

### Politecnico di Torino: Present and Future





#### Faculty and staff

- 209 Full professors
- 319 Associate professors
- **267** Assistant professors
- **25,8%** Women
- 757 With a permanent contract
  - 77 With a temporary contract
- **57,3%** Women

**Data collected in October 2015** 

#### Forecast budget 2015



14%

Education project commission ed by public authority and private companies



2%

Research projects commission ed by public authority and private companies



3%

National research funds (several Ministries)



4%

Regional and local stakeholder s' funds



6%

EU and International research funds



10%

On-demand research and technology transfer



2%

Other budget items



11%

Students' fees



48%

Ministry of Education (except Research funds)

Research Funds 27%

**About 260 mln Euros** 



of the total revenues of PoliTO

### Politecnico di Torino campuses in Torino



## Education

#### **33,000** Students

- 29% Women
- 42% Students from outside Piedmont
- 13% International students in total
- 5,552 Students enrolled in the first year (2014/15 a.y.)
  - 9% International students first year (2014/15 a.y.)
  - 208 Specializing Master students
  - 700 PhD students





#### Research Areas

To meet the real needs of the stakeholders

4 RESEARCH AREA

Industrial Engineering

Management and Mathematics for Engineering

11 DEPARTMENTS

Civil and Environmental Engineering Architecture Industrial Design

Information Technologies

Civil and Environmental Engineering Architecture Industrial Design

DIATI

Environment, Land and Infrastructure Engineering

DAD

**Architecture and Design** 

DISEG

Structural, Geotechnical and Building Engineering

DIST

Department of Regional and Urban Studies and Planning

**Industrial Engineering** 

DENERG Energy DISAT

Applied Science and Technology

DIMEAS

Mechanical and Aerospace Engineering



**Information Technologies** 

DAUIN

Control and
Computer Engineering

DET
Electronics and
Telecommunication

Management and Mathematics for Engineering

**DIGEP** 

Management and Production Engineering

DISMA Mothematical Science

**Mathematical Sciences** 

#### Research projects: facts and figures

HORIZON 2020 PROJECTS

Partner in 53 projects funding: 18 Meuro

Key sectors: Excellent Science, Transport, Space, ICT, Nanotechnology

FP7 PROJECTS (2007-2013)

Partner in 233 projects funding: 66.6 Meuro Best success rate of projects for researcher in Italy

Key sectors: ICT, Energy, Mobility, Nanotechnology

**ICT FET FLAGSHIPS** 

POLITO is official partner of both projects funded by the EC

Graphene and Human Brain Project

REGIONAL TECHNOLOGY PLATFORMS

Partner in 11 projects Funding: 7.7 MEuro

Key sectors: automotive and aerospace

NATIONAL TECHNOLOGY CLUSTER

Partner in 10 projects funding: 9.3 MEuro

Key sectors: Smart Communities, Mobility, Aerospace, FoF, Green Chemistry, Life Science

SMART CITIES AND COMMUNITIES NATIONAL PROJECTS

Partner in 7 projects funding: 6.9 MEuro

Key sectors: ICT, Energy, Architecture, New Materials, Health



#### From 2011 to nowadays

In accordance with the recent reform of the Italian University system (Italian law 240/2010):

- Politecnico adopted a new Statute
- The disappearance of the Faculties and the new leading role of the Departments, which now are in charge of both education and research activities
- The new organizational flow for teaching activities: the presence of the Collegi
- A more clear sharing in role and tasks between the Board of Governors and the Academic Senate
- → The new management and administrative figure of the Director-General
- Establishment of the Quality Assurance Committee PQA (in accordance with the national quality assurance strategy for the university system – see ANVUR)



The awareness of a new strategic role of the universities within today society encouraged our Community to identify new strategic objectives for the next future

A new Strategic Plan HORIZON2020



The strategic planning process has been based on some reflections which have been guided by the following pillars:

Entrepreneurial Vision

Efficient organisation

Resource optimization

Creation of a value for the social and economic system

Mission

Creation and dissemination of innovative highly qualified scientific and technological knowledge



Mission

Training Architects and Engineers with professional skills and social responsibility able to face the challenges of a continuously changing society

Mission

Contribution to the cultural progress and to a competitive and sustainable development of the local Community and of the Country









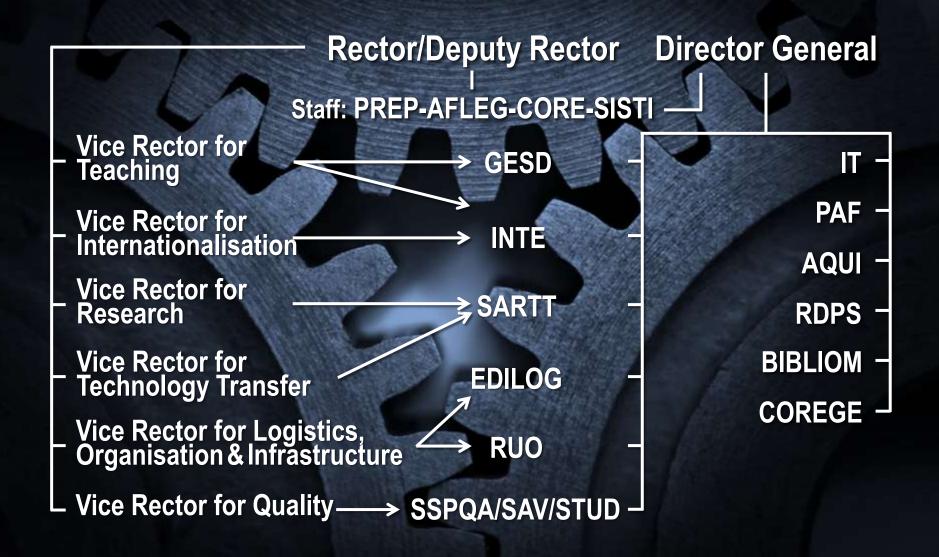
The cultural horizons of our Institution expands according to the national and international research strategies on:

Energy
Mobility
Factory of the future
Innovative Territorial Policies
Big Data
Quantum Science & Technology

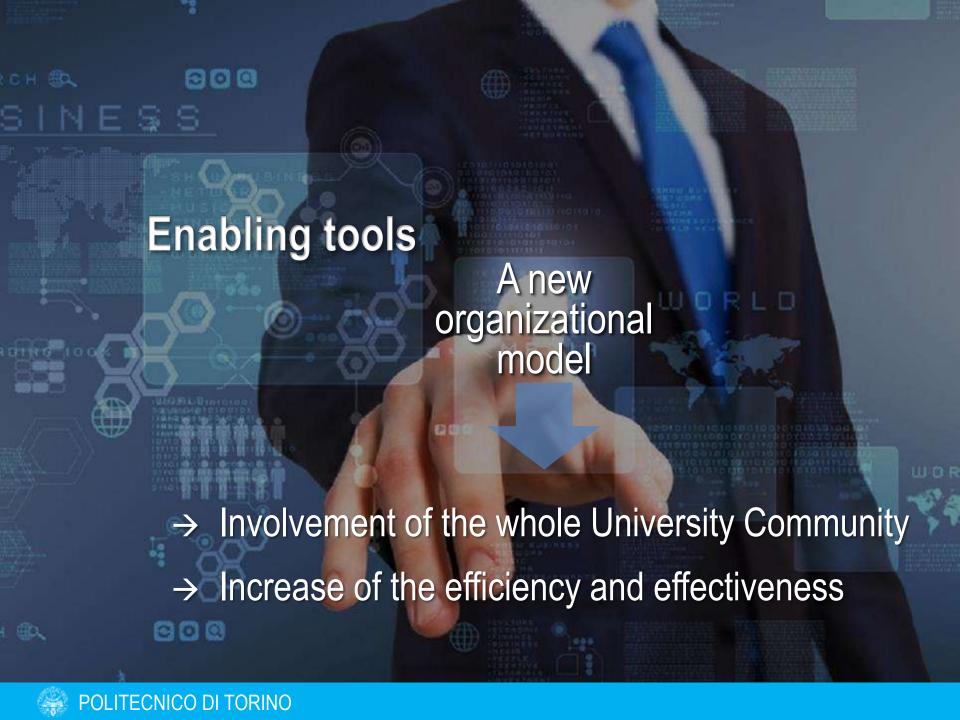




#### A new organizational model











# Enhancement of the value of the human capital

2014 - 2018 Planning

57 Full Professors

**112** Associate Professors

95 Fixed term researchers























## Social role as a public university

The percentage of graduates in Italy corresponds to 16% compared to a European average media of 30% (2012 OCSE data – Education at a Glance 2014)

Increase in the number of students enrolled for the first time

60% from outside Piedmont

# Social role as a public university

Finding a job in the first year after graduation:

84.4% (Italian national average 68.2%)

of graduates (MoS degree)

90% of the graduates in the field of Engineering





To increase the capability of being competitive and to attract the top students

Ad hoc educational path for top talented students

Lowering the tuition fees

Deepening of focused disciplinary contents

Transdisciplinary contents



To increase the capability of being competitive and to attract the top students

Project «Quality & Committment»

llevel

4% of the enrolled students

II level

ASP in cooperation with Politechico of Milan















Fundamental Research

Collaborative and interdisciplinary research

Research and technology transfer with industrial partners



#### **Fundamental Research**

Improving the participation in



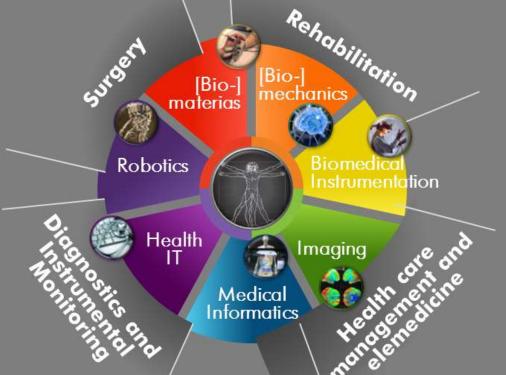
**European Research Council** 

from 10 proposals/year in FP7 to more than 30 proposals/year in Horizon 2020

from 2 projects funded in FP7 to 4 projects funded in the first calls of Horizon 2020

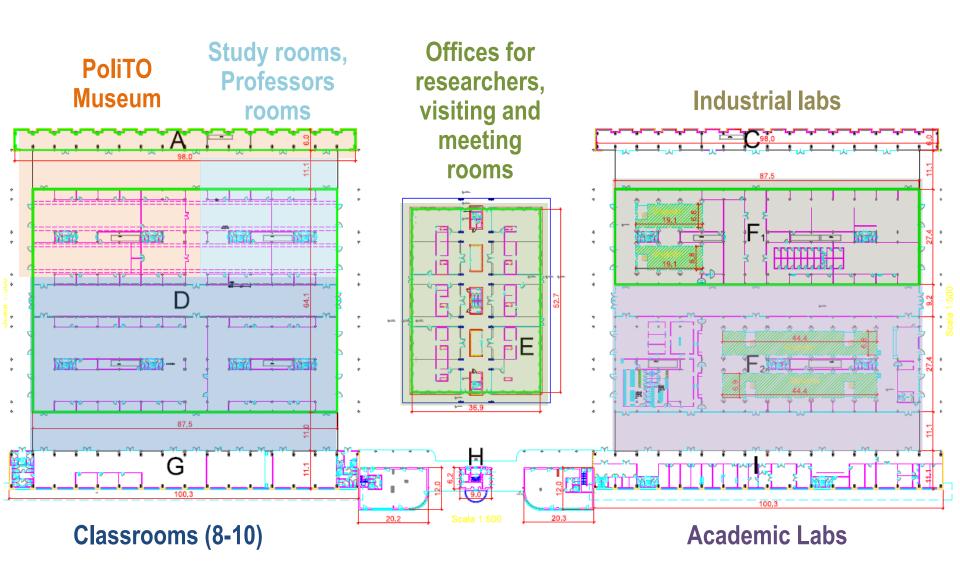


The project of a new «Biomedical Polytechnic Center on Health Sciences and Technologies»









More than 16.000 sqm

Collaborative and interdisciplinary research

POLITECNICO DI TORIN

VII Framework
Programme

ICT FET Flagships

First for number of funded projects per researcher

The only Italian partner in both projects:
Graphene, Human Brain Pi

Collaborative and interdisciplinary research



Project to incentivise the participation in H2020

Collaborative and interdisciplinary research



POLITECNICO DI TORIN

7 interdepartmental labs with shared spaces and equipment

**Knowledge sharing** 

Solid Cooperation Model Partnership agreements

**Shared research infrastructures** 

Joint education programmes and projects

**Business Research Centre** within the campus

**Knowledge sharing** 

Technology Transfer Interdepartmental Laboratory

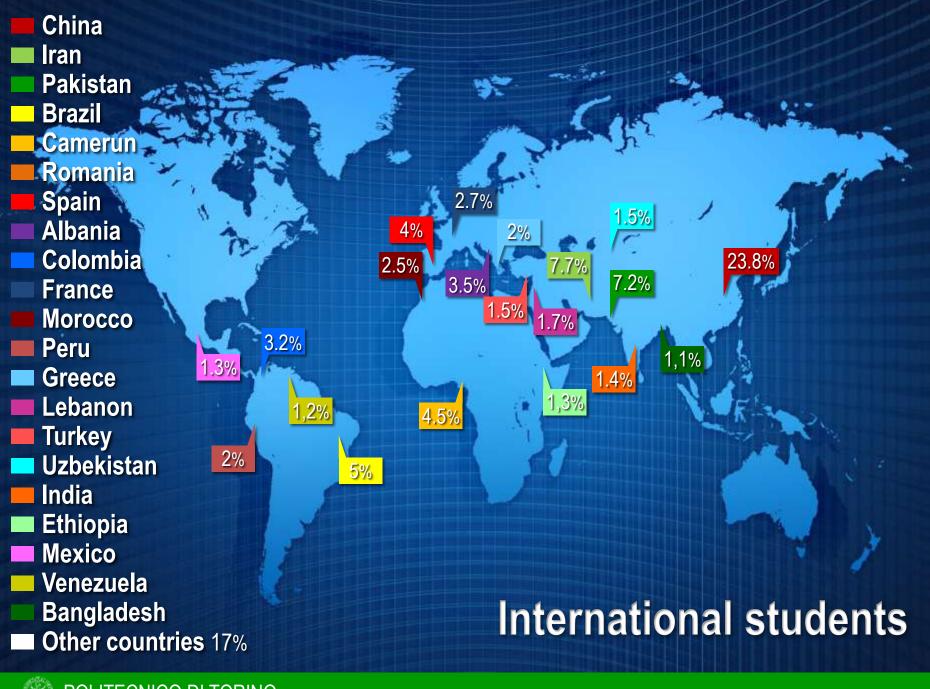
Vice Rector FOR THE TECHNOLOGY TRANSFER

INTERDEPARTMENTAL LAB TO PARTENRSHIP SUPPORT















# International agreements 402 Cooperation agreements with foreign universities About 120 Countries of origin of incoming students 473 Lifelong Learning Programme Erasmus agreements 112 Double Degree agreements

#### International networks

#### Among others, Politecnico is member of:



**European University Association)** 



Conference of European Schools for Advanced Engineering Education and Research



Consortium Linking Universities of Science and Technology for Education and Research



European Society for Engineering Education



Top Industrial Managers for Europe





#### HR Excellence in Research at Politecnico di Torino



#### HR Excellence in Research at Politecnico di Torino



#### November 2013

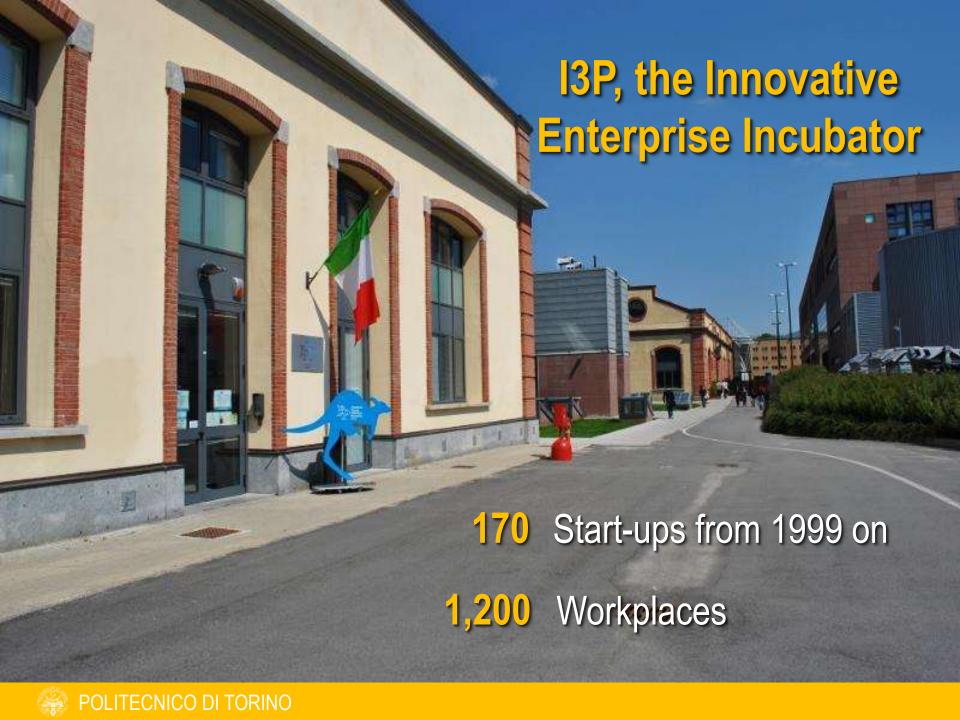
Politecnico di Torino has been acknowledged by the European Commission for its commitment towards the implementation of the European Charter for Researchers and Code through the 'HR Excellence in Research' logo



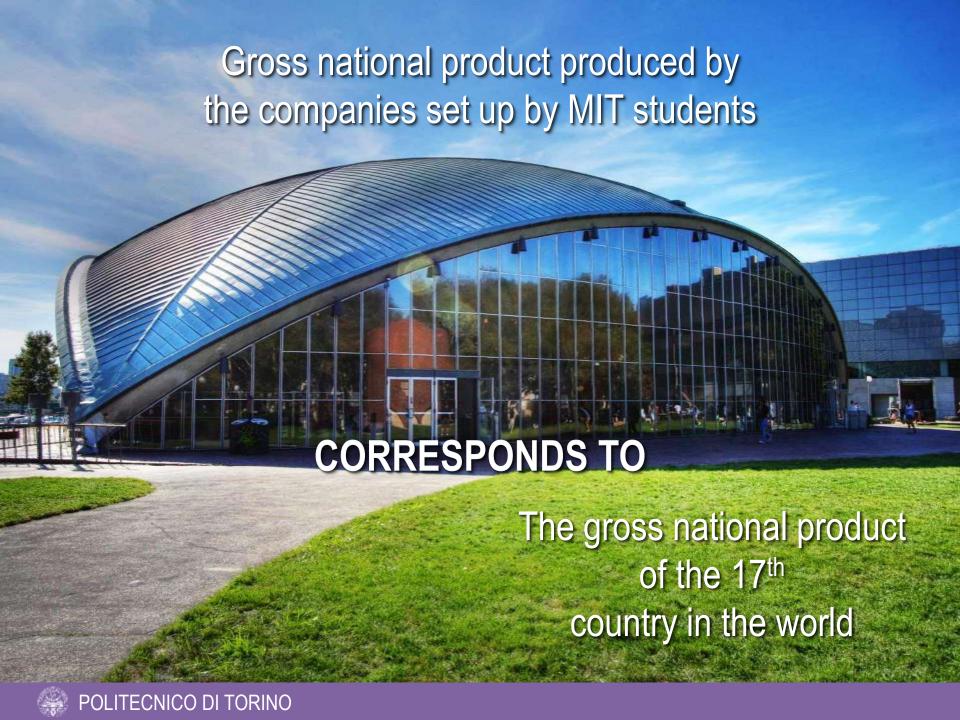












Goal:

an entrepreneurial university able to combine the role of research university with education open to local needs



"Heinnovate A guiding framework
for entrepreneurial
university"





Equal opportunities, welfare and leisure activities

Establishment of CUG (Comitato Unico di Garanzia, "Equality, Non-Discrimination and Anti-Harassment Committee")

An initiative aimed to improve conciliation between life times and working time, baby-parking service and nursery service Policino

Activities promoted by the leisure association of the Politecnico staff such as the chorus "POLI 3TNICO"



## Towards a sustainable campus

- → Open campuses (such as the Cittadella Politecnica)
- → Measures to reduce the environmental impact and CO<sub>2</sub> emissions
- Living Lab, as a center towards which all the data of measurement and control systems converge
- An Energy Manager has been appointed as representative of the Rector in the field of energy sustainability
- → Studies and solutions on sustainable mobility: TO-bike
- → A differentiated waste collection service
- → Member of International Sustainable Campus Network (ISCN)





























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