



PhD in INGEGNERIA GESTIONALE / MANAGEMENT ENGINEERING - 39th cycle

**PARTENARIATO PNRR Research Field: NEW SUSTAINABLE AND CIRCULAR BUSINESS
MODELS FOR THE TEXTILE FASHION INDUSTRY**

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	<p>The textile-fashion industry is among the most important in the European economy with 160,000 enterprises, mainly SMEs, and 1.5 million employees, ranking fourth as the largest negative impact on the environment and climate change and third in terms of exploitation. of water and soil. The Lombardy ecosystem of Textile Fashion Furniture, with 15,000 companies and 97,000 employees, represents more than 20% of the national total of the sector. At the same time, the fashion industry is one of the most impacting in terms of sustainability. Climate change, pressure in the supply chains, and upcoming legal changes in the textile industry are forcing companies to search for new, locally-rooted and technology friendly business models.</p> <p>The PoliMi Supply Chain research group is establishing a "living laboratory", focusing on the contribution of different actors along the textile supply chain, from raw material suppliers to fashion brands to final consumers. The goal find innovative ways through which co-creation, design thinking and open innovation principles can generate sustainability practices and foster circular solutions in the textile supply chain. Within this scenario, the research team recognizes the textile production sector as one of the most relevant within which to promote the transition towards sustainable and circular models of the entire value chain, from production to distribution to consumption, but definitely a loftier aim of the project is to generate circular business models and paradigms which</p>



	<p>could theoretically be extended to other industries.</p> <p>In this context, the PhD research has the following objectives:</p> <ol style="list-style-type: none"> 1) Support the constitution of a "living lab", employing Lean Startup Methodology, Design Thinking and/or the Design Sprint as forms of participatory design, bringing diverse partners to the design table, creating connection with customers, and focusing on human-centered solutions 2) Analysing the different business models generated from a Triple Bottom Line (TPL) perspective, and investigating the practical solutions along the value chain better supporting the implementation of these new business models 3) Investigating the barriers and the challenges within the supply chain to the application of these new business models 4) Proactively supporting specific supply chains in the application of the most promising circular business models. <p>CUP: D43C22003120001 Numero di Decreto di concessione: 1551 del 11/10/2022</p>
<p>Methods and techniques that will be developed and used to carry out the research</p>	<p>The following methodologies will be applied in the research project:</p> <ol style="list-style-type: none"> 1) Literature review 2) Design Thinking workshops with relevant actors in the Textile Supply Chain 3) Conceptual development of methods and tools for supply chain innovation to accommodate circular business models in the textile industry 4) Case studies of fashion-textile companies to understand antecedents and bareers to circular business models 5) consumers interviews to identify the barriers and the challenges and draft the possible supply chain solutions 6) Action research to study the circular economy transformation of the selected supply chains



	<p>7) Conceptual development of methods and tools for supply chain innovation to accommodate circular business models in the textile industry</p>
<p>Educational objectives</p>	<p>In the context of "Piano Nazionale di Ripresa e Resilienza (PNRR)", PE11, the main educational objectives of this scholarship consist in learning methodological tools (e.g., systematic literature review, case studies and mathematical models) to contribute to scientific knowledge both academic and practitioner oriented. Expected educational objectives are scientific papers, conferences and dissemination events, tools such as Maturity Models and Sustainability Assessment, to be employed and implemented by companies and supply chains.</p> <p>The educational objective should be the understanding of the circular economy models and strategies employed and employable in the fashion-luxury industry.</p> <p>At the end of the PhD program, the candidate will develop the following skills:</p> <ul style="list-style-type: none"> - Literature search skills: Ability to carry out an extensive literature review, and to use the results to support applied research - Research Design skills: e.g. Ability to design and carry out co-creation workshops, to generate new solutions - Organizational skills, e.g. organizing workshops, case studies, surveys, etc, with companies and consumers, to validate the models developed theoretically and put them in practice
<p>Job opportunities</p>	<p>Job opportunities open both in academia, as in post-doctoral positions, research fellowships and in private companies - in particular fashion luxury brands - as sustainability manager, and also as sustainability / circular economy expert supporting the strategy definition at the board level, or consulting companies supporting fashion luxury brands in the definition and implementation of their sustainability journey and roadmap.</p> <p>The researcher will become an expert in analyzing sustainability and circular economy practices in reference to fashion-luxury value chains. Moreover, the researcher will be able to measure companies' environmental and</p>



	social performance improvements employing the relevant "maturity models" and sustainability assessment tools.
Composition of the research group	3 Full Professors 3 Associated Professors 2 Assistant Professors 8 PhD Students
Name of the research directors	Alessandro Brun

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	
Desk at DIG, laptop computer	