



POLITECNICO  
AT A GLANCE



**POLITECNICO  
DI TORINO**



For over 150 years, Politecnico di Torino has been one of the most prestigious technical universities both at a national and international level for education, research and technology.

It was founded as School for Engineers in 1859, and then it became Regio Politecnico di Torino in 1906.

This long history has turned Politecnico di Torino into one of the top-twenty European technical universities, with more than 33.000 students and a teaching body of 800 professors.

Politecnico di Torino focuses on internationalization: it includes 16% of foreign enrolled students (a.y. 2014/2015) coming from more than 100 countries.

Over the years, about 900 international agreements and projects have been signed by Politecnico di Torino, which partakes in the principal university clusters and networks

worldwide (Cesaer, Cluster, Eua, Sefi, T.I.M.E.).

Politecnico di Torino is a Research University, which takes part in the top-qualified international scientific research. In Europe, 222 projects have been financed by the 7th FP (2007-2013) for over 63 million euros: in that frame, Italy can prove the best relationship between obtained funds and number of researchers.

Politecnico di Torino takes part in the two programs ICT Fet Flagships (Human Brain Project, Graphene), being the only Italian partner present in both projects.

The role of the European technical universities is changing: the best international universities are required to become key poles able to attract qualified human capital (talented students, researchers and business men) and strategic industrial



investments. With a rigorous approach and a scientific methodology, these actions will support a sustainable growth and will meet the big challenges that our society to face in next years on the main topics such as energy, health, population, food and climate.

In this context, also Politecnico di Torino focuses its strategies on an even greater commitment in the social and economic field, in order to turn its campuses into neuralgic centers of an international network of academic, industrial and institutional partners, with the aim of sharing with them agreements and projects for an even more collaborative and interdisciplinary research. As a result, our University recently edited its Strategic Plan – Horizon 2020, where two key concepts mission and vision have been identified together with their consequent

objectives and priority actions that will be implemented in the short and medium term.

Merit and talent are some of the keywords of the Plan.

On this basis, Politecnico creates and disseminates new scientific and technological high content knowledge, educates and trains architects and engineers able to meet the challenges of a constantly changing society with competence and social responsibility and contributes to the cultural progress and to the competitive and sustainable development both of its territory and of the Country.



## THE CAMPUS

The Politecnico campus model is similar to the Anglo-American Universities model, with four main seats in Turin, characterized by multipurpose facilities for teaching, for basic and applied research activities and for student services.

Politecnico also has a regional network of technology centers (Alessandria, Biella, Mondovì, Vercelli, Verrès), dedicated to research, technology transfer, specialized training and local services.

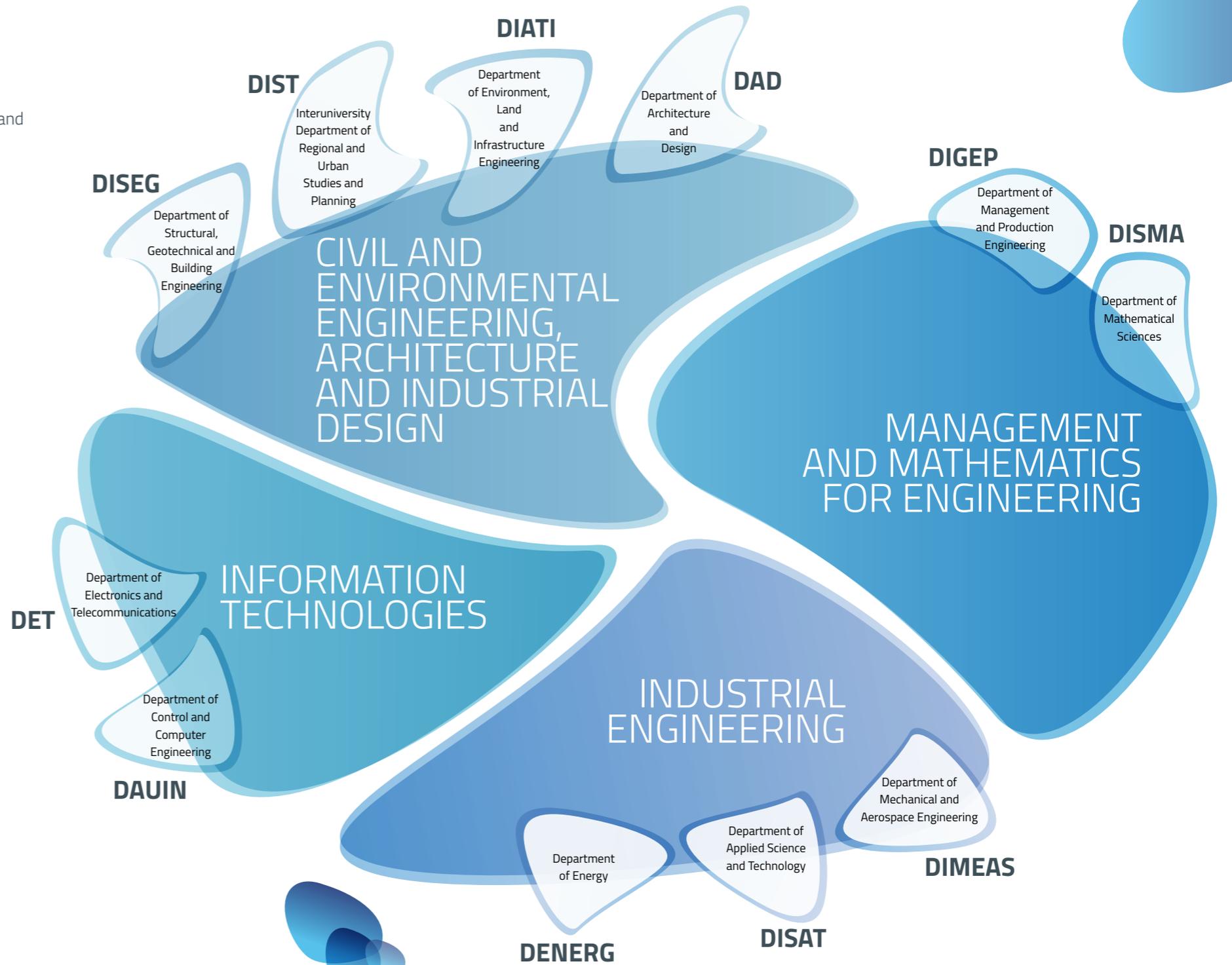
The historical site of our University, located on the banks of the river Po, is the Castello del Valentino, one of the Savoy residences in the seventeenth century, belonging to the list of the UNESCO World Heritage. It hosts Architecture courses

in premises covering 23,000 sm. The large seat located in Corso Duca degli Abruzzi, covering 122,000 sm, hosts the Engineering Departments. It was opened in 1958 and now extends to the Cittadella Politecnica, a developing area next to the main site located in corso Castelfidardo; it is a modern campus of over 170,000 sm, with spaces dedicated to students, research activities, technology transfer and services. Politecnico's most recent campus is the Cittadella of Design and of Sustainable Mobility in Mirafiori, the FIAT plant that has now been re-developed, as well as the Lingotto site, which now hosts the School of Specializing Masters.

**SCHOOL OF ENGINEERING** Cittadella Politecnica  
**SCHOOL OF ARCHITECTURE** Castello del Valentino  
**CITTADELLA OF DESIGN AND OF SUSTAINABLE MOBILITY** Mirafiori  
**SCHOOL OF SPECIALIZING MASTERS** Lingotto

# THE DEPARTMENTS

The Departments coordinate research and promote the sharing of the results, as well as organizing and managing the teaching activities.



Politecnico di Torino has 11 Departments which are University referential structures in the different Engineering and Architecture cultural areas.

### **DAD** Department of Architecture and Design

for the cultural areas which study the art and science of design, both in architectural and urban buildings, and in product design.

### **DAUIN** Department of Control and Computer Engineering

for the cultural area of Information and Communication Technologies (ICT) which studies the methodologies and technologies used for the management, processing and transmission of information.

### **DENERG** Department of Energy

for the cultural areas concerned with energy and sustainable development, with the aim of improving the existing energy technologies and promoting new ones, as well as contributing to the rational and informed use of energy resources.



### **DET** Department of Electronics and Telecommunications

for the cultural areas of Information and Communication Technologies (ICT): telecommunications, electronic devices, circuits, technologies and systems, electronic measurement and characterization techniques, as well as electronic bioengineering.

### **DIATI** Department of Environment, Land and Infrastructure Engineering

for the cultural areas that study technologies which deal with safeguarding, protecting and managing environment and land, the sustainable use of resources, as well as the optimal and eco-compatible development of infrastructures and transport systems.

### **DIGEP** Department of Management and Production Engineering

for the cultural area which studies the relationship between systems of production of goods and services and the economic environment in which they operate, thus blending engineering approaches with economics and management.

### **DIMEAS** Department of Mechanical and Aerospace Engineering

for the cultural area which regards a broad spectrum of manufacturing activities typically associated with an advanced industrial society. These activities cover classical and cutting-edge domains in the mechanical and aerospace fields.

### **DISAT** Department of Applied Science and Technology

for the cultural areas which study the fundamental principles of matter and energy, their transformation and related engineering applications.

### **DISEG** Department of Structural, Geotechnical and Building Engineering

for the cultural areas which study safety issues and practical and formal planning of constructions, taking into account environmental and human actions and their integration with the natural and built environment, considering their uniqueness and regarding the local community.

### **DISMA** Department of Mathematical Sciences

for the cultural areas which deal with Mathematical Sciences and their interaction with Engineering and Architecture.

### **DIST** Interuniversity Department of Regional and Urban Studies and Planning

for the cultural areas which study the processes of territorial transformation and government, both on a local and on a global scale. These processes are analysed from a sustainability perspective in their physical, economic, social, political and cultural aspects, as well as in their interrelationships.



## STUDENTS AND TEACHING

More than 33,000 students attend Politecnico di Torino; 16% of them are foreign and come from over 100 different countries. Each year about 5,500 students enroll in Politecnico in the first year of the Bachelor's level. In the tradition of the best technical universities in Europe, Politecnico di Torino has a comprehensive range of programs in Architecture and Engineering (22 Bachelor-first level programs and 29 Master-second level programs in the Academic Year 2015/2016), with more than 30% offered completely in English. The course catalogue is enriched by first and second level Specializing Masters and by the third level training of the Doctoral School (16 courses for the XXXI cycle).

Merit, talent and commitment are the core of the policies for students' enhancement: the Alta Scuola Politecnica merges the great traditions of Politecnico di Torino and Politecnico di Milano, with its joined high-level teaching program, carried out in parallel with the Master's degree. Moreover, "Qualità & Impegno" is the project developed for the best Bachelor of Science students. It is an integrated academic path aimed at fostering Bachelor of Science students' personal growth, thanks to the tutoring of a mentor, in order to strengthen their multidisciplinary abilities, to encourage the study and methodological debate and training experiences abroad, as well as to facilitate financial support.

## STUDENTS

**33.242** enrolled (a.y. 2014/15)

**38%** residents outside Piedmont

**16%** international students

**5.552** first year students (a.y. 2014/15)

**523** first year international students

**205** specializing Master students (a.y. 2014/15)

**73** enrolled in Lifelong Learning courses (a.y. 2014/15)

## COURSE CATALOGUE (a.y. 2015/2016)

**22** first cycle-Bachelor programs (3 in Architecture and 19 in Engineering)

**29** second cycle-Master programs (6 in Architecture and 23 in Engineering)

**15** curricula offered completely in English

**1** I level Specializing Master programs

**10** II level Specializing Master programs

**2** Interuniversity Specializing Master programs

**3** Lifelong Learning programs

**16** PhD programs, including **5** in cooperation with other universities and external bodies

**1** Specialization program

**1** Educational program for talented students (Alta Scuola Politecnica – ASP)

## GRADUATES 2014

**I level** :::: graduates **3.176** :::: Average age **24**

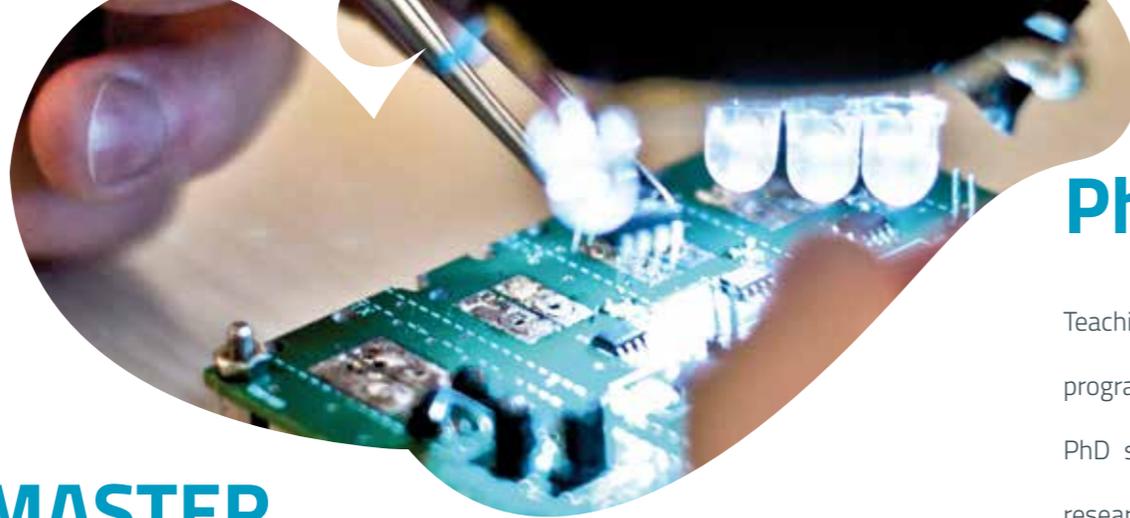
**II level** :::: graduates **3.074** :::: Average age **26**

Total graduates **6.250** :::: Average age **25**

## EMPLOYMENT RATE OF II LEVEL GRADUATES ONE YEAR AFTER THEIR GRADUATION

(ALMALAUREA 2015, def. ISTAT - WORK FORCE):

**84,7%** (Italian average **68,7%**)



## SPECIALIZING MASTER AND LIFELONG LEARNING SCHOOL

The Specializing Master and Lifelong Learning School as excellence pole aims to define innovative education policies which can interact on the basis of the needs of the economic context. The School's courses are designed in order to meet the need of high level technical education to make knowledge accessible through the traditional Bachelor's degree courses more specialized, as well as being able to adapt to the recurring changes affecting the labor market and providing a support for facing a global competitive challenge and to make grow the entrepreneurial competence.

These needs can be satisfied thanks to the interaction with the educational environment offered by the Politecnico, nourished by scientific research and interaction with top entrepreneurship

education. With this regard, some experiences appear to be very significant, involving important national companies which assign Politecnico the task of providing the new employee technicians with an initial education/training so that they can rapidly acquire new multidisciplinary and up-to-date knowledge.

The III level Education scenario offers Specialising Master courses, Medium Term Education courses and Short term professional refresher courses, delivered both in Italian and in English, aimed both at Italian and foreign students, in line with the internationalization process promoted by Politecnico and strongly connected to its commitment at a local level.

## PhD PROGRAM

Teaching and Research are even more linked through the PhD program, which is III level of the higher education.

PhD students of Politecnico di Torino acquire a scientific research independent ability through which they express creativity and methodological accuracy in the professional context, both in the academic and, even more, in the industrial field. The University focuses on PhD programs and the increase of the amount and of the number of PhD grants is some of the implemented actions to value merit and talent.

Politecnico di Torino established a specific structure aimed at managing all the PhD programs offered by the University, the Doctoral School, which supports our 700 PhD students, of which about one-third are international students.

The recent history of the Doctorate School has seen many alumni significant experiences: some have founded successful businesses, others have, even rapidly, reached prestigious positions in international research centers and in Italian and foreign academies.

### PhD PROGRAMS DURATION:

**3 years** (1/3 education activity; 2/3 research activity)

### EXCELLENCE OF PhD CANDIDATES:

**80% of the PhD applicants have a Master of Science with final grades of 105/110 and 42% with 110/110 cum laude.**

### FOREIGN PhD STUDENTS:

**30%**

# AN INTERNATIONAL UNIVERSITY

CHINA **23,79%**

IRAN **7,72%**

PAKISTAN **7,19%**

BRAZIL **5,03%**

CAMEROUN **4,52%**

ROMANIA **4,11%**

SPAIN **3,94%**

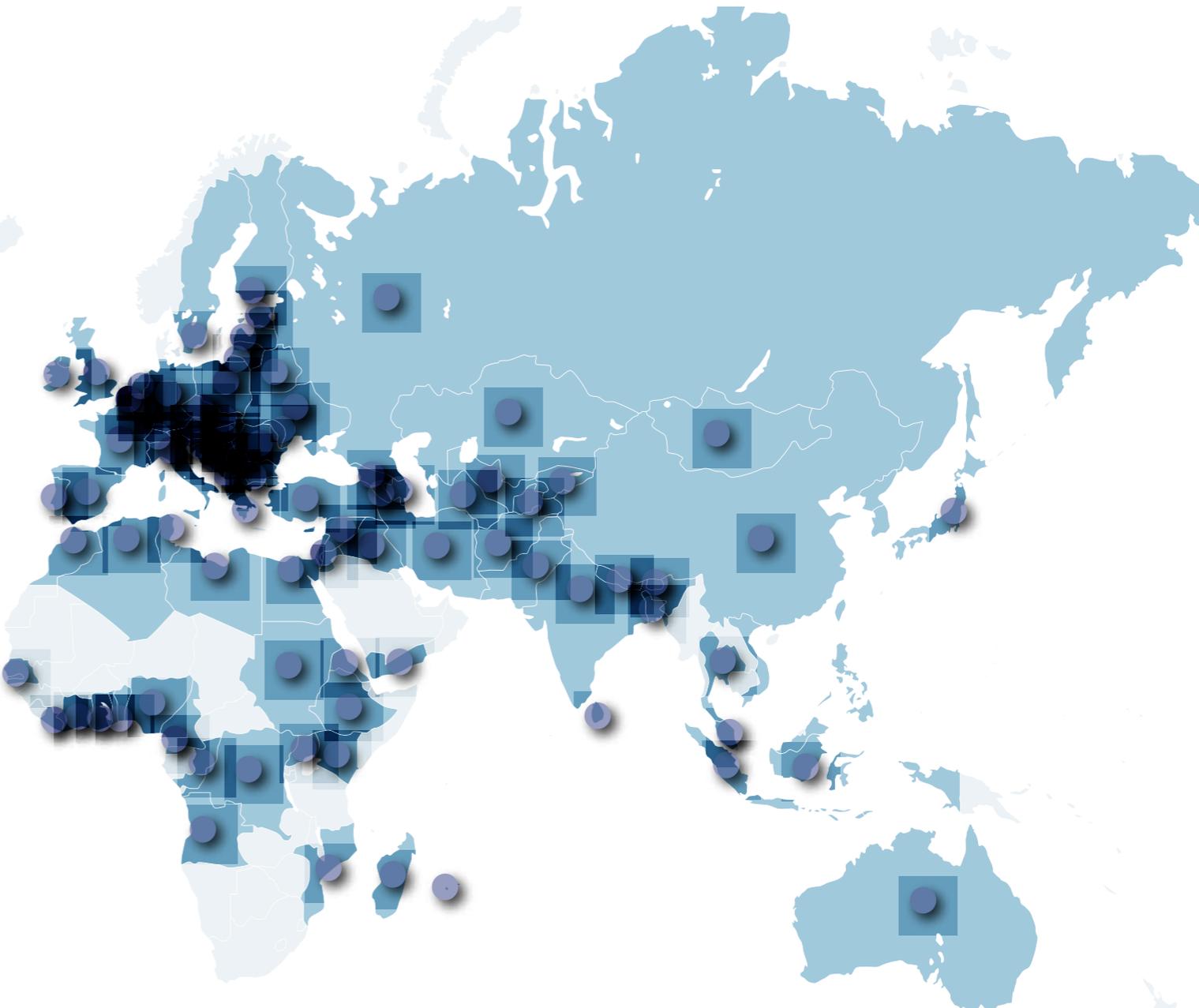
ALBANIA **3,51%**

COLOMBIA **3,15%**

FRANCE **2,72%**

MOROCCO **2,45%**

PERU **2,00%**

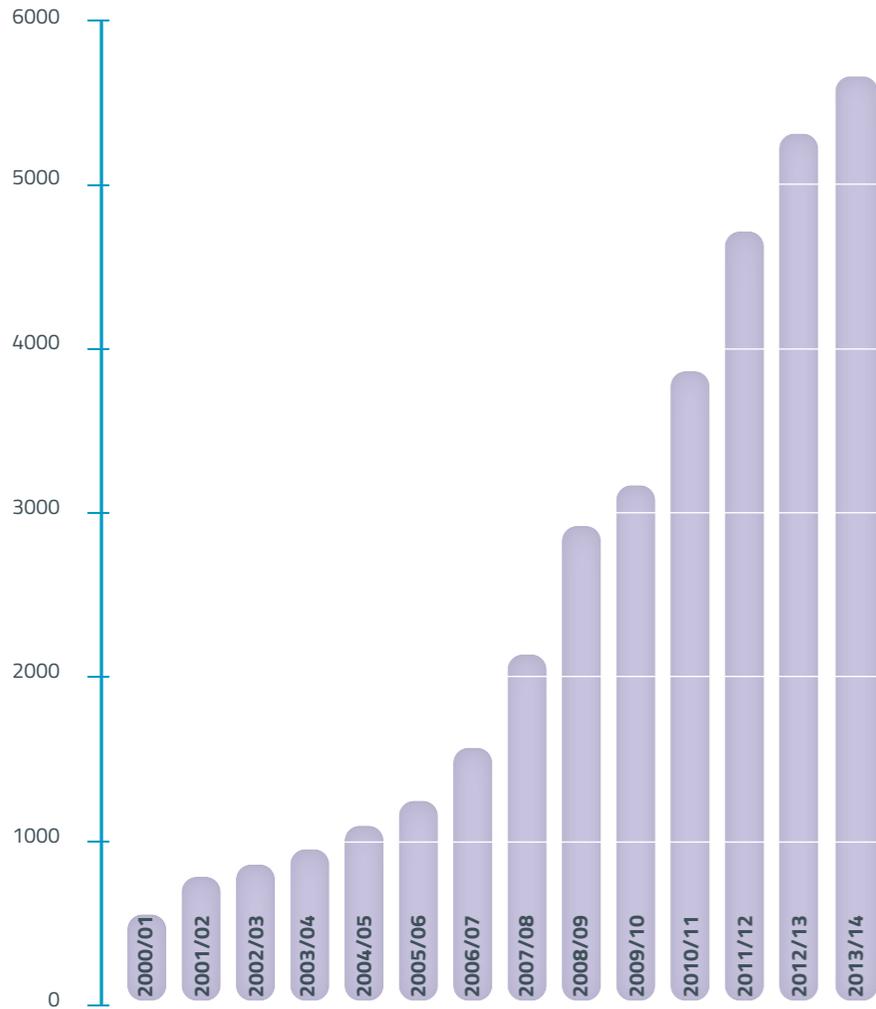


POLITECNICO DI TORINO STUDENTS  
COME FROM **120** COUNTRIES

Confirming the Politecnico di Torino among the top technical universities at an international level, matching high-level scientific research with high quality training and efficient technological transfer actions, along with knowledge sharing, is an essential part of the University vision.

The fostering of the programs offered in English, the support

to the international mobility of students and professors, the attraction of foreign students, PhD students and researchers, the participation in world joint research projects and programs on all the main reference topics make our University a truly international and multicultural environment.



## INCREASE IN THE NUMBER OF INTERNATIONAL STUDENTS

## INTERNATIONAL CONTEXT

**402** International agreements

**25** Africa - **75** Latin America - **97** Asia - **3** Australia - **9** Canada - **148** Europe - **26** Middle East - **19** USA

**473** LLP/Erasmus agreements

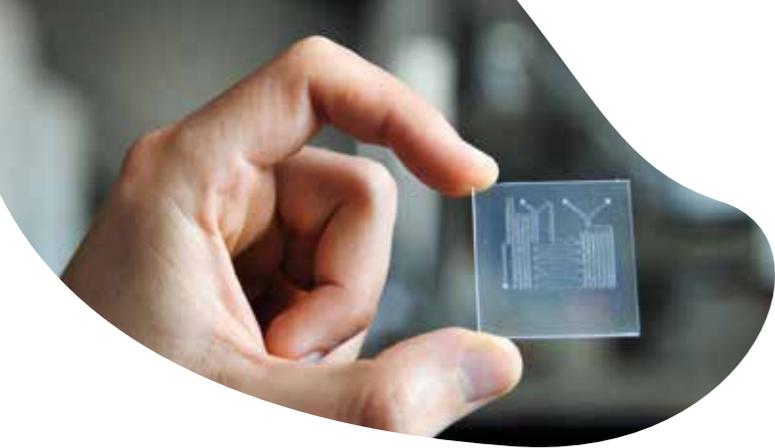
**112** Double degree agreements and student mobility

## STUDENT MOBILITY (a.y. 2013/14)

**1.099** Incoming students

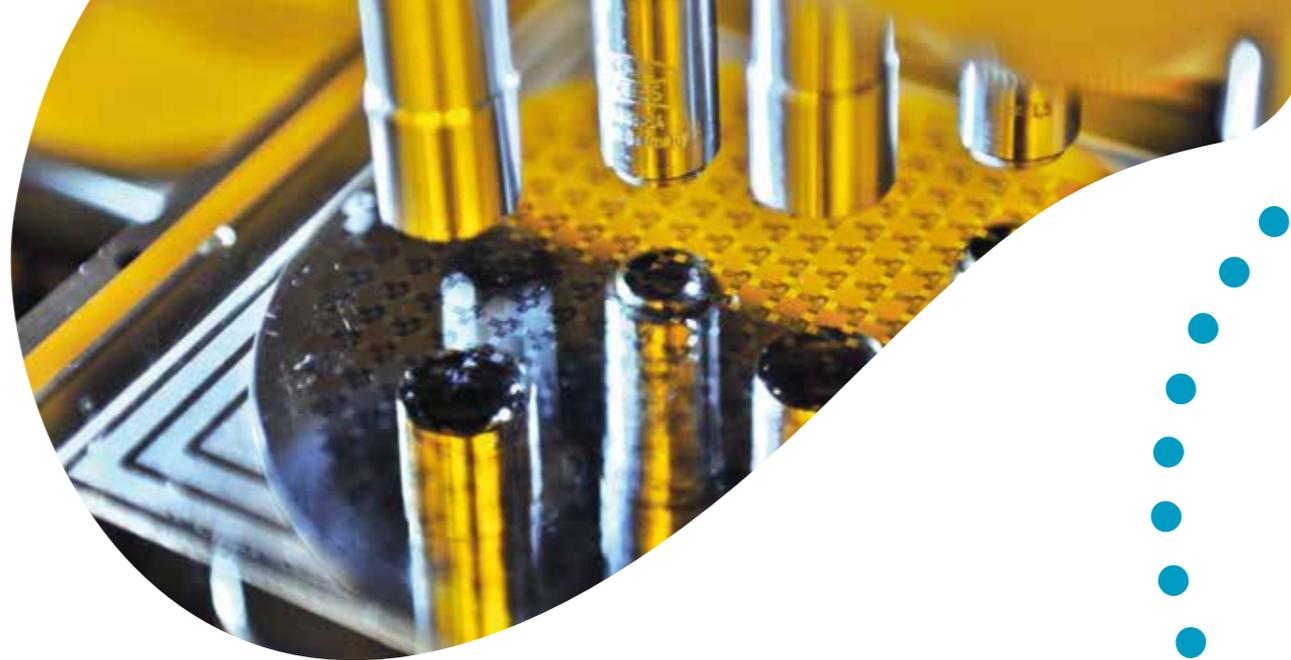
**927** Outgoing students



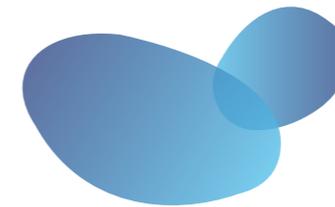


## RESEARCH AND TECHNOLOGY TRANSFER

Politecnico di Torino is a "Research University" which particularly cares about a balanced development of basic and applied research. The University aims even more to create networks within its socio-economic context and to initiate partnerships with national and multinational companies. Fostering collaborative and interdisciplinary research and promoting the knowledge sharing with the industrial partners are some of Politecnico's main objectives. Technology transfer becomes a real "knowledge sharing", a relationship based on the complementarity of competences, which is reinforced by the presence of joint laboratories in the campus and by the participation through partnerships in research projects, besides the traditional activities of the knowledge



enhancing. Politecnico offers to the companies interested in the innovation its own scientific skills, research and consulting services with an interdisciplinary, multiservice and customer oriented approach, a support for lab tests and analysis and in particular the possibility to share laboratories and services within the Business Research Center located within the Cittadella Politecnica. Our University has a large number of partnerships, wich include: Alenia Aermacchi, GE-Avio, ENI Corporate, FCA (Fiat Chrysler Automobiles), Ferrari, General Motors Powertrain Europe, HP, IBM, Indesit, Italdesign Giugiaro, Michelin, Microsoft Italia, Nokia, Philips, Piaggio, Pininfarina, Pirelli, Siemens, SKF, STMicroelectronics, Telecom Italia, Thales Alenia Space.



## RESEARCH FUNDING

**Projects UE VII PQ**  
Number **222** ; Mln **63.4**

**National Projects**  
Number **87** ; Mln **18.8**

**Regional Projects**  
Number **178** ; Mln **15.1**



## FUNDING FROM CONTRACTS/COOPERATIONS WITH BODIES AND COMPANIES

Number **1.689** ; Mln **65.9**

## 2014 QS WORLD UNIVERSITY RANKING

Engineering and Technology in the world **58**

Engineering and Technology in Europe **16**

## 2013 QS WORLD UNIVERSITY RANKING

Engineering and Technology in the world **68**

Engineering and Technology in Europe **22**

## 2 ICT FET FLAGSHIPS INITIATIVES UE:

- Human Brain Project

- Graphene

**4** projects financed by

ERC – European Research Council

(Starting/advanced Grant)

**40** Spin-off (last update 31/12/2014)

**229** Patents (last update 31/12/2014)

## 7 FINANCED INTERDEPARTMENTAL LABORATORIES

- S3+LAB:  
urban sustainability & security laboratory for social challenges

- BIGDATA@POLITO:  
laboratory for tests and development of BigData technologies

- MAKELAB

- BLUENERGY

- GRAPHENE@POLITO

- Neural Engineering and Computation Lab (NEC)

- interdepartmental laboratory for smart energy networks

**10** Smart Cities projects, financed by MIUR

Participation in international Networks, such as:

ARTEMISIA, N.ERGHY, E2BA A.i.s.b.l. , NEREUS, IAF, EPIC, EERA, EGVI, EFFRA, AENEAS-ENIAC



# INTERDEPARTMENTAL LABORATORY FOR TECHNOLOGY TRANSFER

In order to support the policies of technological transfer, the University is equipped with the Interdepartmental Laboratory for Technology Transfer, whose aim is, in particular, the promotion of training and the growth of specific competencies related to the enhancement and to the marketing of

research results. Moreover, this laboratory helps fostering the University capability to evaluate the industrial potential and the commercial value of the researches and of the new technologies thus generated (patents, awarding and monitoring of spin-offs and promotion of the research results).

# HR EXCELLENCE IN RESEARCH

In November 2013 the European Commission conferred the Politecnico di Torino the **HR EXCELLENCE IN RESEARCH logo**, awarding the commitment of the University in the

implementation of the principles of the European Charter for Researchers & Code of Conduct for the Recruitment of Researchers.



HR EXCELLENCE IN RESEARCH

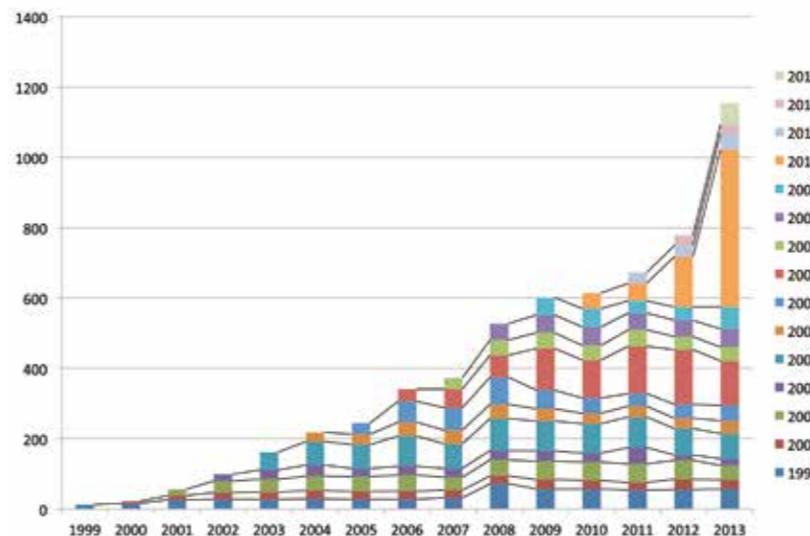
# I3P - THE INNOVATIVE ENTERPRISE INCUBATOR



The Innovative Enterprise Incubator of the Politecnico di Torino is the main university based incubator in Italy and one of the best in the world for outcomes and companies. It supports the creation of new science-based companies, founded both by university researchers and by external professionals, providing them with well-equipped spaces, consulting and professional services, as well as a network of professionals, managers and investors. Founded in 1999, I3P is located in the Cittadella Politecnica and it has launched 173 start-ups as of today, that have been able to exploit the results of

research in different fields: ICT, Cleantech, Medtech, Industrial, Electronics and Automation, Social Innovation. In 2011, I3P launched TreataBit, an incubator dedicated to consumers digital projects, such as portals, e-commerce solutions, social networking sites, web and mobile applications, which has already supported more than 120 business teams, of which 23 have become companies. I3P is one of the first Italian incubators to be recognized as "Start Up Innovative Certified Incubator". On average, every year I3P collects some 300 new business ideas, examines about 100 business plans and launches about 15 new start-ups.

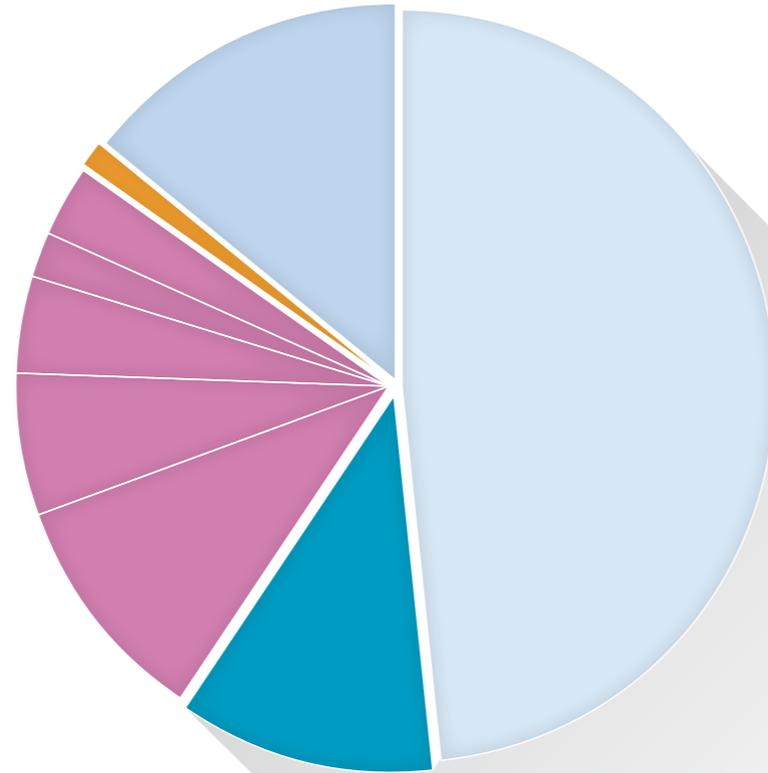
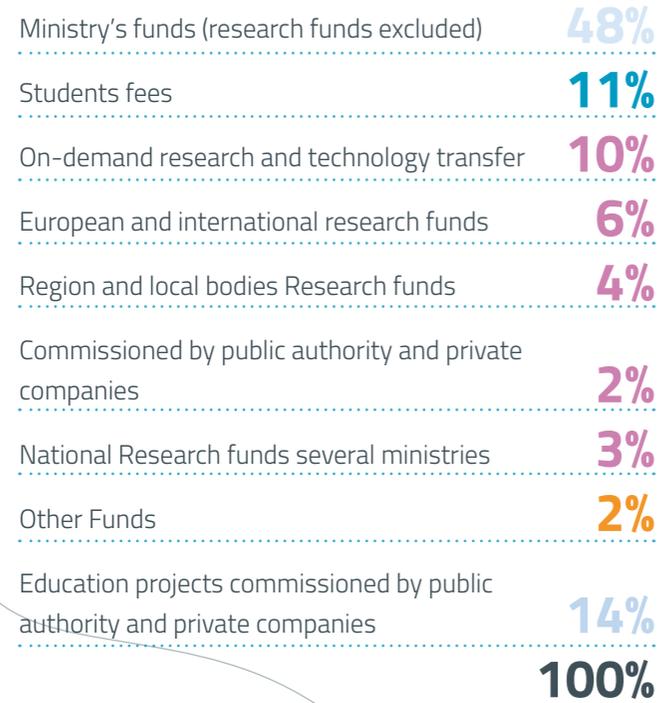
OPERATORS IN THE I3P COMPANIES



# RANKING UBI Index (University Business Incubator)

- 1<sup>st</sup>** in Italy
- 5<sup>th</sup>** in Europe
- 15<sup>th</sup>** in the world

# THE BUDGET 2015



The 2015 budget for Politecnico di Torino is about 260 million Euros. Every year the University receives an amount of funding

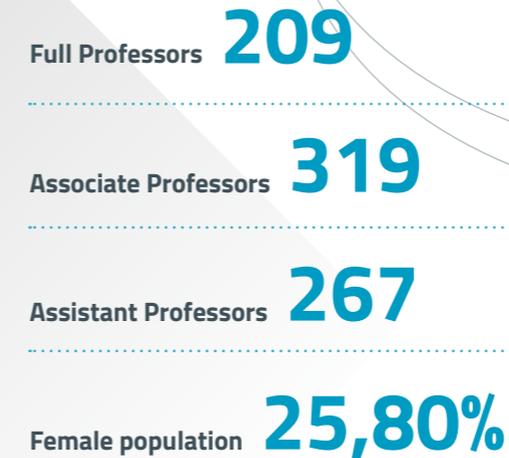
from MIUR (Ministry of Education University and Research) that is less than 50% of its total revenues.

# THE HUMAN CAPITAL

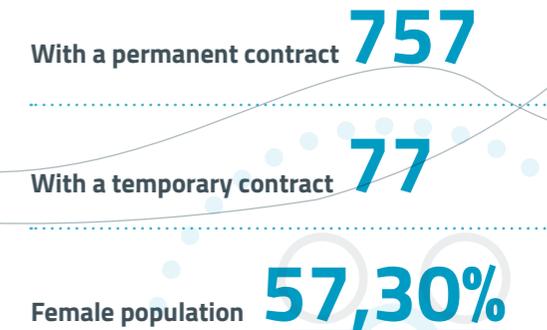
The human capital is the principal value of Politecnico di Torino. Its qualification and the involvement of the entire University community constitute the core of the University development policies. The attraction of young talented researchers is part

of the guidelines proposed by the Strategic Plan of Politecnico di Torino, which intends to enhance quality and to promote the culture of evaluation, in a shared vision of growth.

## TEACHING STAFF

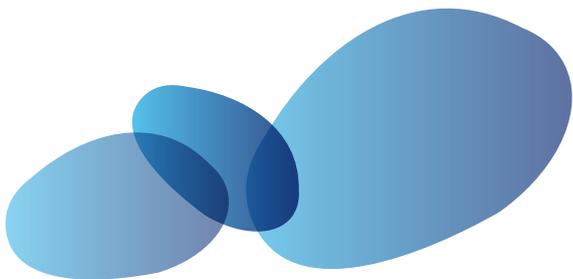


## ADMINISTRATIVE STAFF



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