



PhD in INGEGNERIA GESTIONALE / MANAGEMENT ENGINEERING - 38th cycle

**PARTENARIATO PNRR Research Field: METHODS AND MODELS FOR SUPPORTING
CIRCULAR MANUFACTURING TRANSITION IN ITALIAN COMPANIES**

Monthly net income of PhDscholarship (max 36 months)

€ 1450.0

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**

Manufacturing companies are facing a multitude of challenges which are pushing them to adapt from the foundation, from business models to processes throughout the products offered. Among these, climate change proves to be one of the most harmful and difficult to overcome since it impacts horizontally all society and depends on the actions of business, institutions, and society worldwide. Nevertheless, it is crucial for each actor to act responsively and convert to more sustainable ways of operating. This PhD research is devoted to the definition of methods/models and tools able to support manufacturing firms in defining sustainable and advanced circular practices with regards towards those enabled by Industry 4.0 technologies.

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

The project will be carried out within the Extended Partnership "3A-Italy", funded by the PNRR. It is based on a list of comprehensive steps: (i) definition of circular manufacturing for the Italia system, (ii) identification of practices, methods and tool existing in this field, (ii) formulation of an original group of methods and tools for supporting the transformation of Italian firms towards a more circular approach, with a special attention to assessment and evaluation tools, (iii) validation of the proposed group of methods in industrial practice.

Educational objectives

The PhD candidate will develop competences and



	attitudes aimed at developing and implementing circular manufacturing approaches, as well for managing the introduction of industry 4.0 technologies
Job opportunities	The successful completion of the PhD program will open several job opportunities in both academia and companies, in research, consulting and managerial roles. The candidate will develop distinctive knowledge to master the key managerial activities and decisions in the manufacturing arena.
Composition of the research group	3 Full Professors 1 Associated Professors 7 Assistant Professors 10 PhD Students
Name of the research directors	Proff. Sergio Terzi, Marco Taisch

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

Scholarship Increase for a period abroad	
Amount monthly	725.0 €
By number of months	6

Additional information: educational activity, teaching assistantship, computer availability, desk availability, any other information
<p>The PhD candidate will have the opportunity to attend courses on Management Engineering research methods and manufacturing research at Politecnico di Milano and other Universities and research centers (e.g. MADE - Competence center Industry 4.0). He/she will be supervised by the research director through meetings and will receive feedbacks on his/her intermediate results during regular meetings with the Doctorate board and scientific conferences. The candidate will be involved in some teaching and communication activities, which are seen as a major opportunity to practice with dissemination of own and other relevant research results. He/she will be offered a desk and office facilities at the department building.</p> <p>CUP: D43C22003120001</p>



Decreto Direttoriale Avviso:

D.D. 341 del 15/03/2022 Avviso pubblico per la presentazione di Proposte di intervento per la creazione di Partenariati estesi alle università, ai centri di ricerca, alle aziende per il finanziamento di progetti di ricerca di base nell'ambito del Piano Nazionale di Ripresa e Resilienza, Missione 4 Istruzione e ricerca - Componente 2 Dalla ricerca all'impresa - Investimento 1.3, finanziato dall'Unione europea - NextGenerationEU

Decreto di concessione: D.D. 1551 del 11/10/2022