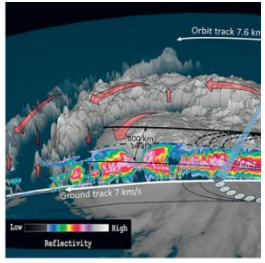
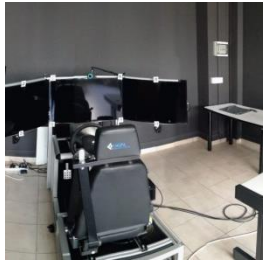













Politecnico di Torino | DIATI

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:

- **87 teachers** belonging to 14 Scientific-Disciplinary Sectors
- 39 technical, administrative and librarian staff units
- 170+ fellows, research assistants, PhD students and visiting staff units

** data Jan 2024*

Politecnico di Torino
Department of Environment, Land and Infrastructure Engineering

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

Politecnico di Torino

Department of Environment, Land and Infrastructure Engineering

Educational offer/1

BACHELORS

Environmental and Land Engineering (IT)

Civil and Environmental Engineering (EN)

MASTERS OF SCIENCE

Environmental and Land Engineering
- Environmental Protection (IT)
- Natural Hazards and Civil Protection (IT)
- Geo-Engineering (EN)
- Climate Change (EN)

Georesources and Geoenergy Engineering (EN)
- Geoenergy
- Sustainable Mining

Agritech Engineering (EN)

Politecnico di Torino
Department of Environment, Land and Infrastructure Engineering

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 60 PhD students, most of whom attend the PhD programme in **Civil and Environmental Engineering**

Politecnico di Torino
Department of Environment, Land and Infrastructure 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

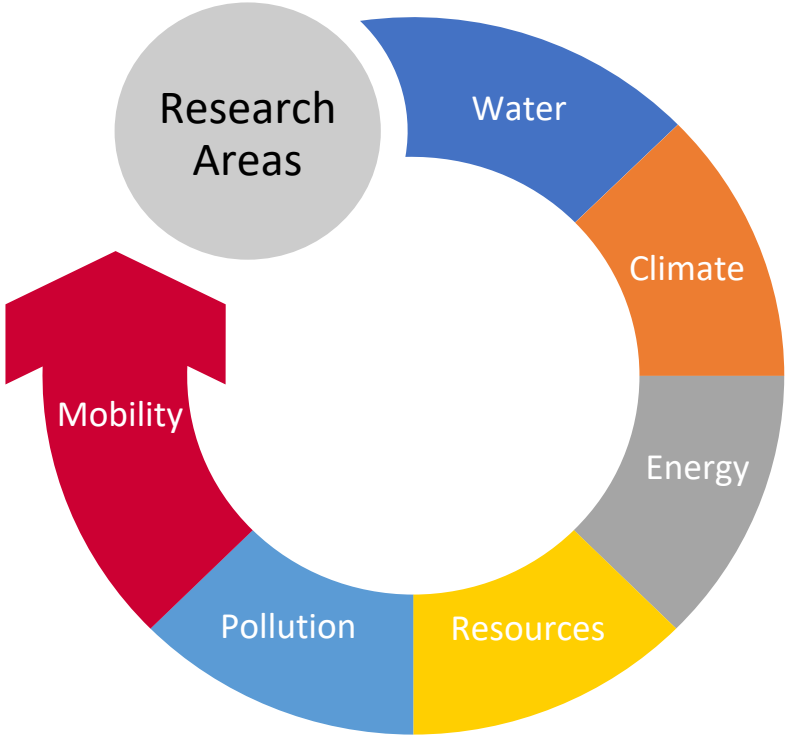
Environmental monitoring of river Po and collection of river pollutants.

About 30 teams are currently active at Politecnico di Torino.

Politecnico di Torino
Department of Environment, Land and Infrastructure Engineering

Research

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



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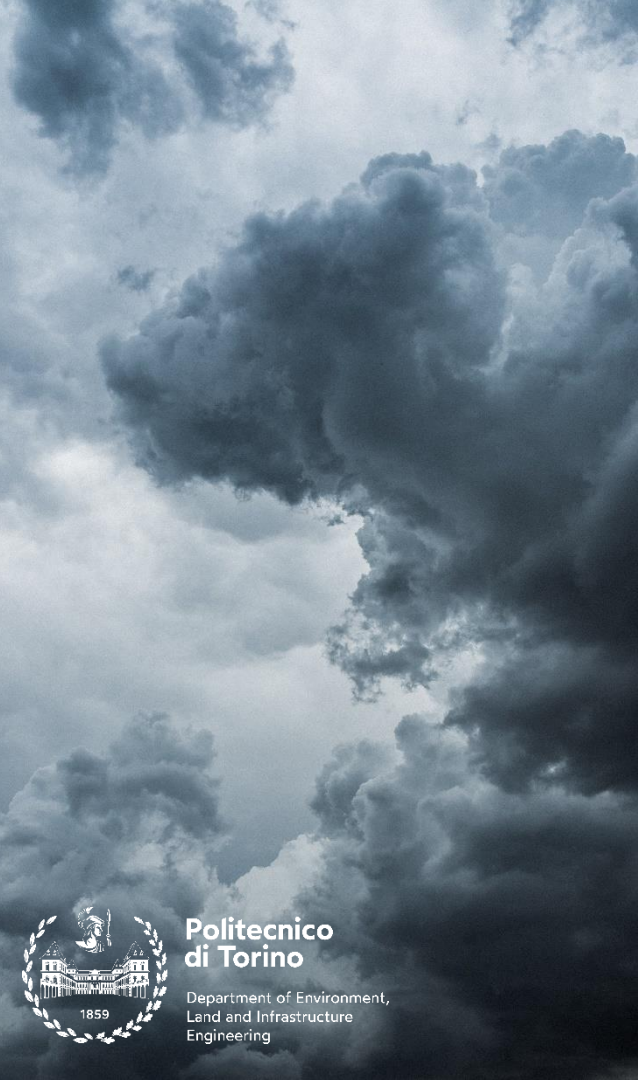

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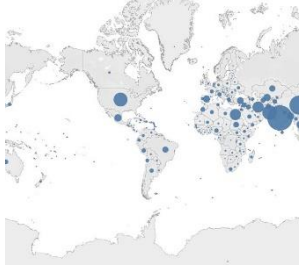
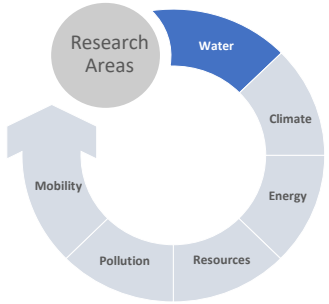
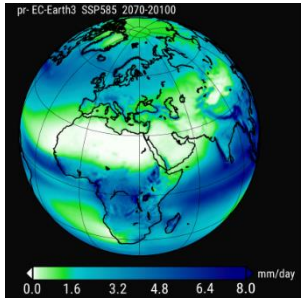
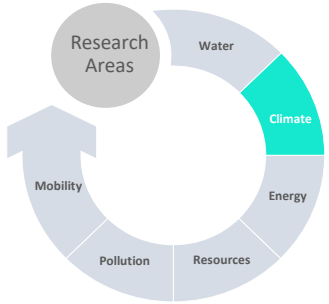




Water

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

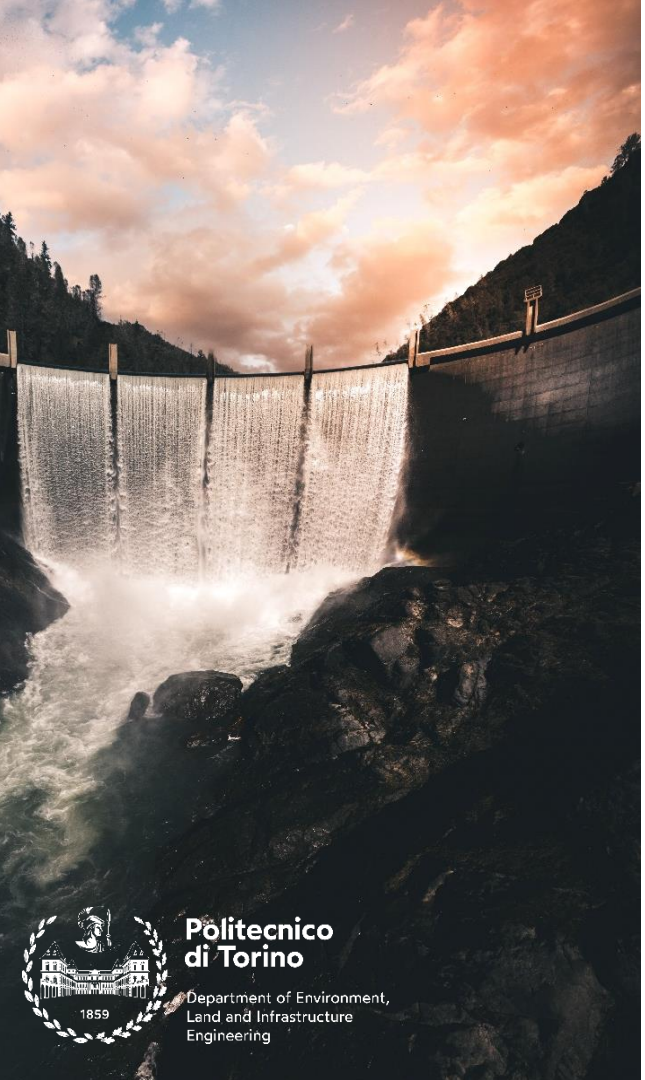


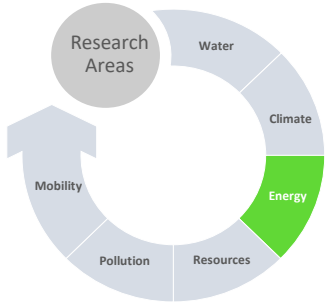


Climate

- Adaptation
- Modelling
- Monitoring
- Earth observation
- Mitigation

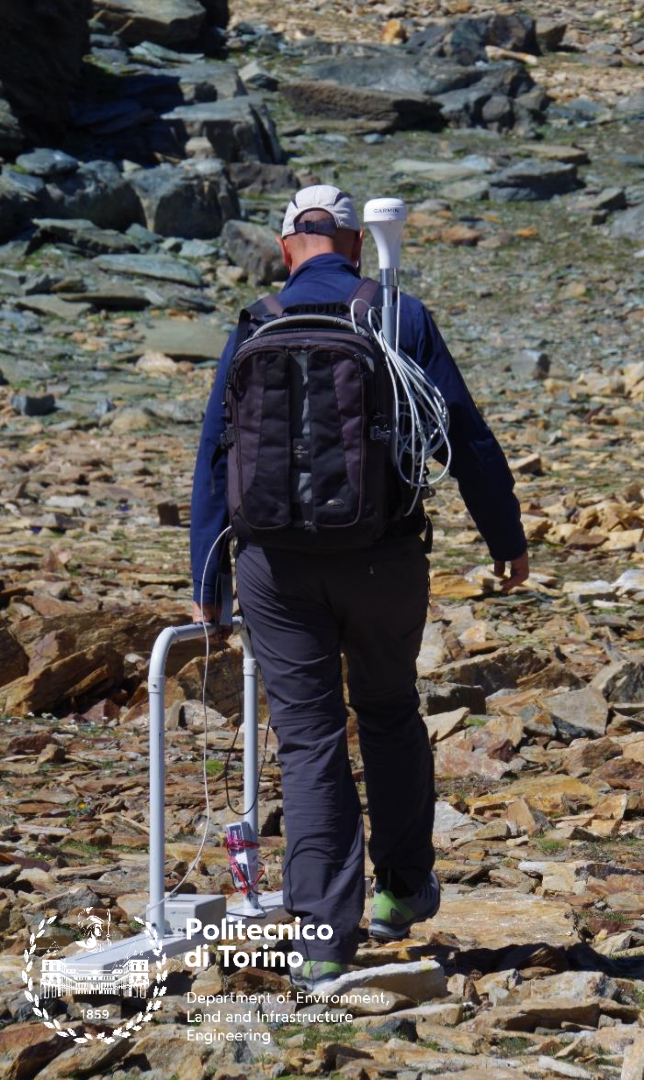
Politecnico di Torino
1859
Department of Environment, Land and Infrastructure Engineering

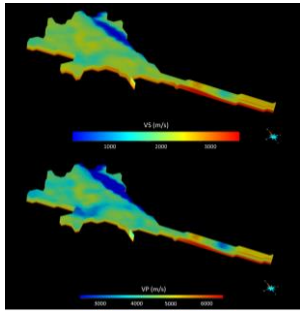




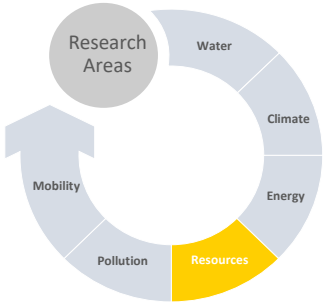
Energy

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





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

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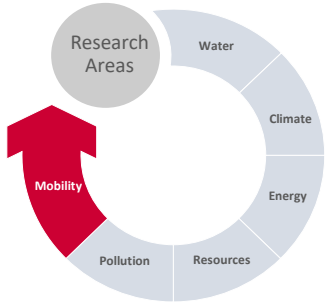
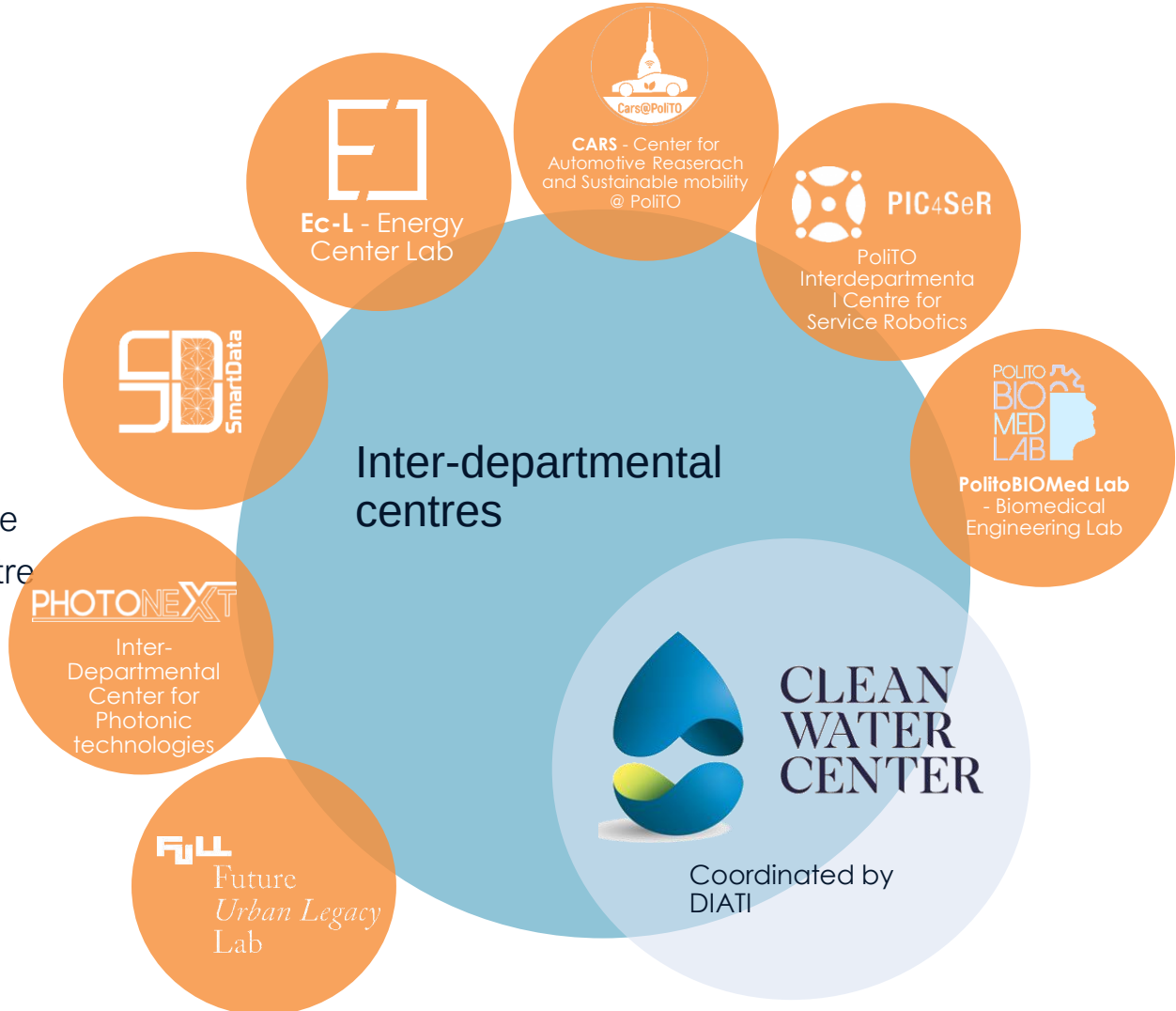


Mobility

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

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

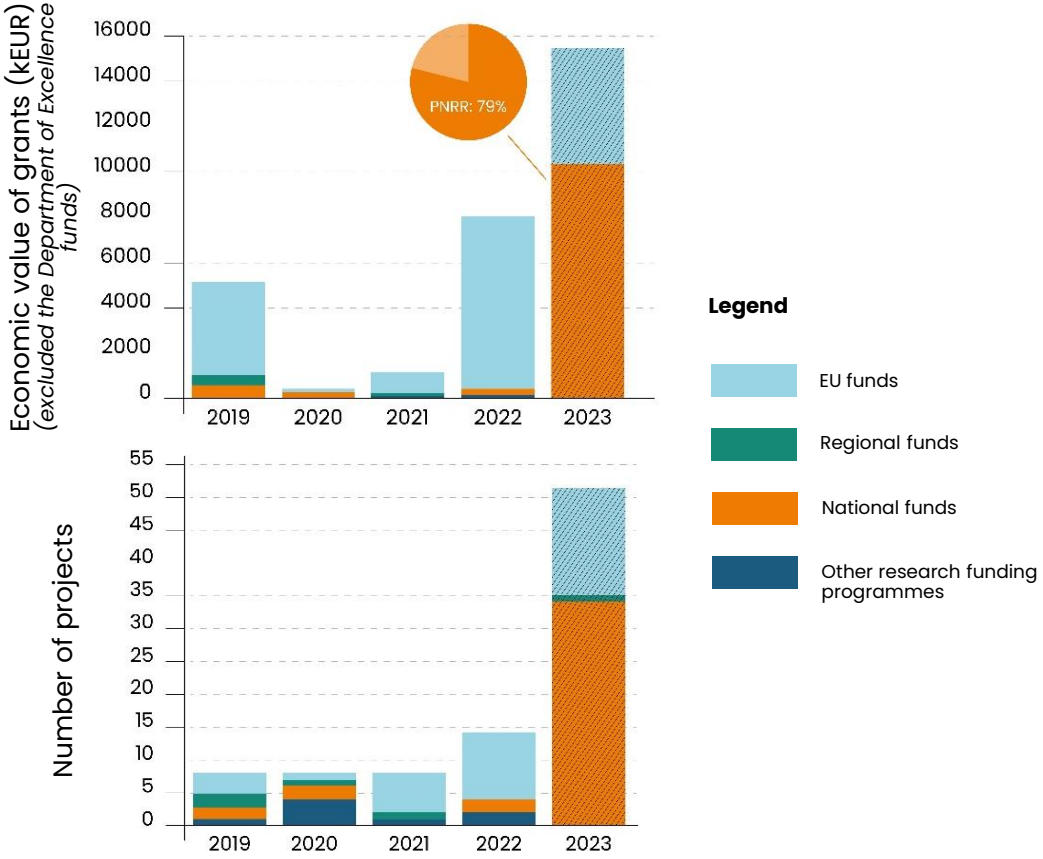


Projects

In the period 2019-2023 DIATI implemented about **80 competitive projects:**

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

for a total amount of about **28 M €.**



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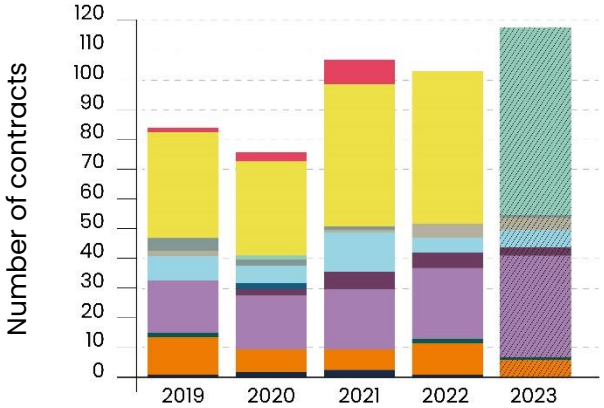
Department of Environment, Land and Infrastructure Engineering

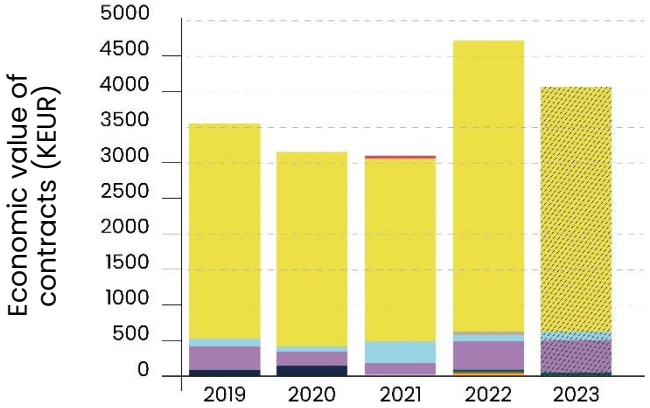
Technological Transfer
Research and commercial contracts

Politecnico di Torino
Department of Environment, Land and Infrastructure Engineering

In the period 2019-2023 DIATI:

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





Legend

- Commercial sponsorhips
- 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

Politecnico di Torino
Department of Environment, Land and Infrastructure Engineering

SPIN-OFFS

ACS
DeltaNova
gamut Spin Off
waterview

EXAMPLES OF PATENTS

ECOCOMPATIBLE PESTICIDE NANO-FORMULATION
Reduction of environmental and human health impacts from pesticide use in agriculture.

NANOTUNE – OPTIMIZING NANOREMEDIATION
Method to improve remediation of contaminated groundwater by injection of reactive particle suspensions.

LED SYSTEM FOR MICROALGAE GROW-UP
LED lighting to optimize the growth processes of microalgae greatly reducing growth times and energy consumption.

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

OZONATION OF WASTEWATERS WITH HIGH AMMONIA LOADS
Industrial waste water treatment with high ammonium concentrations through an ozonation process.

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

- Talks in the Library
- OpenLab@DIATI
- ScuolAmbiente
- Geo-Mineralogical Museum, participation to shows and exhibitions
- Cambiare il Clima (theatre)
- Participation to Festival della Scienza, Researchers' Night, …

Politecnico di Torino
Department of Environment, Land and Infrastructure Engineering

Contacts

www.diati.polito.it/en

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