



# PhD in INGEGNERIA GESTIONALE / MANAGEMENT ENGINEERING - 38th cycle

**PNRR\_351\_DOTT\_RICERCA Research Field: SUPPLY CHAIN MANAGEMENT IN THE LANDSCAPE OF SUSTAINABLE MOBILITY: CHALLENGES, NEW DESIGN AND MANAGEMENT PRACTICES IN THE YEARS OF THE GREEN TRANSITION**

<b>Monthly net income of PhDscholarship (max 36 months)</b>
<b>€ 1450.0</b>
In case of a change of the welfare rates during the three-year period, the amount could be modified.

<b>Context of the research activity</b>	
<b>Motivation and objectives of the research in this field</b>	<p>The shift to sustainable mobility is one of the main targets of the Recovery Fund (PNRR); it will create several challenges to companies and countries, including the shift to electric powertrain and the advent of connected and autonomous vehicle. This will require many companies to review their Value Chain (SC) strategy, as traditional sources of value may be disrupted and new players will enter in the mobility industry.</p> <p>This PhD research aims to combine available data about current (and under development) vehicle technologies, infrastructure development, customers' habits evolution and regulatory framework to understand feasible market scenarios, and then figure out the best strategic reply of traditional automotive players (OEM and large components' manufacturers) in the light of such changes, especially during the transient period.</p> <p>The research program is intended to serve two stakeholders: companies in the traditional automotive industry, to help them to address the expected changes in their value chain, and policy makers, to provide them data for educated decisions about incentives and public support to this industry.</p>
<b>Methods and techniques that will be developed and used to carry out the research</b>	<p>This PhD research implements different methods and techniques.</p> <p>1) Literature review: a set of papers and other documents</p>



	<p>are analyzed to gather a proper theoretical background on the topics of sustainable mobility, technology trends and value chain evolution. The main purpose of this phase lies in the definition and formulation of some specific research questions.</p> <p>2) Exploratory study: once the research questions are identified and properly framed, the dynamics of the mobility SC is investigated in the light of implementing the appropriate SC strategies that lead to successfully embrace the mobility transition. Hence, the research focuses on the new strategic equilibria in the mobility value chain, on value creation and on generating feasible scenarios for future mobility competitive arrangement.</p> <p>3) Quantitative modeling: once all the relevant variables are identified and proper data has been collected, a quantitative model is built via simulation and results will be presented, according to performed simulations on the studied scenarios</p>
<p><b>Educational objectives</b></p>	<p>The research is inherently multidisciplinary: the candidate will develop advanced research skills with a holistic approach in the areas of mobility strategy and SC management, digital innovation and sustainability. The candidate will learn methods and tools to design and conduct a research project, following the appropriate methodologies for data collection and analysis, and to present and publish results both in academic journals and practitioner magazines.</p> <p>Therefore, the main educational objectives of this research project are as follows:</p> <ul style="list-style-type: none"> <li>a) Enhancing the relationship between sustainable mobility, digital technologies and new SC strategies, based on holistic methodologies that involve strategic SC design and scenario analysis.</li> <li>b) Enriching the awareness of feasible ways to foster sustainability and innovation in SC management within the mobility industry.</li> <li>c) Developing the skill set to assist decision-makers with analytical tools about SC strategies definition in the mobility value chain.</li> </ul>
<p><b>Job opportunities</b></p>	<p>The mobility / automotive industry plays a major role in</p>



	<p>every European developed countries, and is covered as one of the main innovation area in both PNRR and UN Agenda 2030; the job balance in this industry, for the coming years, is shifting toward more advanced jobs, that are likely to emerge to address the servitized mobility. The main opportunities for a PhD graduate in this research field are therefore:</p> <ul style="list-style-type: none"> <li>- Academic career in the area of supply chain management, business strategy, technology management and industrial operations;</li> <li>- Advisory career on behalf of automotive OEM companies, components manufacturers and mobility service providers;</li> <li>- Engineering and technical career within automotive OEM companies, components manufacturers and mobility service providers and more.</li> </ul>
<b>Composition of the research group</b>	<p>3 Full Professors 3 Associated Professors 1 Assistant Professors 5 PhD Students</p>
<b>Name of the research directors</b>	Giovanni Miragliotta, Andrea Sianesi

#### Contacts

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#### Additional support - Financial aid per PhD student per year (gross amount)

<b>Housing - Foreign Students</b>	--
<b>Housing - Out-of-town residents (more than 80Km out of Milano)</b>	--

#### Scholarship Increase for a period abroad

<b>Amount monthly</b>	725.0 €
<b>By number of months</b>	6

#### National Operational Program for Research and Innovation

<b>Company where the candidate will attend the stage (name and brief description)</b>	
<b>By number of months at the company</b>	0
<b>Institution or company where the candidate will spend the period abroad (name and brief description)</b>	<p>The PhD student will spend a period of at least 6 months abroad to interact with researchers and participate in joint activities potentially foreseen in the project, according to specific needs. Indeed, the project is highly interdisciplinary, and this favors the collaboration with foreign research centers where the candidate can acquire in-depth knowledge on the theme</p>



By number of months abroad	6
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**Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information**

Funding for educational activities: 4.900,00 Euros for three years.  
Teaching assistantship: 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. Desk availability: shared use Computer availability: individual use