



# PhD in INGEGNERIA MECCANICA / MECHANICAL ENGINEERING - 39th cycle

**PNRR 118 PA Research Field: IMPROVING SUSTAINABLE MOBILITY IN LOMBARDY BY  
QUADRUPLE-HELIX ACTIVITIES**

**Monthly net income of PhDscholarship (max 36 months)**

**€ 1400.0**

In case of a change of the welfare rates during the three-year period, the amount could be modified.

## Context of the research activity

### Motivation and objectives of the research in this field

Politecnico di Milano, Lombard Mobility Cluster and Regione Lombardia cooperate since 2009 for innovation policies in the automotive field. Lombardy is one of the most important automotive industrial areas in Europe and deserves a special attention to sustain innovation. The PhD researcher will be involved in defining new innovation policies, based on the case of Lombardy Mobility Cluster and its development, that will be relevant at the national and European level.

All 6 Missions of the National Plan of Recovery and Resilience are involved in the research activity, in particular Mission 3 on Infrastructure for sustainable mobility.

### Methods and techniques that will be developed and used to carry out the research

The PhD project will follow the quadruple-helix approach for innovation policy in the automotive field, based on these pillars:

- rigorous research activities considering: (1) technical elements related to major change in the direction of sustainable mobility (e.g. ground vehicle engineering, road safety and future vehicles); (2) managerial and feasibility elements linked to the roles involved (industry, public sector, etc);
- dissemination, communication and outreach, with also the aim to share and improve the interim results;
- policy making, providing synthesis of the main element useful in assessing the diverse opportunities and their



	useful in assessing the diverse opportunities and their contextualization-industrial policies, considering the constraint and opportunities linked to large and evolving number of players involved in sustainable mobility (e.g. traditional automotive company, new player for future vehicle and related infrastructure, etc).
<b>Educational objectives</b>	<p>The PhD researcher will acquire competences on:</p> <ul style="list-style-type: none"> <li>- sustainable mobility-automotive components (tyres, brakes, lightweight structures, e-motors, etc);</li> <li>- automotive industry and roles-automotive research;</li> <li>- public funding-management of research funds.</li> </ul>
<b>Job opportunities</b>	<p>Job opportunities might be found in :</p> <ul style="list-style-type: none"> <li>- research offices of industries</li> <li>-public bodies</li> <li>-governmental offices.</li> </ul> <p>Institutions that are cooperating in the research are Regione Lombardia, Cluster Lombardo della Mobilità, Centro Nazionale della Mobilità Sostenibile.</p> <p>Our last survey on MeccPhD Doctorates highlighted a 100% employment rate within the first year and a 35% higher salary, compared to Master of Science holders in the same field.</p>
<b>Composition of the research group</b>	<p>2 Full Professors 2 Associated Professors 2 Assistant Professors 8 PhD Students</p>
<b>Name of the research directors</b>	Prof. Gianpiero Mastinu

<b>Contacts</b>
<p>Email: gianpiero.mastinu@polimi.it</p> <p>For questions about scholarship/support please contact phd-dmec@polimi.it.</p>

<b>Additional support - Financial aid per PhD student per year (gross amount)</b>	
<b>Housing - Foreign Students</b>	--
<b>Housing - Out-of-town residents (more than 80Km out of Milano)</b>	--



Scholarship Increase for a period abroad	
Amount monthly	700.0 €
By number of months	6

National Operational Program for Research and Innovation	
Company where the candidate will attend the stage (name and brief description)	Regione Lombardia
By number of months at the company	6
Institution or company where the candidate will spend the period abroad (name and brief description)	e-mobil BW (Stuttgart-Baden Wuerttemberg), CARA (Lyon Rhone-Alps), ACCIO (Barcellona Catalunya)
By number of months abroad	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p>Financial aid is available for all PhD candidates (purchase of study books and materials, funding for participation in courses, summer schools, workshops and conferences) for a total amount of euro 5.707, 13.</p> <p>Teaching assistantship: availability of funding in recognition of supporting teaching activities by the PhD candidate. There are various forms of financial aid for activities of support to the teaching practice. The PhD student is encouraged to take part in these activities, within the limits allowed by the regulations.</p>