Passion
Multidisciplinarity
Innovation

ALTA SCUOLA POLITECNICA
POLITECNICO DI MILANO
POLITECNICO DI TORINO

Alta Scuola Politecnica

Prof. Stefano Ceri
Director, 2010-2013

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Milano

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Torino

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PoliMi - PoliTo

Politecnico di Milano

Politecnico di Torino

PoliMi and PoliTo are the largest and oldest technical universities in Italy. Altogether, they award each year

- about 25% of the Engineering BSc's and
- about 40% of the Architecture and Design BSc's in Italy.

They are located in Lombardia and Piemonte, two close Italian regions among the most advanced and industrialized in Europe.

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The five w's of ASP

- *WHEN* -- Established in **2004**, two-year study cycles, 7th cycle starting in 2011
- *WHERE* -- **PoliMi and PoliTo** in joint venture (an asset of the MI-TO framework)
- *WHAT*-- Additional **parallel track to master studies**
- *WHO* -- Selects **150 talented students per year**, among the applicants to the master programs in Architecture, Design and Engineering
- *WHY*-- Emphasize **horizontal skills**, management of complexity, working in teams

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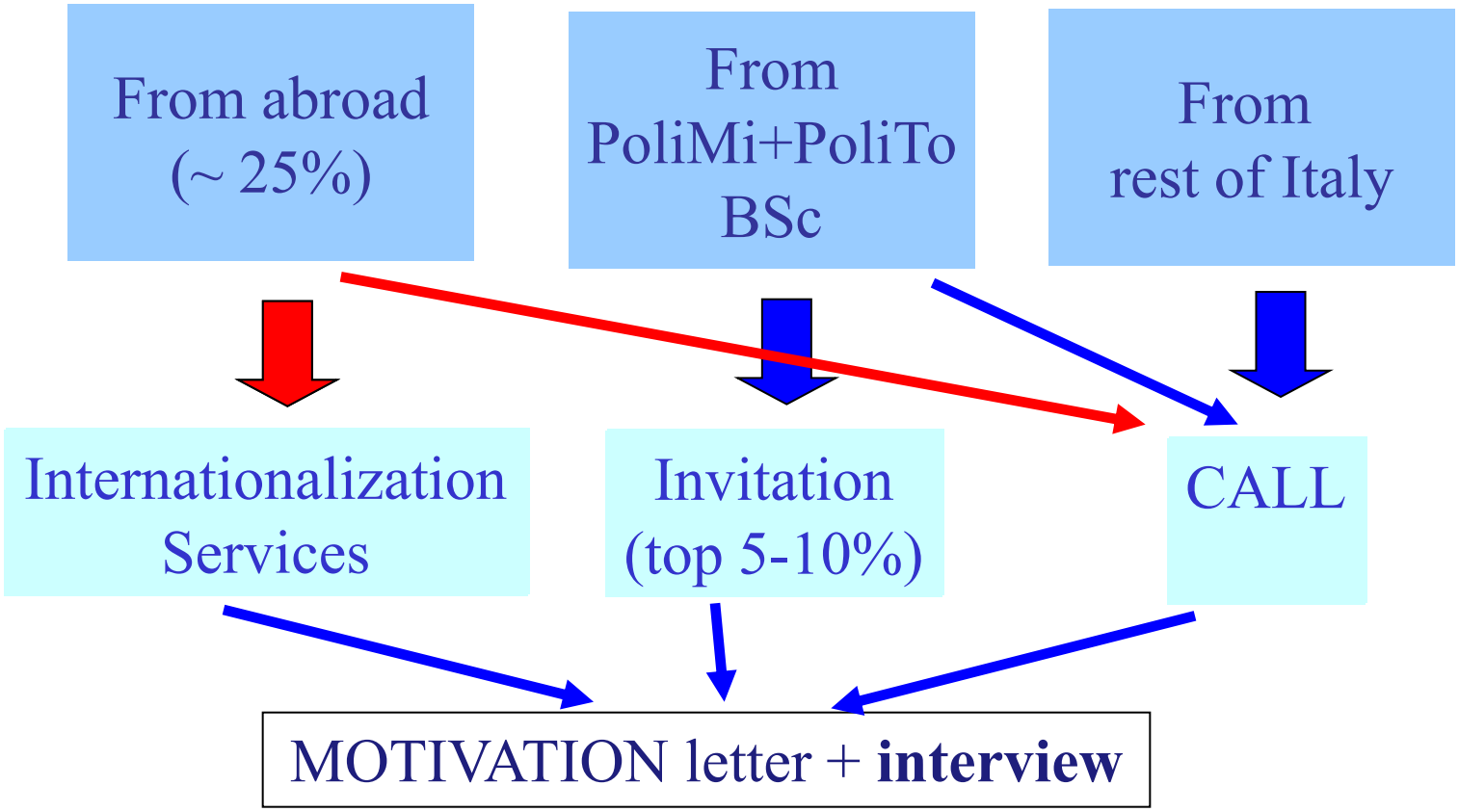
ASP student selection



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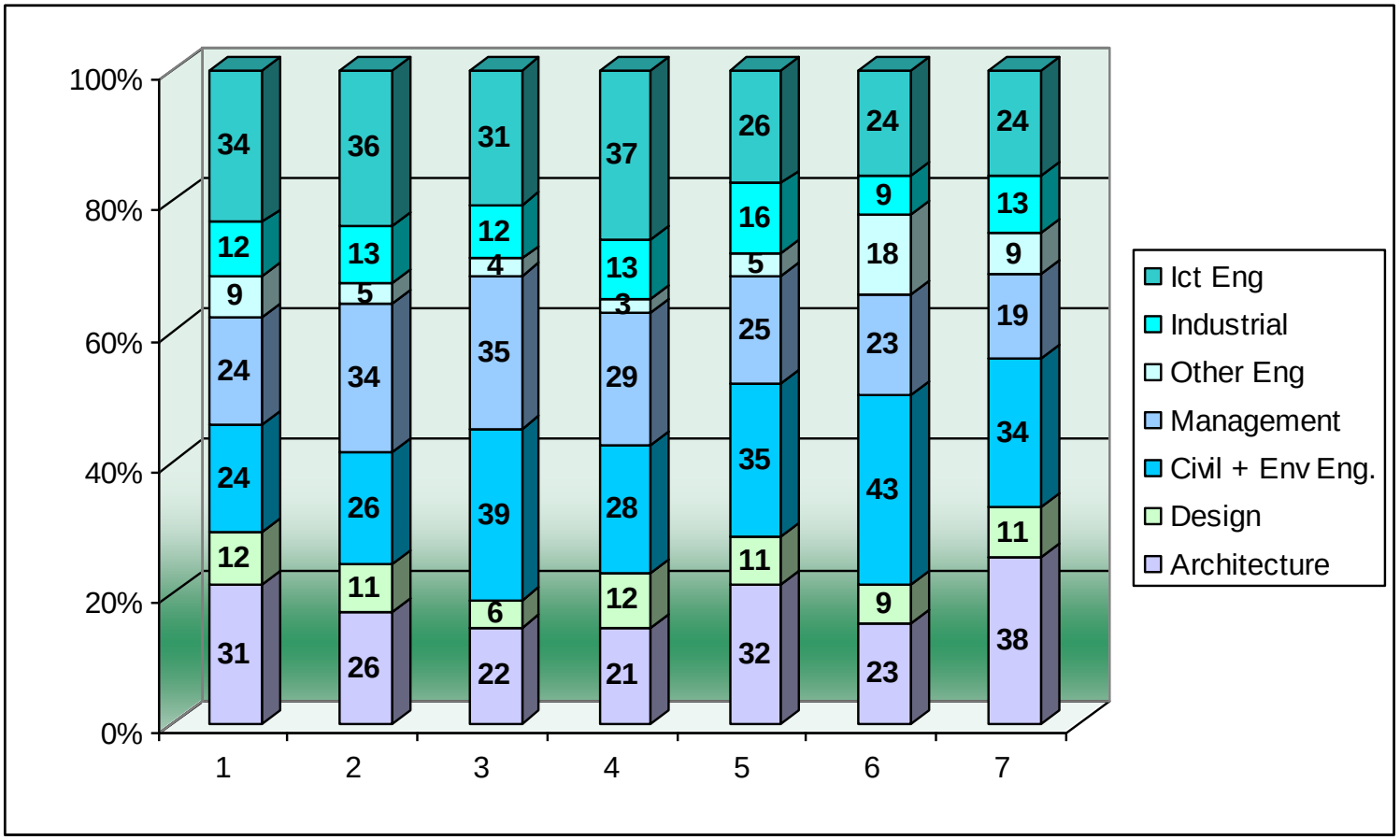
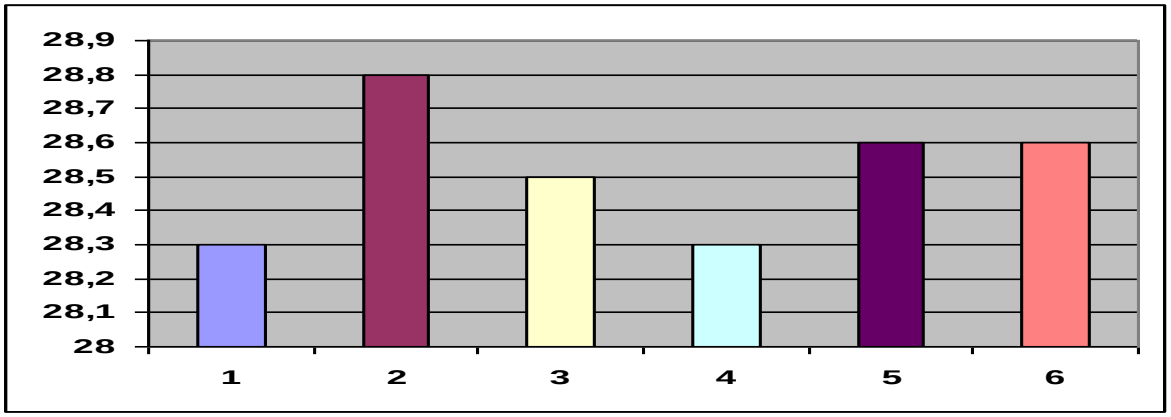
Where do ASP students come from?

ASP Community

Distribution of ASP Students based upon their School in the 7 Cycles (2004-2011)

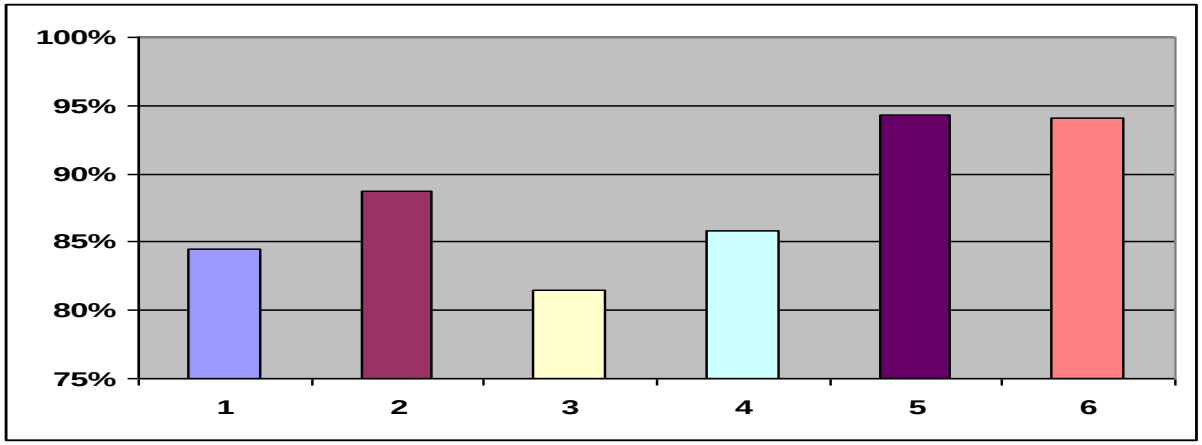


ASP Student Quality (2008-09)



Average BSc mark of Italian ASP students **>28.5/30** (PoliTo/PoliMi average ~ **25.4/30**)

Average fraction of Italian ASP students with 110 or 110L BSc degree ~ **87%** (PoliTo/PoliMi average ~ **14%**)



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Cultural Project

- Supporting students in designing solutions to complex problems, coping with dynamic environments which require:
  - cognitive capacities and aptitude to learning
  - capacity to manage organizational processes
  - awareness of the interests and the interactions that take place within the specific context
  - flexibility in adapting to the cognitive processes used during the design process
  - talent for interpersonal relations

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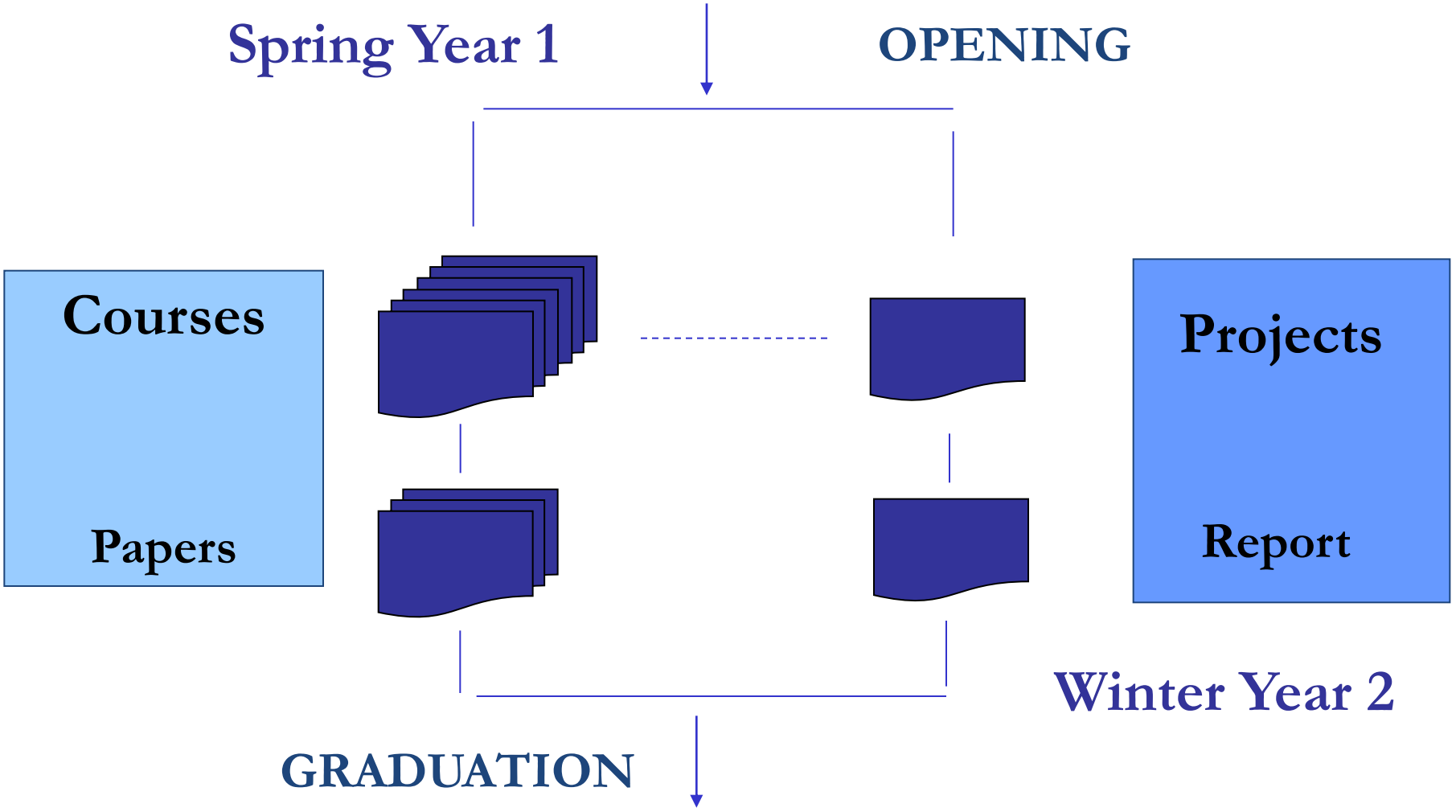
ASP Programme



Course Contents (7th Cycle)

Innovation and its impact on society

1. **Innovations: Why and for whom?**
   (Prof. Massimiano Bucchi, Prof. Costanzo Ranci)

- To interpret the socio-technical context in which innovation takes place and develops
- To understand how values and normative cultures shape and guide innovation and technical design

2. **Design for Social Innovation (Prof. Ezio Manzini)**

- To introduce the problems of innovation in a social and economic context
- To discuss the relevance of user involvement in the design process
- To discuss design thinking and creativity for innovation

Course Contents (7th Cycle)

Actors and decisions in complex projects

3. Management of innovation (Prof. Mario Calderini)

- To develop the capacity to perform strategic analysis and project management
- To develop skills and experience in group work, and external communication capacities

4. Decision making (Prof. Giovanni Azzone, Prof. Bruno Dente)

- To teach a theoretical framework and the analytical instruments to design and manage the decision making processes involved in the realisation of complex projects in the public and private sphere

Course Contents (7th Cycle)

Aspects of complex systems design

5. Global Change and Sustainability (Prof. Marino Gatto)

- To introduce the students to the problems of global change
- To outline the possible policies and technical advancements that could shape sustainability paths
- To make the students understand their social commitment to bring the ideas of social, economic and environmental sustainability into their professional life

6. The Dynamics of Creativity for a Territory in "Stand-by" (Prof. Agata Spaziante)

- To discuss how creativity can help to face the on-going situation of a territory in "stand-by".
- Stimulate new aims, new images, new paths and new methods able to support the incoming cycle of "development without growing".

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ASP Projects

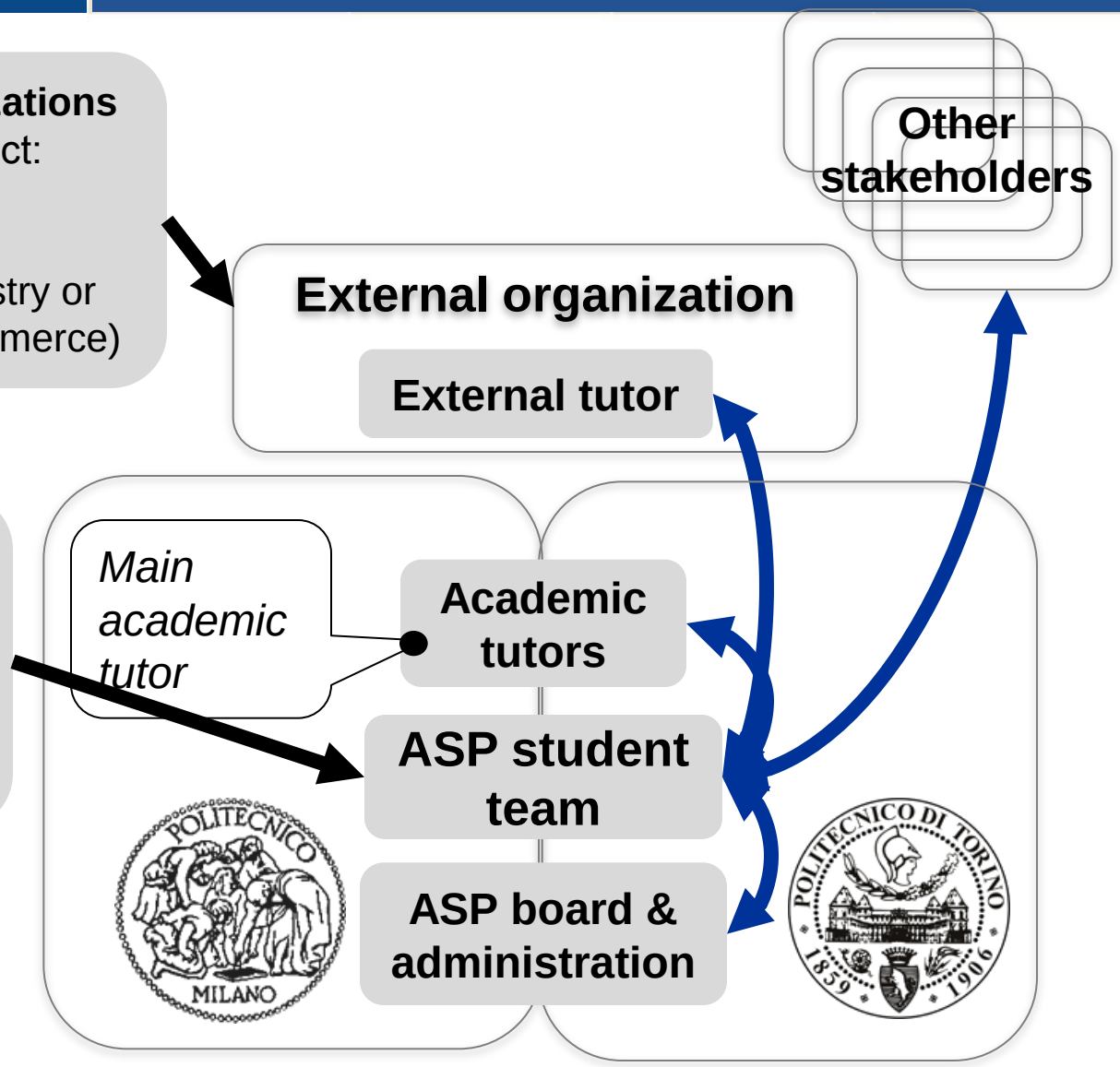
ASP projects enable concrete experimental activity on broad and relevant themes and problems. They are:

- system-level
- interdisciplinary
- focused on:
  - problem-setting within a complex situation
  - innovation (i.e. bridging technology with its applications)
  - conceptual design and feasibility analysis
- require both:
  - disciplinary knowledge (coming from the *Laurea Magistrale* background of each student)
  - interdisciplinary knowledge (coming from ASP courses)
- they are different from a *Laurea Magistrale* thesis.

Actors in ASP projects

Each project has **external organizations** that acts as the "client" of the project:
- Companies
- Public administrations
- Associations representing industry or services (e.g. chambers of commerce)

- Each project has 2-3 teams, with about 6 students per team
- Team members are chosen with different backgrounds (LM, Mi/To, nationality)



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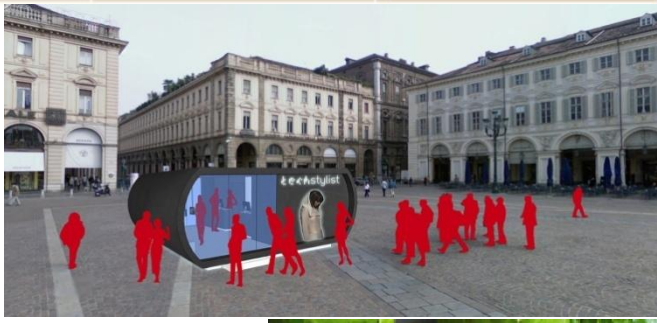
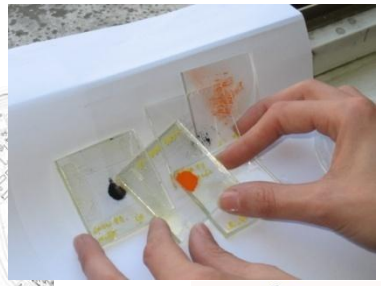
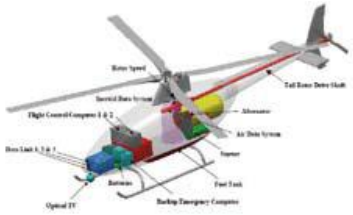
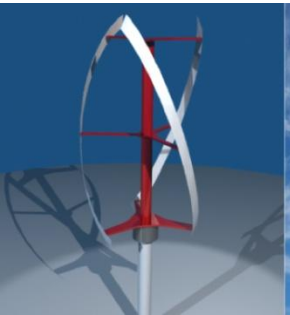
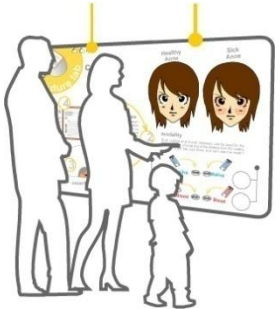
Projects

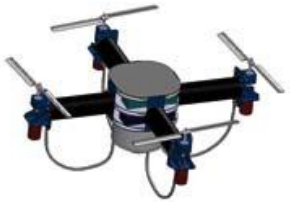












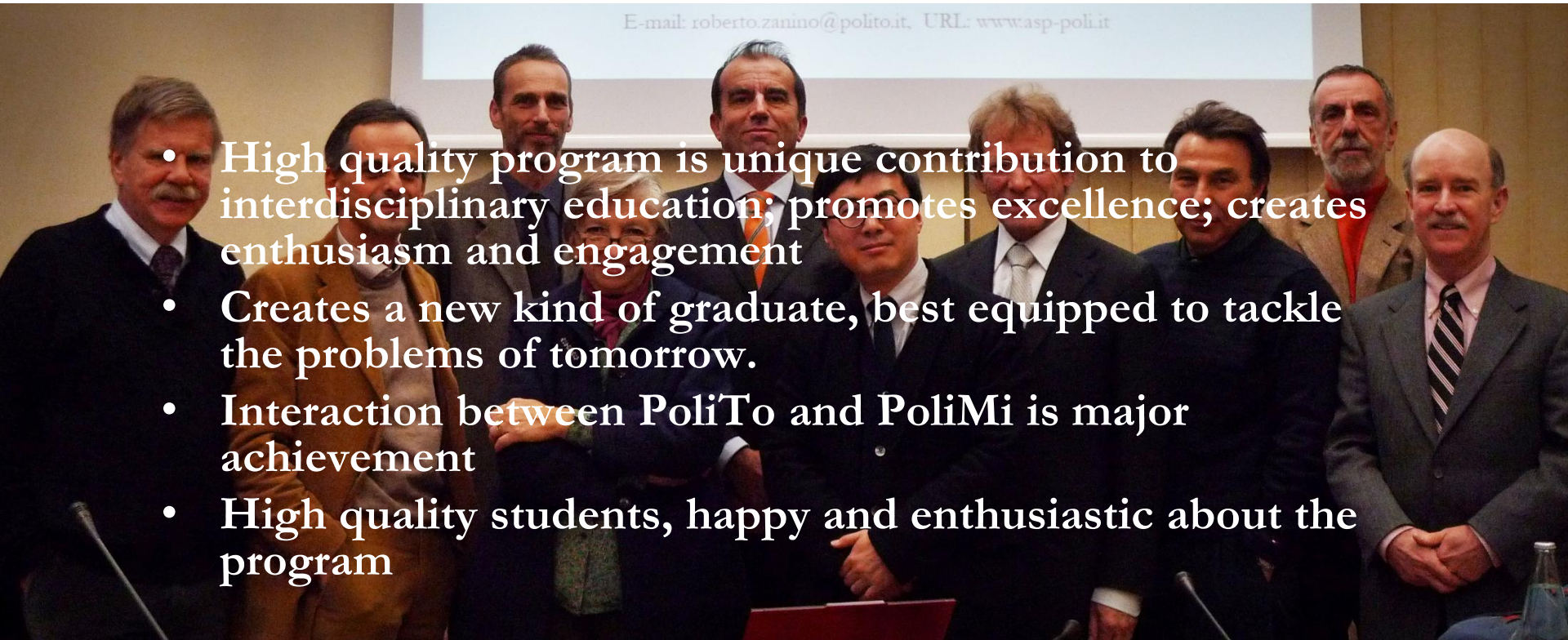
ASP Scientific Committee (Dec.09)

Prof. Robert C. Armstrong, Deputy Director MIT Energy Initiative, Cambridge, MA, USA

Prof. Eric Goles, Universidad Adolfo Ibáñez, Santiago, Chile

Prof. Yongqi Lou, Deputy Head of Art & Design Department, CAUP Tongji University, Shanghai, China

Prof. Konrad Osterwalder, Rector United Nations University, Tokyo, Japan



- High quality program is unique contribution to interdisciplinary education; promotes excellence; creates enthusiasm and engagement
- Creates a new kind of graduate, best equipped to tackle the problems of tomorrow.
- Interaction between PoliTo and PoliMi is major achievement
- High quality students, happy and enthusiastic about the program

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ALUMNI Association

- **Created** officially in June 2007
- **Mission:** facilitate *networking* among ASP Alumni, support the professional and personal development of ASP Alumni, enhance ASP visibility
- **Activities**
  - **Alumni Days/Events** (2/year)
  - Newsletter
  - Placement poll
  - Tutoring
  - Many other opportunities of interaction with ASP students