

**Project idea/ Field of expertise:**

Synthesis of nanomaterials for different applications

**Organisation Name:**

Politecnico di Torino

**Adressed challenge(s)/ PPP(s):**

**Adressed topic(s) in Work Programme:**

DT-NMBP-06-2020

NMBP-35-2020

NMBP-16-2020

CE-BIOTEC-08-2020

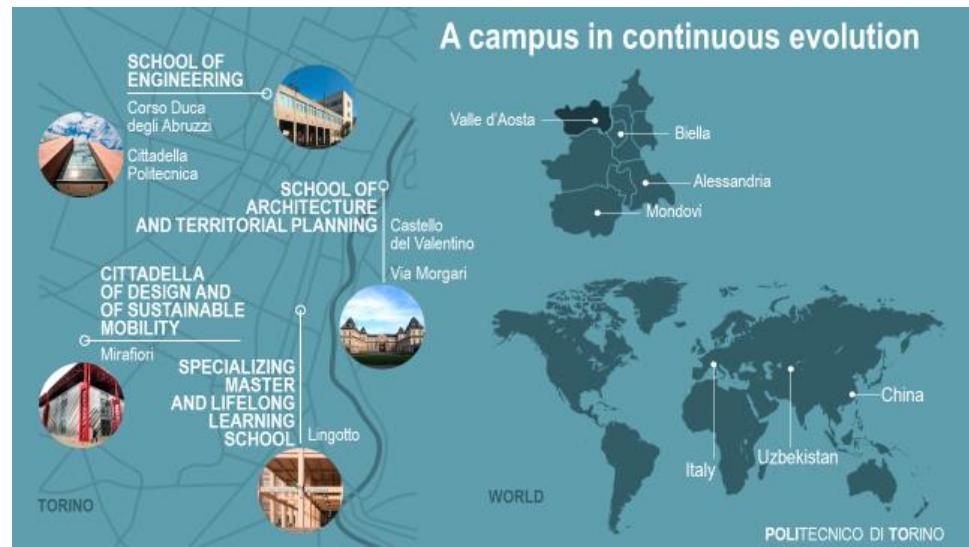
CE-SPIRE-07-2020

# Politecnico di Torino

**58,2 Mio EUR**  
research revenue  
23% of POLITO Total revenue (253 Mio EUR)

**41 Mio EUR**  
From competitive calls

**17,2 Mio EUR**  
From research contracts with public and private sector



## International Research Grants

**214 European and International Projects**  
64 Mio EUR --- since 2014

**167 EU Horizon 2020 Projects**  
36 coordinated  
60 Mio EUR | 16% success rate among which

**3 EIT Communities**  
European Institute of Innovation & Technology  
Inno Energy | EIT Digital | EIT Manufacturing

<b>10 ERC</b> European Research Council 12 Mio EUR	<b>25 MSCA</b> Marie Skłodowska Curie Actions 8.7 Mio EUR	<b>108 IL-SC-JTI</b> Industrial Leadership-Societal Challenges and Joint Technology Initiative 36 Mio EUR
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## Industrial Leadership, Societal Challenges and JTI projects

**14 Coordinated projects**

**TRANSPORT**

- New fuel systems for tiltrotor (**DEFENDER**)
- Shared mobility: potential benefits and real impacts (**STARS**)
- Sonde digitali innovative per piccoli aeromobili (**MIDAS**)

**RESOURCE EFFICIENCY AND RAW MATERIALS**

- Converting CO2 into chemicals (**CELBICON**)

**SPACE**

- Enhance scientific culture in satellite navigation (**E-KnoT**)
- Nanostructured solar cells for space (**TFOD**)
- Flying in the stratosphere (**STRATOFLY**)

**ENERGY**

- Hydrogen production from biogas (**WIND2H2plus**)
- Clean Energy from wastewater using fuel cells (**WATER2POWER**)
- Smart meters for proactive consumers (**PLEASANTER**)
- Synergy between energy networks (**PLANET**)
- Integrated systems based on H2 for clean energy storage in remote areas (**HE-WHITE**)

**NANOTECHNOLOGIES AND BIOENGINEERING**

- Harmony among ions and drugs (**MOZART**)
- Smart nanobiomaterials and 3D technologies for active aging (**GIOTTO**)

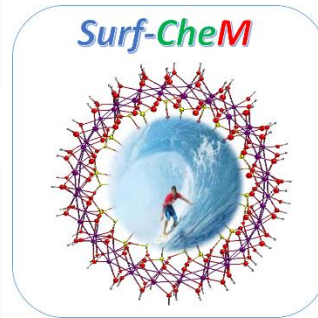
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Synthesis and Physico-Chemical characterization of MODEL NANOMATERIALS with controlled size and morphology, such as oxides, nanotubes, quantum dots, nanocrystals, mesoporous materials

Advanced FTIR spectroscopy  
Microscopy techniques  
UV-vis and Fluorescence spectroscopies

Nanomaterials for BIO-MEDICAL applications

- Nanocomposites and magnetic nanocrystals for DNA separations, diagnostic purpose.
- Luminescent nanomaterials for bio-imaging



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Nanomaterials for ENERGY applications:

- Mesoporous nanomaterials for storage energy
- Hybrid nanomaterials for light harvesting
- Nanostructured films for water splitting/CO<sub>2</sub> conversion in solar fuels
- Hybrid nanomaterials for luminescent solar concentrators

Nanomaterials for ENVIRONMENTAL applications

- Nanomaterials for contaminants removal in wastewater and groundwater
- Nanomaterials for toxicological studies

Nanomaterials for (PHOTO) CATALYTIC applications in

- Solar fuels generation
- NO<sub>x</sub> abatement
- Industrial process applications



<http://www.scm.polito.it/>

# Project expertises

# Contact details

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