



Politecnico  
di Torino

# Education and training in the Space sector: Space Policy & Skills at regional level

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Politecnico di Torino

# Our History

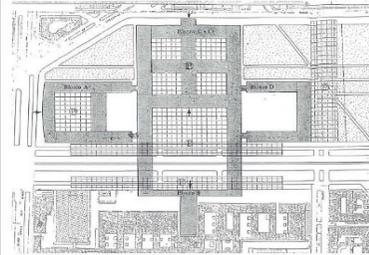
**1859**

The Application School for Engineers is born. The Valentino Castle is the first location



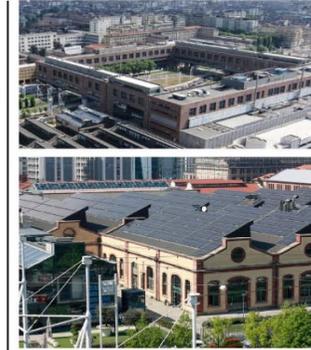
**1995**

With the new PRG the "Doubling" of Politecnico starts. The expansion beyond the railway line is designed by Studio Gregotti Associati



**2004-2010**

Renovation and expansion of Cittadella: "Ex-Fucine", "Ex-Tornerie", "Corte interrata", "Scavalchi e manica d'approdo", "GM and parking lot", "Coffee bar MixTo"



**1906**

The Regio Politecnico di Torino is established

**1990**

At the southern border of the Valentino Castle the "New Wing" is built

**2016**

Start of the project "Masterplan di Ateneo"

**1999**

Review of the "Doubling" project which involves the restoration of some parts of OGR area

**1958**

The complex of Corso Duca degli Abruzzi is inaugurated



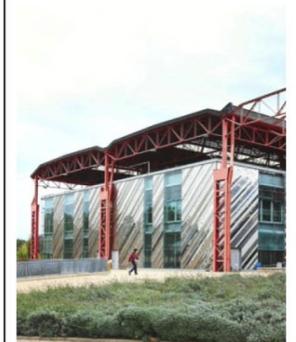
**2002**

The Lingotto headquarter is inaugurated. Project by Renzo Piano Building Workshop



**2011**

The Cittadella of Design and Sustainable Mobility is launched in the former plant of Mirafiori





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# Campuses in Torino

## ENGINEERING



Corso Duca  
degli Abruzzi



Cittadella  
Politecnica

## ARCHITECTURE AND URBAN PLANNING



Castello del Valentino  
Via Morgari

## DESIGN AND SUSTAINABLE MOBILITY



Mirafiori

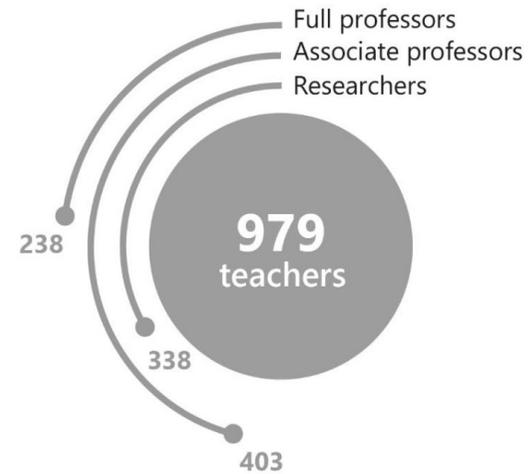
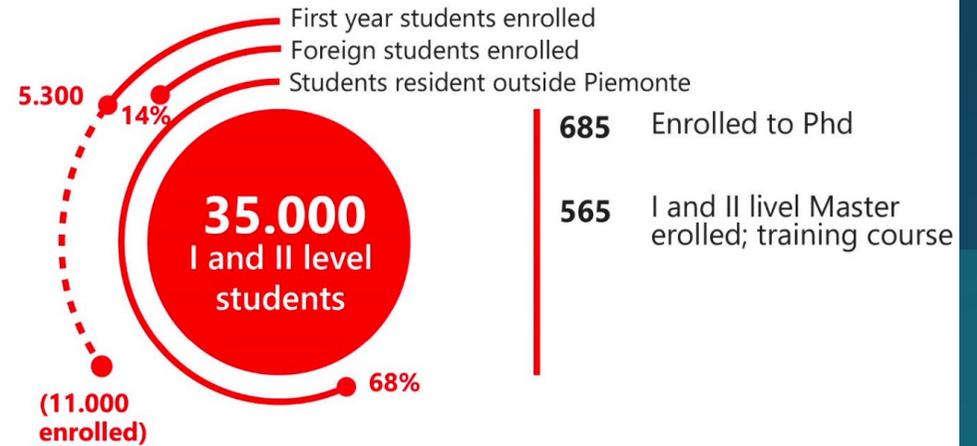
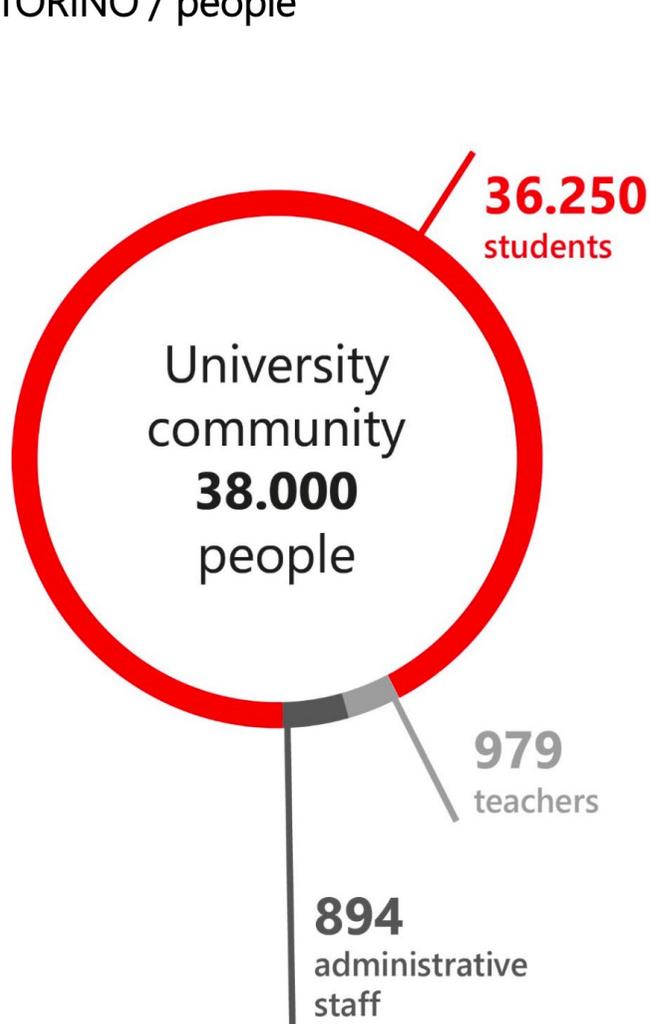
## MASTER AND LIFELONG LEARNING



Lingotto



# POLITECNICO DI TORINO / people

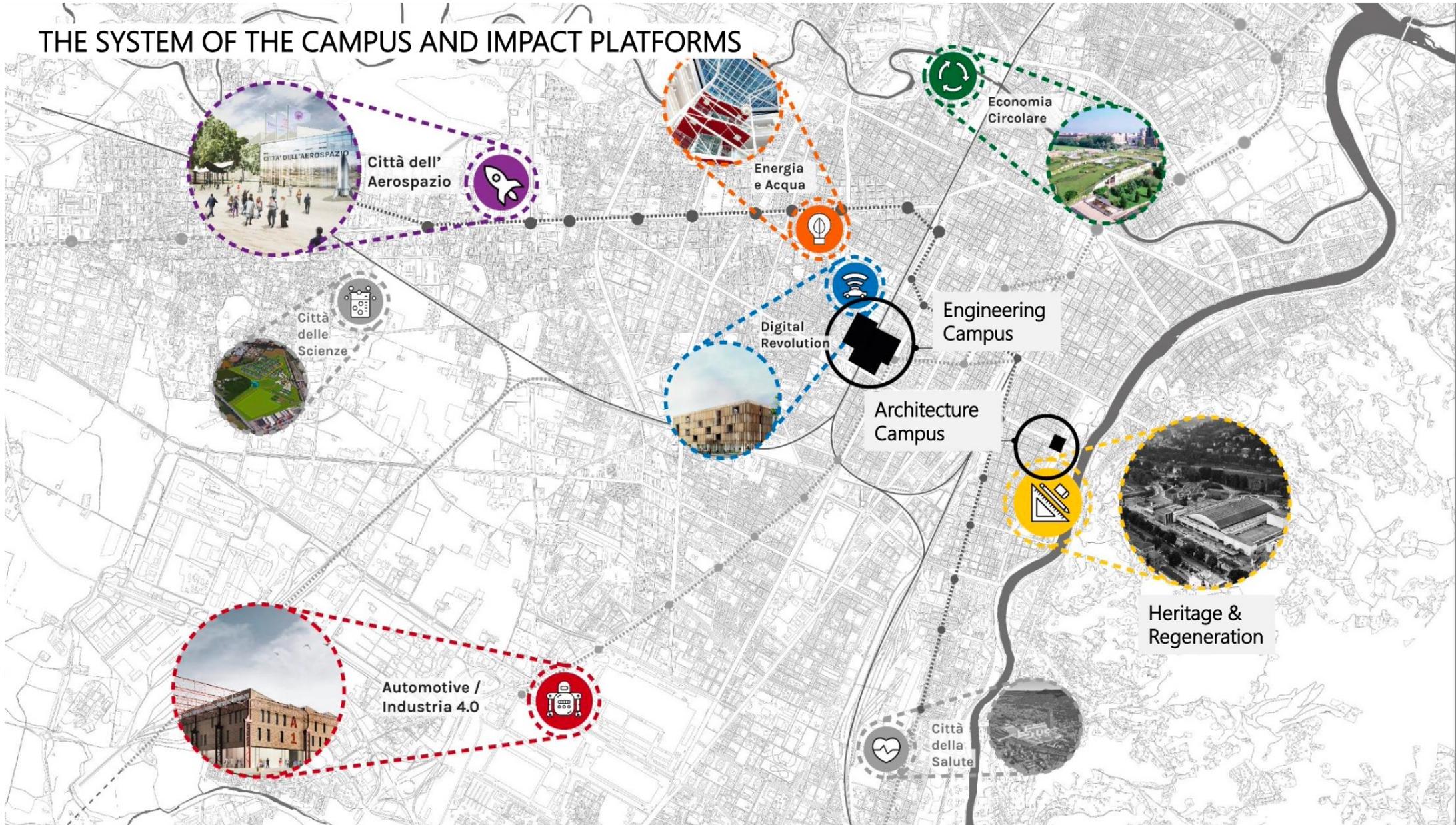




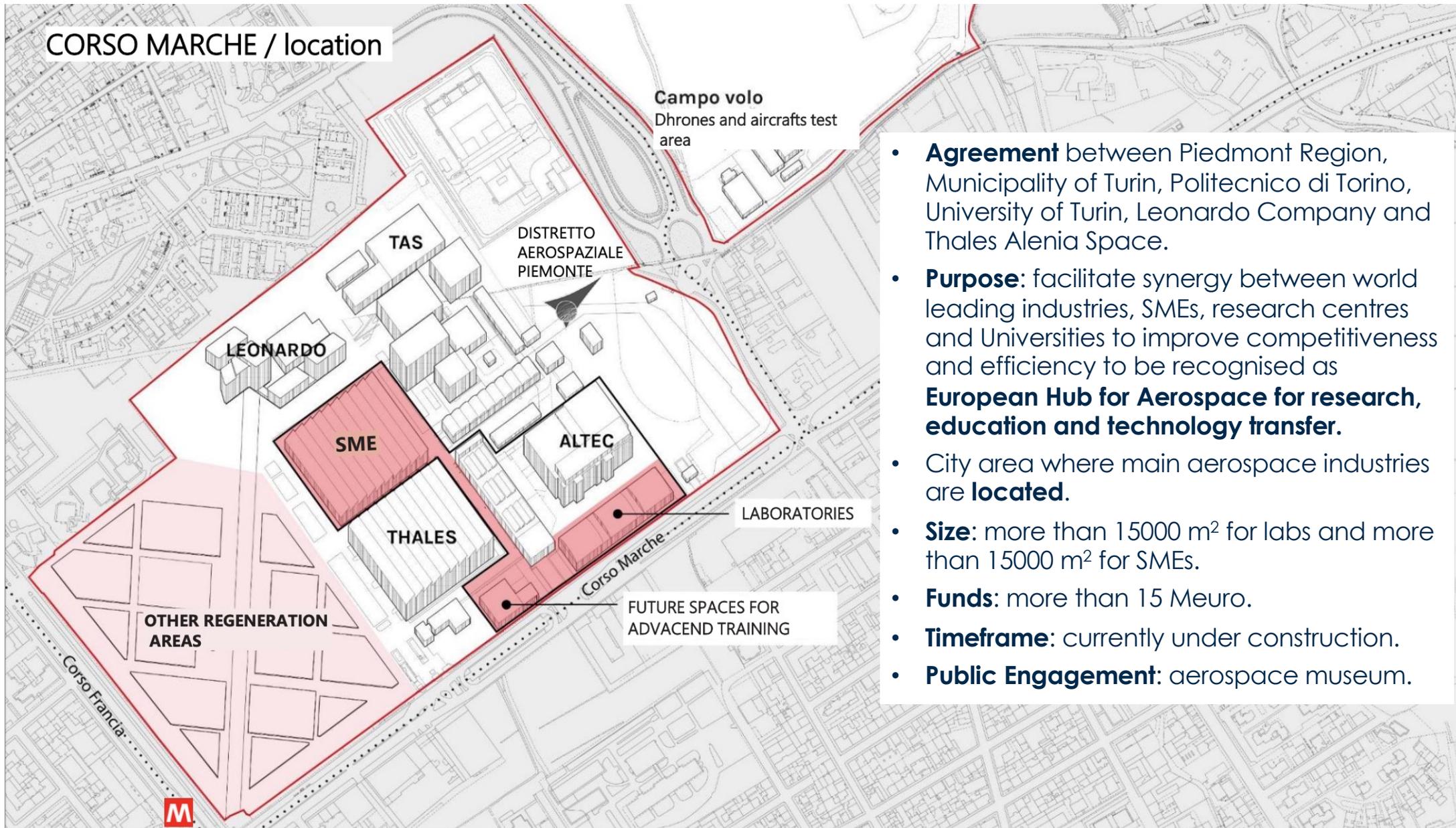
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# The Aerospace City

# THE SYSTEM OF THE CAMPUS AND IMPACT PLATFORMS



## CORSO MARCHE / location



- **Agreement** between Piedmont Region, Municipality of Turin, Politecnico di Torino, University of Turin, Leonardo Company and Thales Alenia Space.
- **Purpose:** facilitate synergy between world leading industries, SMEs, research centres and Universities to improve competitiveness and efficiency to be recognised as **European Hub for Aerospace for research, education and technology transfer.**
- City area where main aerospace industries are **located.**
- **Size:** more than 15000 m<sup>2</sup> for labs and more than 15000 m<sup>2</sup> for SMEs.
- **Funds:** more than 15 Meuro.
- **Timeframe:** currently under construction.
- **Public Engagement:** aerospace museum.







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# IDEAS INTEGRATED DIGITAL AND EXPERIMENTAL AEROSPACE FOR SUSTAINABILITY

Politecnico di Torino Inter-  
department Centre for  
Aerospace @ Aerospace City





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# IDEAS

## MISSION AND OBJECTIVES

The mission of the Interdepartmental Center for Aerospace, IDEAS - Integrated Digital and Experimental Aerospace for Sustainability, is to develop technical solutions and scientific knowledge that support the **sustainable design and development of future aeronautical and space missions, systems, and technologies**. The results of the Center's activities will be crucial for implementing new concepts to serve our society, protecting citizens and the planet in the short term, and supporting cutting-edge aerospace research and space exploration in the medium and long term.



IDEAS's ambition is to **leverage the region's space and aeronautics expertise for the benefit of broader communities**.

To achieve this ambitious goal, the Aerospace Center:

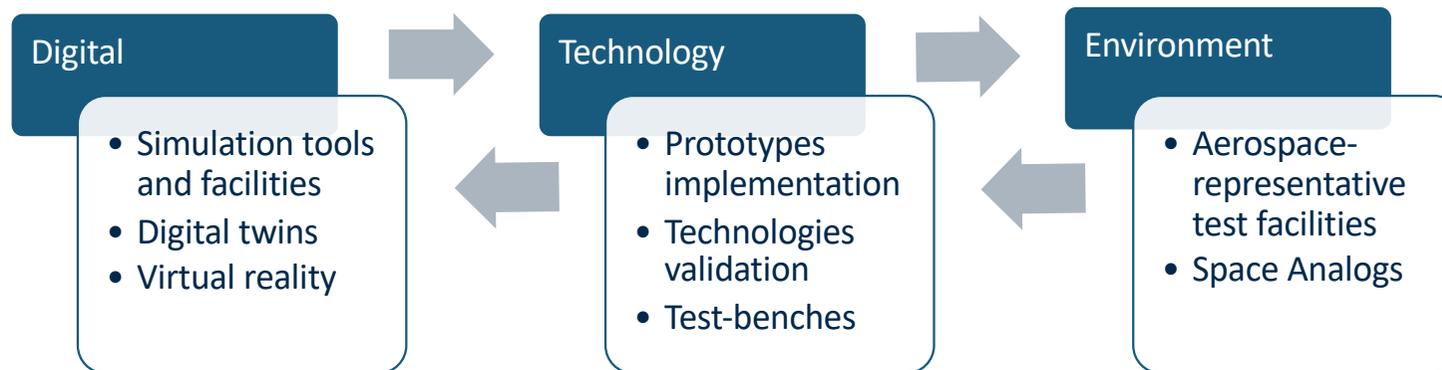
- **undertakes world-class cutting-edge research;**
- **supports innovation and competitiveness;**
- **offers skills and education;**
- **is open to society as a whole to improve its impact on citizens.**

# IDEAS: HOW?

## AN APPROACH BASED ON 5 LABORATORIES AND 3 PILLARS

Each laboratory is structured around **three pillars**: the **digitalization of design and simulation processes**, the **development of innovative technologies** (hardware and software), and their **functional and environmental testing in a controlled and/or relevant environment**.

The laboratories can be located at Politecnico di Torino or in other locations (companies, research centers, agencies, universities) in collaboration with Politecnico di Torino.



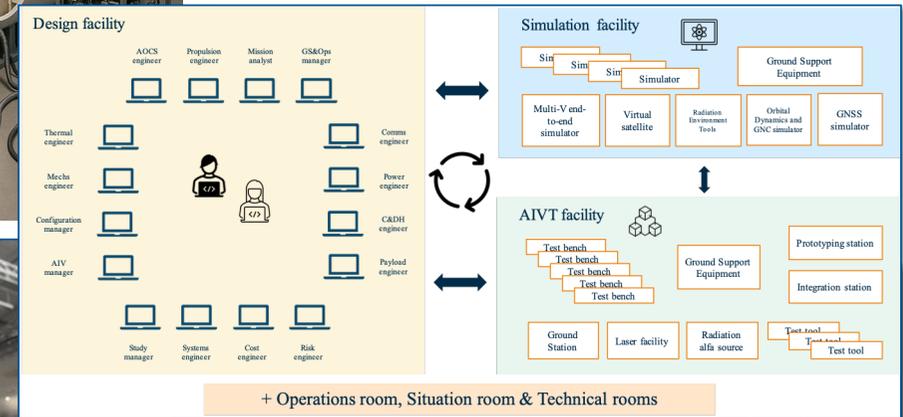
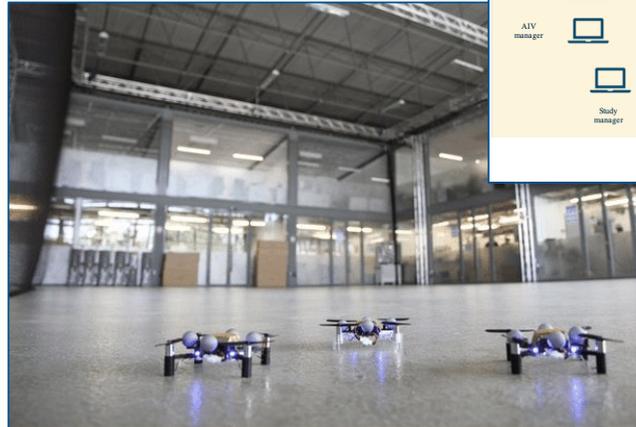


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# IDEAS: THE LABORATORIES

IDEAS has 5 laboratories across 3 main scientific areas:

- 2 laboratories in the **up-stream space segment**:
  - **HUMANS** – Humans-in-the-loop Moon and Mars Analog for Sustainability
  - **STELLAR** - Space Technology & Engineering Lab for Learning and Research
- 1 laboratory in the **down-stream space segment**:
  - **DIGITAL PLANET** - Pioneering Leading Advancements in Networked Environmental Tech
- 2 laboratories for **aviation**:
  - **ADVANCED AIR MOBILITY**
  - **SUSTAINABLE AVIATION**





# STUDYING AT POLITO

Politecnico di Torino



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# Course Catalogue

A.Y. 2023/2024

25

## Bachelor's degree programmes

4 in Architecture  
21 in Engineering



### Percorso Intraprendenti

for Bachelor students

35

English-taught  
study paths

36

## Master's degree programmes

9 in Architecture  
27 in Engineering



### Alta Scuola Politecnica (ASP)

for Master students

32

## I and II level Specializing Master programmes and Lifelong Learning programmes

18

PhD programmes  
5 in cooperation with  
other Universities (3)  
and research centers (2)





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# Master's degree programmes

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Aerospace

area



**Aerospace Engineering**

Management

area



**Engineering and management:  
Space Economy**



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# Specializing Master's Programmes

International Post-Graduate Master Program in Space Exploration and Development Systems, SEEDS



2ND LEVEL

## Space Exploration and Development Systems

Language:

Duration: 1 year

Application: Deadline on November 6th 2023 at 2:00 P.M. (CET)



UNIVERSITY OF LEICESTER



Politecnico di Torino

2022



EREBUS - Europa Research and Exploration for Biosignature Under the Surface  
MAVERIC - MArs VEhicle foR Interplanetary Cruise

2021



NUVOLE - Novel solUtion for Venus exploration and Lunar Exploitation

2020



THEMIS - Titan Horizon Exploration from a Moon Installed Shelter

2019



Beyond Lunar Propellant Outpost

2018



LUPO - LUAr Propellant Outpost

2017



MUSE - Moon Utilisation for Science and Exploration

2016



IMPERIUM - Interplanetary Mars Port for Exploration, Resources In-Situ Utilisation and Mobility

2015



MILESTONE - Mars Initial Landing ExpeditionS Towards a New Era

2014



ORPHEUS - Human exploration of Mars and manned landing on Phobos

2009



AENEA - hUman Exploration of a Near-Earth Asteroid

2008



ALICE - Advanced Lunar Itinerant Caravan for Exploration

2007



ECLIPSE - Permanent habitable orbiting station located in Earth-Moon Lagrangian Point A

2006



PHOEBE - Permanent Human mOon BasE

2005



ULISSE - hUman Lunar Initial Settlement for Space Exploration



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# Social Media



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都灵理工大学

# Thank you

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