider range of competences and stronger and deeper commitment from the academics. In this respect, the 2012 recommendations focused on the role and status of academics, especially with a view to balancing their overall performance and tasks. This need has already been reflected in the new strategic plan, which provides for a multidimensional assessment of academic staff covering all aspects (teaching, research, technology transfer, services to community, as well as organisation and management tasks). In addition, there are new university procedures and criteria for allocating places and for selecting academic staff on the same basis.

Assessment and recruitment, however, are not enough. At various meetings during the follow-up visit, the evaluation team was not able to obtain a clear picture of whether the desired didactic mind-set and professional competence is already in place throughout the university.

Therefore, the evaluation team recommends that PdT should carry out some in-depth work on the didactics of student-centred learning. With respect to the academic staff, both the qualifications and the training of teaching competences should be given more weight. Both these would justify a “collegi”-wide educational upgrade project. The final result should be that, in line with PdT’s strategic aims, teaching performance will have the same importance, quality and impact as research performance.

Student perspective

Student-centred learning also requires proper conditions in terms of the overall learning environment. The available space and facilities should correspond to the number of students.

At the time of the original evaluation in 2011-12, students reported that they were satisfied with their studies, facilities and the university as a whole. They did however, voice the need for more space and facilities to be able to work and study in parallel with and after finishing their regular classes. The 2012 recommendations advised PdT to consider this need. The SER for the current follow-up evaluation states improvement to that effect, but apparently this is not yet sufficient, as students insisted during the recent site visit. *Therefore, the evaluation team recommends that PdT should seriously look into the learning environment in terms of maximum class size, available study places and adequate facilities for laboratories and other experimental work.*

Regarding number of students, the continuously increasing numbers and ensuing difficulties were already an issue of concern during the original evaluation in 2011-12. This concern led to the 2012 recommendations where the evaluation team raised the issue of *numerus clausus* in the engineering study programmes. From the SER of the current follow-up evaluation and from various meetings during the follow-up visit, it has become apparent that there is no consensus within PdT towards introducing *numerus clausus* in the engineering study programmes (like the *numerus clausus* that exists for architecture at national level). The evaluation team understands the main argument against *numerus clausus* very well. PdT should indeed “comply with its role of social responsibility by guaranteeing an opportunity to a wider number of young people” (SER, p. 13). This argument is underlined by the fact that PdT is a pole of attraction at national level (also outside Piedmont) due to its high reputation, because it is one of the few technical universities in Italy and because the employment rate of its graduates is higher than the average in Italy.

However, the number of students has a real impact on the quality of education, the student experience and the implementation of student-centred learning. In view of this, *the evaluation team recommends that PdT should seriously consider that the number of students must be in proportion with the available facilities and faculty in order to maintain the quality of education and to be internationally attractive. As long as these cannot be expanded, student numbers should be frozen. Otherwise, quality will suffer.*

3.6 Students

The 2012 recommendations raised the issue of the actual involvement of students in governance and in the life of the institution, inviting the university to identify ways of improving this. The evaluation team is aware that the student involvement in governance has increased both in terms of the number of representatives (in total an increase from 27 to 59) and in terms of the bodies and levels of their involvement (governance bodies, quality structures, academic structures).

However, the need to enhance actual (and active) student involvement in the governance of PdT remains an important issue. It is a challenge worldwide and there is no simple recipe to better this. A serious and visible feedback loop on faculty response to students' comments will be helpful. More generally, the evaluation team believes that a sense of ownership on the part of students for their learning process contributes to stronger involvement. Relative size of groups and facilities, and a fair student-staff ratio also have a positive impact. In summary, the university leadership should continue its efforts in that direction.

3.7 Research and technology transfer

The 2012 recommendations emphasised the need to consolidate the role 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. These ambitions are reflected through concrete actions and initiatives as outlined in the SER for the current follow-up evaluation and in the new strategic plan. It is evident that PdT continues to show a strong performance in research and knowledge transfer. In this regard, the evaluation team expresses its appreciation for the work done by the institution in the area of research and technology transfer and for the overall spirit spread within the university. Furthermore, it encourages PdT to continue to give priority to interdisciplinary research programmes in the interest of innovative research and technology transfer. The recent establishment of seven interdisciplinary laboratories is a very positive signal to this effect.

Finally, the evaluation team, in line with its earlier recommendation for the academic staff (see section 3.5), recommends that PdT broadens the basis for research assessment of academics by honouring faculty performance in technology transfer and service to society.

3.8 Service to society

The original evaluation in 2011-12 did not lead to any recommendations related to the services of PdT to society at large. Nevertheless, the follow-up evaluation team feels the need to express its appreciation to the PdT's initiatives related to services to society, both in terms of concrete actions undertaken since 2011 and in terms of action lines that have been included in the new strategic plan. More specifically, the evaluation team emphasises, on the one hand, the continuous, steady and solid links that PdT builds with society, industry and business and, on the other hand, its contribution to the development and competitiveness of

the region and of the country through the “triple helix” model, composed of academia, government and industry.

3.9 Internationalisation

Internationalisation was another aspect about which no recommendations were made during the original evaluation in 2011-12. The university seriously plans to strengthen its international position and visibility. There is strong evidence of this, both in terms of recent developments and concrete initiatives, but also in terms of action plans in the context of the new strategic plan. The evaluation team supports this and particularly appreciates the plans for the network for international competence centres.

However, the evaluation team has some concerns about the large number of international partnerships of PdT. In order to be more successful in its efforts, PdT should limit and focus its international cooperations by setting clear priorities. Furthermore, the evaluation team recommends that, in terms of recruiting international faculty, post-docs and graduate students, PdT might better concentrate its efforts in the first instance on four or five “front runners” rather than working on a very wide front.

3.10 Quality culture

The evaluation team of the original evaluation in 2011-12 stressed the need for PdT to find ways of clarifying its internal quality structures.

Developing a quality culture throughout the university should be the common aim within the institution. Since then, the institution has restructured the overall system of internal quality assurance with new bodies and new processes, aiming at improving its effectiveness. The evaluation team notes the existence of the Institutional Quality Assurance Committee (PQA), the Institutional Evaluation Committee (NUV) including also lay members, the Vice-Rector for quality and the persons responsible for quality within the departments, which constitute a real improvement in line with the 2012 recommendations.

Furthermore, the 2012 recommendations pointed out the issue of evaluation of the teaching performance of academic staff by the students. On the one hand, it stressed the low level of student involvement in the overall process, and on the other hand, the impact that the evaluation should have on the quality of teaching.

A serious improvement to that aim is the establishment of the Joint Committee for Education (CPD), composed of one professor and one student from each department, which plays a significant role in the quality of education. Among other tasks, CPD prepares the questionnaires for the evaluation of teaching performance by the students, runs the procedure and analyses the outcomes. It also works on criteria for incentives for teaching staff. In addition, ANVUR (Italian Agency for the Evaluation of Universities and Research Institutes) requests critical comments on the CDP questionnaires, while CDP is in continuous

dialogue with PQA (Institutional Quality Assurance Committee) to further support the improvement of teaching.

The evaluation team is of the view that the university has successfully addressed the above recommendations. *However, the evaluation team would like to point to two earlier recommendations. First, that PdT includes teaching and learning performance in the assessment procedure of the faculty, so as to guarantee a balanced faculty performance in research and in teaching (see section 3.5), and second, that PdT takes initiatives to foster stronger involvement of students in governance (see section 3.6).*

Furthermore, the evaluation team recommends that, in addition to bonuses and rewards for research, the university should also consider the introduction of awards for teaching excellence.

3.11 Capacity for change

The 2012 recommendation on capacity for change reflected an appreciation for the qualities of PdT and it urged PdT to maintain and further improve its qualities in order to strengthen its capacity for change, reinforcing internal trust and ownership for the mission and strategic developments.

The 2015 follow-up evaluation team took note of the steps made by PdT during the period 2012-2015 towards improving collegiality, spirit of sharing, ownership and trust.

The evaluation team is convinced that PdT has the qualities to meet the challenges of the coming years until 2020 and beyond and that its new strategic plan is a great ambition.

However, in order to ensure the successful implementation of the strategic plan, the evaluation team recommends that PdT continuously monitors the execution of the strategic plan and the action plan, and refocuses priorities where and when needed.

In conclusion, the evaluation team would like to recall the following closing remark of the new strategic plan of PdT, with the certainty that it will be its driver and inspiration towards Horizon 2020.

By reminding the reasons which inspired our strategic planning, it is important to underline that Politecnico di Torino is fully committed in strengthening its own vocation as public university, supporting students and the national and international scientific community, fully aware of its relevant role in order to contribute to a cultural, social, scientific and technological development at a local and national level.

4. Summary of new recommendations

In this section of the report the new recommendations are summarised as they have appeared in italics in the respective sections of the text. In order for the recommendations to be able to stand autonomously in this specific section of the report, a slight rephrasing was necessary in some cases.

1. The evaluation team shares much of the critical analysis on the degree of effectiveness of the “collegi” as documented by the Self-Evaluation Report of PdT and, as a contribution to the on-going debate, recommends that PdT should:
 - a) give more power and freedom of manoeuvring to the “collegi” in the interest of study programme innovations;
 - b) avoid merging “collegi” in such a way that too large units of undergraduate students are being created, which would harm the learning experience;
 - c) indeed promote inter-disciplinarity, especially at the 2nd and 3rd cycles.
2. The evaluation team recommends that PdT should carry out some in-depth work on the didactics of student-centred learning. With respect to the academic staff, both the qualifications and the training of teaching competences should be given more weight. These aspects would justify a “collegi”-wide educational upgrade project. The final result should be that, in line with PdT’s strategic aims, teaching performance will have the same importance, quality and impact as research performance.
3. The evaluation team recommends that PdT should seriously look into the learning environment in terms of maximum class size, available study places and adequate facilities for laboratories and other experimental work.
4. The evaluation team recommends that PdT should seriously consider that the number of students must be in proportion with the available facilities and faculty in order to maintain the quality of education and to be internationally attractive. As long as these cannot be expanded, student numbers should be frozen. Otherwise, quality will suffer.
5. The evaluation team is of the view that the need to enhance actual (and active) student involvement in the governance of PdT remains an important issue. It is a challenge worldwide and there is no simple recipe to better this. A serious and visible feedback loop on faculty response to students’ comments will be helpful. More generally, the evaluation team believes that a sense of ownership on the part of students for their learning process contributes to stronger involvement. Relative size of groups and facilities, and a fair student-staff ratio also have a positive impact. In this regard, the evaluation team recommends that university leadership should continue its efforts in that direction.
6. The evaluation team, in line with its earlier recommendation for the academic staff, recommends that PdT broadens the basis for research assessment of academics by honouring faculty performance in technology transfer and service to society.

7. The evaluation team has some concerns about the large number of international partnerships of PdT. In order to be more successful in its efforts, PdT should limit and focus its international cooperations by setting clear priorities. Furthermore, the evaluation team recommends that, in terms of recruiting international faculty, post-docs and graduate students, PdT might better concentrate its efforts in the first instance on four or five “front runners”, rather than working on a very wide front.
8. The evaluation team would like to point to two earlier recommendations: that PdT includes teaching and learning performance in the assessment procedure of the faculty so as to guarantee a balanced faculty performance in research and in teaching, and that PdT takes initiatives to foster stronger involvement of students in governance.
9. The evaluation team recommends that, in addition to bonuses and rewards for research, the university should also consider the introduction of awards for teaching excellence.
10. In order to ensure the successful implementation of the strategic plan, the evaluation team recommends that PdT continuously monitors the execution of the strategic plan and the action plan, and refocuses priorities where and when needed.