



Internationalization strategies

Project: *Training Foreign Engineers in Italy*

Keywords: internationalization, innovation, university-business network.

Abstract

Politecnico di Milano is a scientific-technological university training engineers, architects and industrial designers. The university has always focused on the quality and innovation of its teaching and research developing a fruitful relationship with the business world by means of experimental research and technological transfer.

Today, the drive for internationalization has led the Politecnico di Milano to take part in the European and global network of the major technical universities, while the participation of foreign students in programs including its educational offer is ever-increasing.

With four out of seven programs taught in English language, Lecco Campus has a strong role in the internationalization policy of Politecnico di Milano.

Since 2005, more than 500 foreign students have chosen Lecco Campus for their education, enrolling to its Master of Science degrees thanks to the project *Training Foreign Engineers in Italy*, created through the collaboration between University, ICE (Istituto Commercio Estero), the Ministry of Economic Development, Unioncamere and the Chambers of Commerce of Lecco and Como.

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The project purpose is to train high-level students with a strong interest in technology and Italian managerial culture.

A strong network of local institutions and employers' associations promotes scholarships and internships for foreign students, thanks to which a constantly increasing number of alumni remains in Italy, working in Italian or international companies, hence also helping the local productive world create connections and strengthen ties with the rest of the world.

The project

The project *Training Foreign Engineers in Italy*, developed by Lecco Campus of Politecnico di Milano, is part of the internationalization strategies of Politecnico di Milano. Competition in a multiethnic environment is essential to ensure a complete and internationally competitive university education.

That's why Politecnico di Milano has launched many initiatives to promote contacts, exchanges and collaborations with the most prestigious technical universities in Europe and in the world. These initiatives represent unique opportunities to enrich university education with experiences that will be useful from a didactic, cultural and personal point of view.

Projects, launched by Politecnico di Milano, range from traditional ones (such as Socrates/Erasmus program or study trips) to more innovative ones, which are unique in Italy. Among them, the project Train Foreign Engineers has a significant role, because:

- it increases the incoming sector of internationalization and, as a consequence, the international prestige of Politecnico di Milano;
- it is taught in English language;
- there's a strong link with the local economy through the promotion of internships in companies.



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Nowadays, the project is considered a valuable internationalization initiative and represents a national benchmark.

Objectives

The project mainly aims at training highly specialized foreign engineers (with an attention to the technologies and sectors most strategic to Italy) who will later become “ambassadors” of Italy and Lecco in their own countries, connecting far-away productive realities.

This will be realized through a high-value educational path and thanks to the collaboration of local companies (through internships and experimental theses). The project *Training Foreign Engineers in Italy* offers three Laurea Magistrale (MSc level) degrees:

- Mechanical Engineering;
- Civil Engineering for Risk Mitigation;
- Architectural Engineering.

The main feature of the initiative is the capability to attract students from foreign countries, creating new dynamism and opportunities in the economic field of services in the local level.

Since internships are a qualifying feature of the educational process, Politecnico di Milano – Lecco Campus has been increasingly strengthening ties between local companies, students and their home countries.

In particular, companies may suggest areas to attract students, even taking into account the strategic directions given by national and regional government, in a logic of consistency and integration of actions in support of “Made in Italy / Made in Lecco” production.

Features of the project



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The project was launched in 2004 and started in 2005. The Chamber of Commerce of Lecco and UniverLecco, the local association aimed at the promotion of university education, have a leading organizing role.

The project attracts graduate students (with a bachelor or equivalent degree, or that have already completed all the exams of the first three years of a longer program). The selection process guarantees the students' quality and is carried out by Politecnico di Milano teaching and administrative staff, as well as by institutional partners involved. The admission office of Politecnico evaluates candidates, sending the files of the eligible ones to the steering board of each program: the steering board (made by Professors of that program) will then admit or reject candidates and establish a ranking.

The international vocation of Politecnico di Milano is revealed by the following chart, describing international students' nationalities up-to-date. Lecco Campus has enrolled more than 500 international students since 2005.

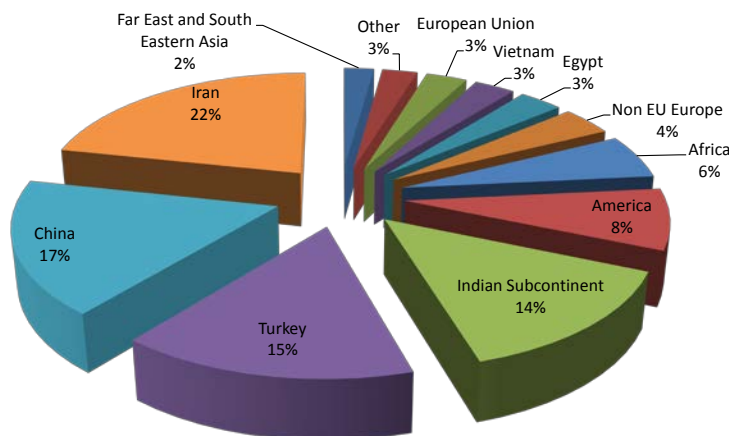


Fig. 1 Fifty-five different nationalities are part of foreign students' population of Lecco Campus.

All the Master of Science degrees taught in Lecco Campus are taught in English language: together with others taught in Como Campus, they were the first programs in English language offered by Politecnico di Milano. Their activation has attracted an ever



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increasing number of self-supporting foreign students, who decide to study in Lecco without being granted any financial aid, believing in the value of the education offered by Politecnico di Milano.

In Lecco, Italian students as well have the chance to obtain an international education, thanks to the continuous contact and interaction with foreign classmates.

In the last few years, a didactic model attractive to foreign students has been consolidated into a successful educational process.

Results

Through the years the project has increased its importance as more and more students decide to join Politecnico di Milano for their Master of science education, as shown by the following charts:

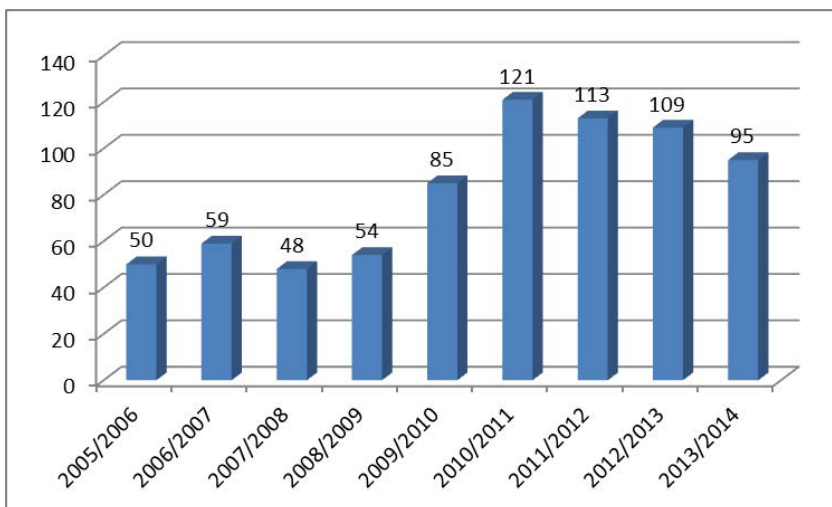


Fig. 2 International students enrolled to Laurea Magistrale degrees on Lecco campus over the years

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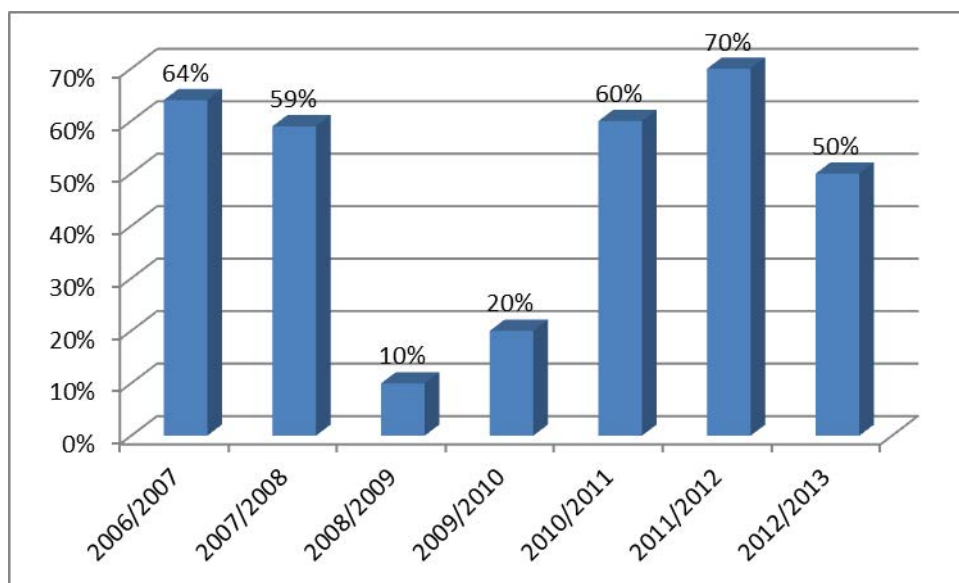


Fig. 3 Number of students that carried out an internship in the last few years.

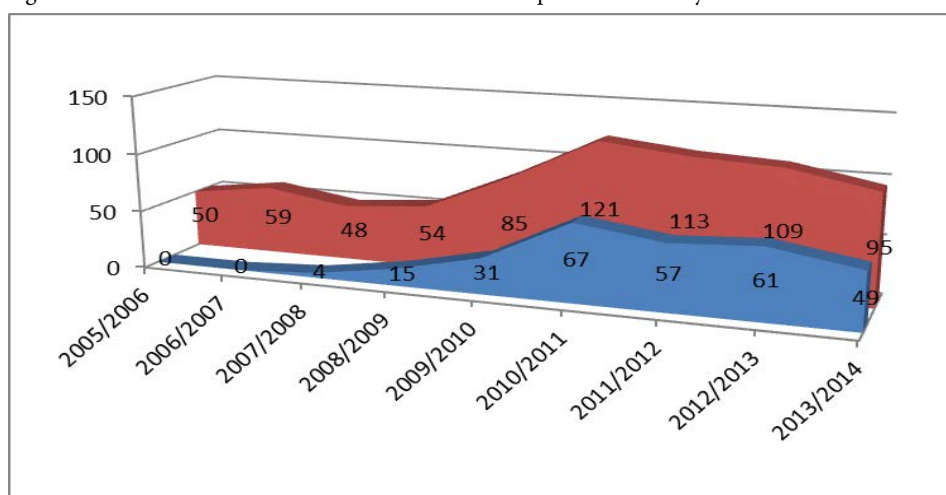


Fig. 4 Number of foreign students enrolled to Politecnico di Milano – Polo Territoriale di Lecco during the past and on-going academic years. The blue graph represents the number of students without scholarship and the red one the total students.

Outlook on future work

In the coming academic years, Politecnico di Milano and the Chambers of Commerce of Lecco will further enhance and promote the partnership with the other stakeholders. In this perspective, the near completion of the new Lecco Campus will represent a significant added value, given the possibility of accommodating new research and with



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the availability of more than 200 beds in a new students' residence, thus creating an environment of open and stimulating research and teaching.

In recent years, it was decided to focus the project on the quality of training, to provide added value to the students involved. Politecnico di Milano and the Chamber of Commerce of Lecco have therefore decided to further promote the project *Training Foreign Engineers in Italy*, with the aim of strengthening the system and lead to a new model of collaboration between Lecco's business reality, the world of research and universities. The traditional model of internships and apprenticeships has been joined by other ways of interaction between companies and university.

Many local businesses have activated internships and apprenticeships, and a good number has renewed its commitment in the following years.

The project – already enforced during the current academic year – includes three different forms of internship and training for students involved in *Training Foreign Engineers in Italy*.

- traditional internship, carried out by one student at the company;
- combined internship (held at the company by two students at once, an Italian and a foreigner - 2x1);
- project team: several students (in groups of 3/4), coordinated by a Politecnico di Milano lecturer, develop an internship / training useful to a group of companies from the same sector.



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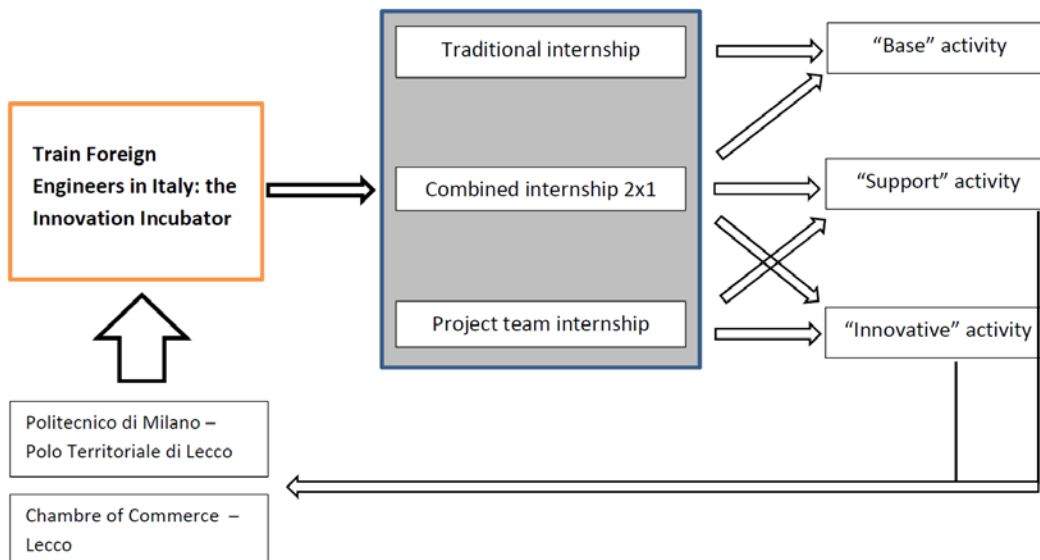


Fig. 3. Internship Typologies

The first results are encouraging and show that the renewed commitment of the Chamber of Commerce of Lecco and Politecnico di Milano have raised both quantity and quality of the placements. In the coming months an initial assessment of this initiative will be made in order to identify the next steps to improve it further.

The project, in the first six years of experimentation shows really good results, both about number of foreign students and in terms of internship activities.

So far, the entire project has involved more than 1.100 students coming from all over the world. Considering the internship activities, it is as well important to notice the increasing number of students.