Politecnico di Torino

Dipartimento di Ingegneria Gestionale e della Produzione

INTERESTS FROM DEPARTMENT OF MANAGEMENT AND PRODUCTION ENGINEERING – DIGEP

IN THE UPCOMING MISSIONS:

- HORIZON-MISS-2024-CIT-01-02: Zero-pollution cities

HORIZON-MISS-2024-CIT-01-02: ZERO-POLLUTION CITIES

Paolo Landoni

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Provided Expertise

My team and I can contribute to research projects on the following themes

- ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT of organizations and projects,
- MAPPING OF INNOVATION ECOSYSTEMS: we can map and evaluate innovation ecosystem considering several actors, such as incubators, accelerators, investors, big firms and startups; we can also analyse specific industrial sectors or the organizations involved in specific technologies,
- OPEN INNOVATION: we can study and facilitate exchanges and cooperation between academia, corporates and startups
- Social innovation, Social Entrepreneurship, Sustainable Innovation, Sustainable Entrepreneurship.

We can lead Work Packages to evaluate the results of a project and develop specific actions to a) disseminate the results, b) transfer the knowledge to existing organizations (knowledge or technology transfer) or c) plan the creation of ad hoc nonprofit or for-profit organizations to develop the results further, leveraging our competences in business model and sustainable model design.

Relevant projects

- ANNUAL REPORTS (2017-2024) on the status of entrepreneurship and innovation ecosystems, with a significant focus on social and environmental impact. These publications include: a) Reports on the impact of incubators and accelerators; b) Report on the impact of Italian Business Angels; c) Report on Italian startups with significant social and environmental impact; d) Microcredit Report, in collaboration with the European Microfinance Network

- OPEN SUSTAINABLE INNOVATION project (2023-2024), which supports C-level managers, startups, entrepreneurs, and companies in deepening collaboration and exchanges around innovation and sustainability

- INFO-SCC - Innovation and Training for a Green Transition in the Cultural and Cinematographic Sector project (2024-2026), an innovation and training path aimed at organisations in the entertainment and culture industry for a sustainable and innovative development of this sector

- SEED and SEED2SCALE projects (2021-2027), to design and establish National Social Innovation Competence Centers in Croatia, Italy, Greece, Romania and Slovenia.

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Giovanni Zenezini

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Provided Expertise

- Impact evaluation of smart city and urban logistics innovations
- Development and implementation of Digital Twins
- Hybrid simulation modeling (Agent-based, discrete-event, System Dynamics)
- Integration of AI and simulation
- Business Modelling
- Project Finance and Risk Management
- Analysis and Design of industrial plants
- Asset Management

Relevant projects

- CAPABLE (submitted to HE call HORIZON-CL5-2023-D6-01-06, received a total score of 11.5 and above threshold score on all criteria): the project aimed to identify factors influencing sustainable choices by customers and retailers, co-create solutions like zero-emission vehicles, and test them through simulation gaming approach and Virtual Living Lab.
- URBeLOG - URBan Electronic LOGistics: identification of value proposition and business model for an ICT platform integrating services to organize, manage, and monitor urban logistics. Development of a System Dynamics to assess the potential platform diffusion, the operational and economic benefits, and induced costs.
- PIE' VERDE: An ex-ante evaluation of the benefits and costs of an urban freight delivery system based on electric and hybrid vehicles for the city of Torino and of the potential adoption via a System Dynamics simulation model.

- SOUL - Simulation Optimization of Urban Logistics: design of innovative delivery methods supported by mobile apps and Simulation of urban freight delivery systems through the System Dynamics approach.
- Mind4Lab, DIPARTIMENTI DI ECCELLENZA: Development and validation of a Digital Twin for Automated Storage and Retrieval Systems (AS/RS) integrating conceptual, simulation and optimisation models, supported by ML techniques, to form a robust and scalable solution for predicting and improving AS/RS operations.
- MANAGE 5.0 - MANufacturing Automotive Green Evolution 5.0', Next Generation EU - Complementary Plan, funded by the Italian Ministry for Economic Development (MISE). Studying innovative models for increasing the efficiency of metal and plastic moulding departments in the automotive sector. Improving end-of-line logistics through the application of technologies from the Industry 4.0 and Industry 5.0 paradigms. Development of a Digital Shadow of the internal logistics of the Press Shop of a Stellantis Plant.
- Project Management Digital Twin: this project aims to improve the project monitoring and control by providing an AI pipeline for building project performance simulation and forecasting models. The pipeline is fed data tracked by a digital twin of the project management processes, with a focus on planning and monitoring data. The digital twin is intended as a backend data model ensuring consistency among project artifacts and data.
- Stochasticity in Production NETwork/Impacts of new technologies and approaches: design of the warehouse for the batteries that will be integrated in new electric and plug- in vehicles. Identification of the optimal geographical location of the warehouse
- LIFEMED - A comprehensive study on the impact of digitalization and automation in healthcare settings, both in hospitals and in the community, analyzing drug storage and transportation systems.
- FUTURE FACTORY FLOW: INTEGRATING INDUSTRY 4.0 IN PRESS SHOP LOGISTICS, Co-operation Agreement between Centro di Ricerche Fiat (CRF) and Politecnico di Torino, call 2020. Development of a Discrete Event Simulation model to prepare for a future Digital Twin of the internal logistics of the Press Shop of a Stellantis Plant. Analysing the introduction of Industry 4.0 technologies to support the intra-logistics process.
- Influence of Low Impact Vehicles Components Production on Supply Chain Systems: make or buy analysis for identifying the best solution for the procurement of the battery for new electric vehicles by considering logistics and supply chain costs.
- A digital platform for Tunnel Facility and Asset Management: Development of a highway asset degradation simulator over time and a multi-criteria optimizer to define maintenance interventions.
- P^4, Pilot Public Private Partnership: Definition of an innovative model for the use of the PPP (Public-Private Partnership) method, particularly Project Financing, for the implementation of Smart City projects.
- VirtualBus: Validation of the business model and definition of the rollout strategy for an innovative mobility service, namely a real-time ridesharing service for short trips within the city.

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Elisa Ughetto

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Provided Expertise

- Policy mix analysis of environmental policies
- Identification of cleantech companies in Europe through machine learning techniques
- Analysis of innovation and financial performance patterns of cleantech companies
- Identification of key obstacles to reach EU Green deal targets through company surveys

Relevant projects

- "The European Cleantech industry, the EU Green Deal and SME equity demand", funded by the European Investment Bank, under the EIBURS program, years 2021-2024 (Project Coordinator). Research project developed together with Università di Bologna and Politecnico di Milano, 300,000 euros
- "The European green energy industry: equity financing instruments and policies in the climate action agenda" funded by MIUR under the PRIN program 2022 (National coordinator). Research project developed together with Politecnico di Milano and University of Bologna, years 2023-2025 (220,000 euros)

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Provided Expertise

- SOCIO-ECONOMIC IMPACT of digital technologies (Artificial Intelligence, Big Data Analytics, etc)
- IMPACT ASSESSMENT OF DIGITAL TECHNOLOGIES on industries, companies' processes, strategies and workforces
- SKILL GAP ASSESSMENT: Identifying and addressing skill gaps in the digital age
- DIGITAL TECHNOLOGIES and BUSINESS MODEL TRANSFORMATION: new ways of creating and capturing value
- DECISION-MAKING processes of innovative startups: Impacts of different approaches on their outcomes
- DESIGN OF INNOVATIVE learning experiences
- SURVEY research and analyses
- ECONOMETRIC modelling and analyses

Relevant projects

- 01/2023 to date. Scientific coordinator of the project "INFINITY" (ID 23016) financed by the EIT Manufacturing – EITM and co-financed by the European Commission - Progetto RE - HORIZON 2020. The aim is developing learning path for fostering circular economy skills in manufacturing for employees, professionals and vocational learners.

- 07/2022 – 09/2024. Scientific coordinator for DIGEP of the project "Accelerating Sustainable Hydrogen Uptake Through Innovation and Education" financed by the EIT InnoEnergy and co-financed by the European Commission - Progetto RE - HORIZON 2020. The project has the aim of developing learning path and training for accelerating sustainable hydrogen uptake. It is an EIT HEI Initiative – Innovation Capacity Building for Higher Education.
- 03/2022 – 02/2023. Scientific coordinator of the project "Digital transformation in tourism" financed by AIAV association.