



Politecnico di Torino | DIATI

Department of Environmental,
Land and Infrastructure
Engineering

*Training, researching and innovating
for a renewed relationship
between mankind and environment in the
New Green Deal era*

Staff

DIATI can count* on:

- 88 teachers belonging to 14 Scientific-Disciplinary Sectors
- 40 technical, administrative and librarian staff units
- 160+ research assistants and PhD students

* data May 2025



A Department of Excellence

2018-2022: climate_change@polito

9 millions from MUR in 5 years

- Professor of international fame
- Upgrading of high-tech equipment
- New integrated and multisite laboratory
- New Master's Degree track
- New 2nd Level specializing Master's programme

2023-2027: climate_transition@polito

8 millions from MUR in 5 years

- Confirmed Department of Excellence → focus on technological and digital solutions for climate transition



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Educational offer/1

BACHELORS

Environmental and Land Engineering (IT)

Civil and Environmental Engineering (EN)

MASTERS OF SCIENCE

Environmental and Land Engineering

- Industrial Environmental Sustainability (EN)
- Management of natural hazards (IT)
- Geo-Engineering (EN)
- Climate Change (EN)

Georesources and Geoenergy Engineering (EN)

- Geoenergy
- Sustainable Mining

Agritech Engineering (EN)



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Educational offer/2

SPECIALIZING MASTERS

- Climate Change: adaptation and mitigation solutions
- Tunnelling and tunnel boring machines
- Sustainable design of geotechnical works and tunnels
- Engineering and integrated management of highway networks
- Natural resources development and storage

EXECUTIVE MASTERS

- Mining Engineering applied to Ornamental Stone Quarries (ITA)

PhD

DIATI has more than 110 PhD students, most of whom attend the PhD programme in **Civil and Environmental Engineering**

Student Teams

TEAM DIRECT

3D Metric Survey and Remote Sensing for environmental emergencies.



MI LEGO AL TERRITORIO

Educational activities for children and teenagers on environmental risk and its prevention, through LEGO® toys.



A.K.A.Noah

Environmental monitoring of river Po and collection of river pollutants.



GEMS PoliTo

Geosciences, Earth materials and Mineral Studies.

50+ teams are currently active at Politecnico di Torino.



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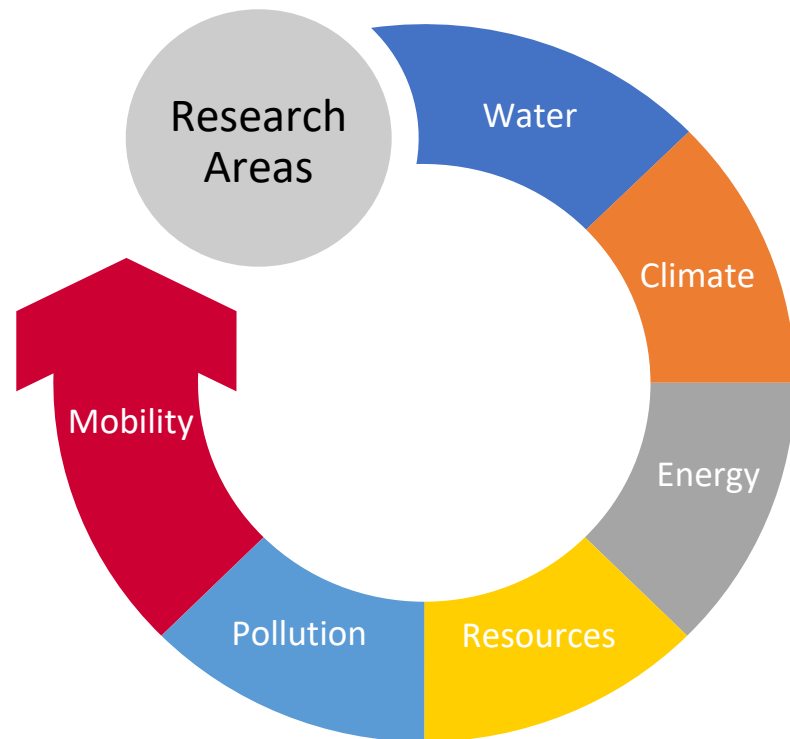
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Research

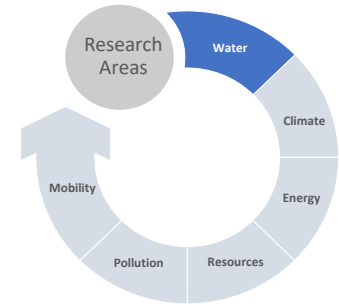
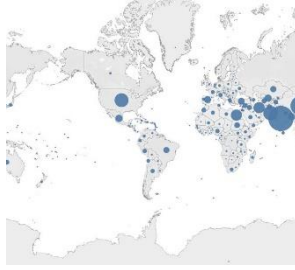
- 14 Disciplinary Scientific Fields and numerous Research Groups
- 6 macro research themes, closely interconnected
- Strong interdisciplinary nature



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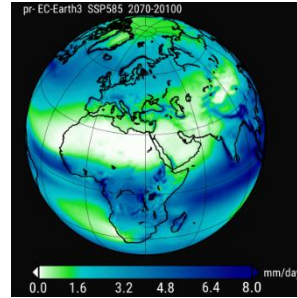
Water

- Quality and treatment
- Virtual water
- Hydraulics and infrastructures
- Clouds, precipitations and floods



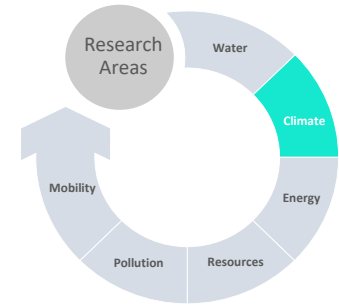
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Climate

- Adaptation
- Modelling
- Monitoring
- Earth observation
- Mitigation



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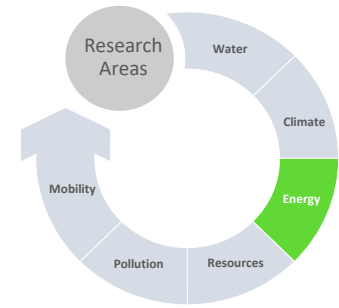
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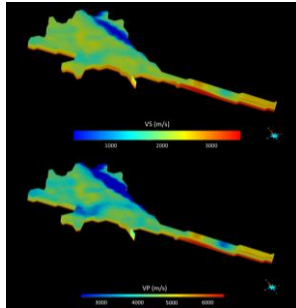
Energy

- Waves and tides
- Biomasses
- Ecohydraulics
- Geothermal
- Petroleum, gas and energy transition



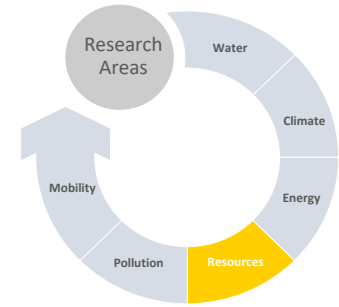
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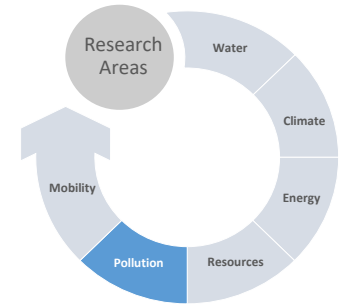




Resources

- Raw materials
- Applied geology
- Subsoil exploration
- Extraction
- Hydrogeology: quality water supply





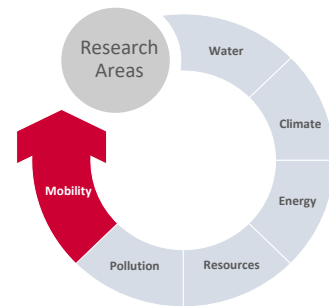
Pollution

- Waste and Circular economy
- Groundwater and remediation of polluted sites
- Risk and environmental assessment
- Air pollution monitoring and modelling



Mobility

- Sustainable mobility
- Logistics
- Road Safety
- Roads
- Tunnelling e use of the subsoil



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Labs

- Hydraulics and fluid mechanics lab
- Raw materials
- Water Quality Centre
- Geomatics lab
- Safety lab
- Road lab
- Air, Water and Waste treatment centre
- Tunnelling and Rock engineering centre
- Geomechanics and Geotechnology Laboratory
- Road Safety and Driving Simulation Laboratory
- Transport Systems and Mobility Lab
- Circular Economy Lab
- Geophysics lab



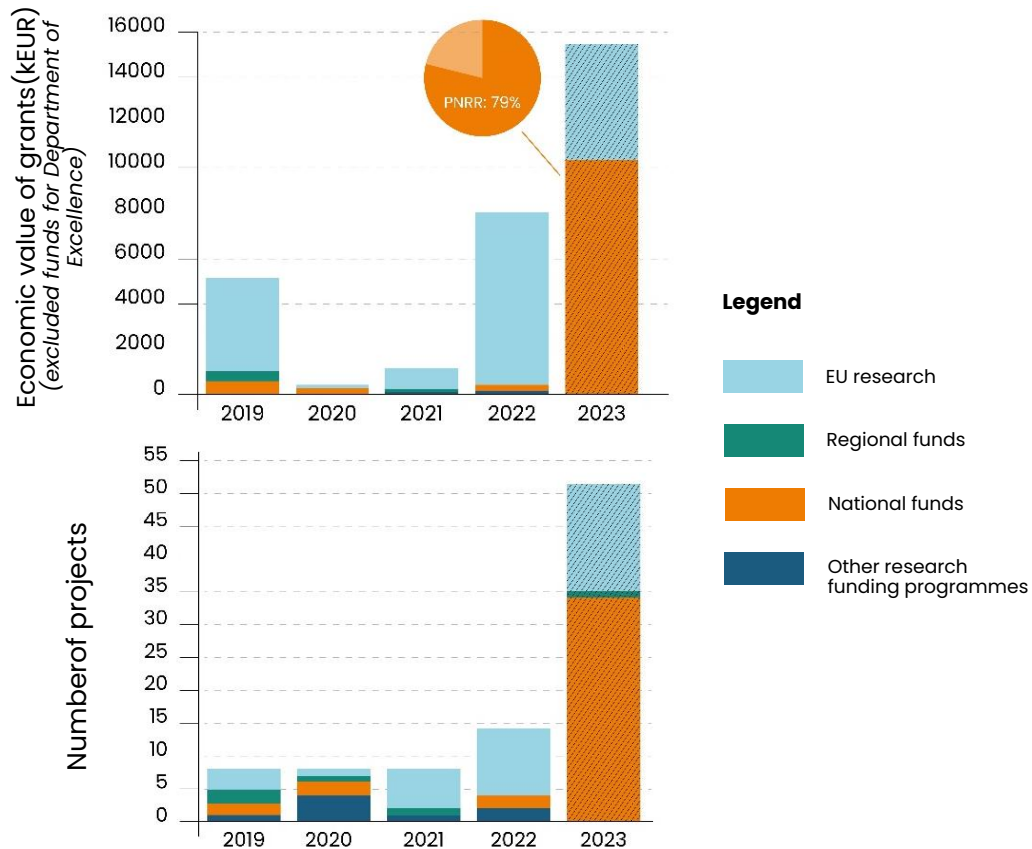


Projects

In the five-year period 2019-2023 DIATI has been engaged in **80 competitive projects**, of which

- 36 funded by European funds
- 45 funded by national research funds (NRRP included)

for a total amount of about € 28 M.



Technological Transfer

Research and commercial contracts



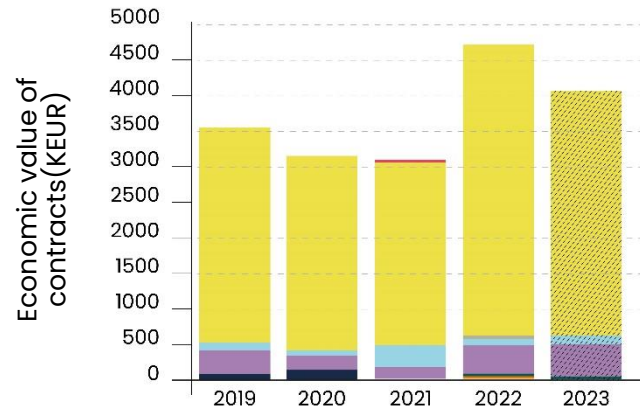
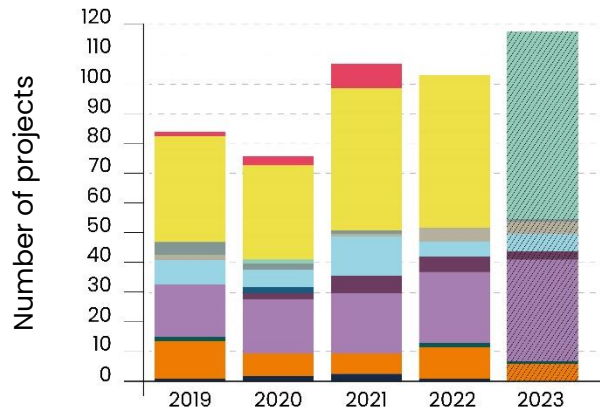
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In the period 2019-2023 il DIATI:

- Signed about **500 contracts**
- for an overall amount of **18+ M €**



Legend

- Commercial sponsorships
- Commercial research
- Memorandum of Understanding
- Loans of equipment
- Teaching activities
- Services
- Inter-departmental agreements
- Departmental agreements
- Commercial consultancy
- Participation in expenses for research
- Analysis and tests
- Collaboration agreements with the Public Administration



Technological Transfer

Patents and Spin-Offs



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SPIN-OFFS



EXAMPLES OF PATENTS

ECOCOMPATIBLE PESTICIDE NANO-FORMULATION

Reduction of environmental and human health impacts from pesticide use in agriculture.

BIMETALLIC PARTICLES FOR NANOREMEDIATION

Method for the synthesis of zerovalent bimetallic nanomaterials through the use of non-toxic and economic reducing agents.

A SUSTAINABLE AND LOW- COST PROCESS FOR THE RECOVERY OF TANTALUM

Alternative process to mining for the recovery of high purity tantalum, avoiding heat treatments and pollutants.

NANOTUNE – OPTIMIZING NANOREMEDIATION

Method to improve remediation of contaminated groundwater by injection of reactive particle suspensions.

OZONATION OF WASTEWATERS WITH HIGH AMMONIA LOADS

Industrial waste water treatment with high ammonium concentrations through an ozonation process.

USAGE OF SAWING SLUDGE FOR THE PRODUCTION OF TWO-COMPONENT GROUT

Using waste materials from the cultivation of ornamental rocks within a two-component grout for backfilling in the excavation of tunnels.

LED SYSTEM FOR MICROALGAE GROW-UP

LED lighting to optimize the growth processes of microalgae greatly reducing growth times and energy consumption.

PROFILE FOR CULTIVATION OF PHOTOSYNTHETIC ORGANISM

Pressurized hydraulic circuit inside the channels of an alveolar panel that allows the liquid to be radiated by external light.

Outreach

- Conversations in the Library
- OpenLab@DIATI
- ScuolAmbiente
- Geo-Mineralogical Museum, participation to shows and exhibitions
- Cambiare il Clima (theatre)
- Citizen science initiatives
- Participation to Science Festivals, Researchers' Night, ...





Contacts

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