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Supervisor Expression of Interest MSCA - Marie Skłodowska Curie Action - (PF) Postdoctoral Fellowship 2024

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Department Name: Management, Economics and Industrial Engineering

Research topic:

- MSCA-PF Research Area Panels: CHE_Chemistry
- ECO_Economic Sciences
- ENG_Information Science and Engineering
- ENV_Environmental and Geosciences
- LIF_Life Sciences
- MAT_Mathematics
- PHY_Physics
- SOC_Social Sciences and Humanities

Brief description of the Department and Research Group (including URL if applicable):

The Department of Management, Economics, and Industrial Engineering (DIG) of Politecnico di Milano was established in 1990. Its mission is to contribute to the common good and individual well-being through a critical understanding of the opportunities and challenges posed by technology to business and society. The Department pursues its mission with an international reach by creating and sharing knowledge through high-quality education, the quest for scientific excellence, and active community engagement.

We aim at:

- Educating responsible individuals who will shape the future of relevant corporations and institutions to serve society.
- Promoting original, rigorous, and relevant research at the intersection of engineering, management, and economics, focusing on a deep understanding of technology and its ecosystem.
- Contributing to a sustainable and inclusive society by inspiring virtuous business practices and transformational policy measures

With approximately 160 professors, DIG is one of the largest departments of Politecnico di Milano. More information can be found at: <https://www.som.polimi.it/en/>



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DIG HumanTech project has been selected and funded by the Ministry of University and Research (MUR) for the period 2023-2027 within “Dipartimenti di Eccellenza” (Law 232/2016), the ministerial initiative aimed at rewarding the departments that stand out for the quality of their research and at financing specific development projects. In particular, the objective of HumanTech is to redefine the relationship between technology and human beings to enable a sustainable digital transition of industrial systems. The project aims to propose new models and processes for the development and adoption of technologies, capable of accelerating the transition towards sustainable, inclusive industrial systems that make individual and collective well-being a priority.

Within DIG, the research group involved in this proposal is focused on topics of Purchasing and Supply Management. The research group involves 2 full professor, 1 associate professor, 1 assistant professor, 1 post doc, and 7 PhD students. The research topics developed pertains to Supplier Relationship Management, Sustainable and Resilient Supply Network, Digital tools for Purchasing and Supply Management, Supply Chain Design for sustainability and resilience, and Supply Chain Finance.

TITLE of the project: Human centric supply chain processes, for a resilient and sustainable purpose, thanks to the adoption of digital technologies

Brief project description:

Companies today operate within global and complex Supply Chains, and are exposed to major challenges such as climate change, geopolitical tensions and health issues. International supply chains today play a fundamental role in terms of Risk Management and Sustainable Development: they may be a source of major problems and negative impacts, on both the society and the environment, or they may become a key contributor to sustainability and circularity. At the same time, the Digital Transformation is radically impacting supply chains: technologies such as the Internet of Things, Blockchain, 3D Printing, Big Data Analytics and Artificial Intelligence are becoming pervasive and can revolutionize the way supply chains are designed and managed, impacting the fundamental performance of delivery, quality, flexibility and cost, as well as environmental and social sustainability. In recent years, supply chains have been affected by several disruptions of various kind, including geopolitical conflicts, health issues, natural events, etc. and therefore Risk Management and Resilience have become imperative. This requires to improve the ability for companies to identify and assess the various risk sources and to find new ways to reduce the exposure, as well as to increase the resilience to disruptions. Supply Chain Management Research today needs to address the challenges raised by Risk Management, Sustainability, Digital Transformation and Supply Chain Resilience, combining multidisciplinary approaches to find innovative answers to the radical problems that the world is facing today. Supply chains today needs new methods and tools, based on advanced digital technologies, to monitor and assess the risk exposure and the sustainability performance of companies and supply chains, in order to improve resilience and circularity.

In this domain, supply chain management needs new solutions able not only to work at the environmental level but also capable of generating a positive impact on multiple objectives of a



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social nature (e.g., job creation, territorial development) and to enhance the human component in achieving operational, environmental and resilience performance, which is exactly the purpose of this research project.

The present research initiative is developed in the context of the “HumanTech – Humans and Technology” project.