

Session theme– Forum Innovation 2025

Twin Digital and Green Transitions in the Tourism Sector

Names and institutions of the session' chairs:

Adel BEN YOUSSEF (GREDEG-CNRS & University Côte d'Azur, France)

E-mail: adel.ben-youssef@univ-cotedazur.fr

Lanouar Charfeddine (Qatar University)

E-mail: lcharfeddine@qu.edu.qa

Description of the theme:

There is no universally accepted definition in the academic literature for the term *twin transition*. In general, transitions refer to social, institutional, and technological processes of change within a socio-economic subsystem, such as energy, mobility, or urban development (Loorbach et al., 2017). The *twin transition* can thus be understood as two interconnected and simultaneous processes of transformation aimed at achieving related yet distinct objectives. The term has increasingly been used in the context of economic and environmental transitions (see, for example, Sheller, 2016; Petrovic & Solingen, 2005) and gained new momentum with the European Green Deal, where it describes the “*twin challenge of the green and the digital transformation*” (European Commission, 2019, p. 7). Depending on the research focus, this simultaneous transformation has been referred to as the “*twin digital and green transition*” (Ortega-Gras et al., 2021; Müller et al., 2024) “*digital circular economy*” (CE), or “*circular Industry 4.0*” (Rosa et al., 2020).

The twin transition is becoming globally recognized as a pivotal framework for addressing contemporary challenges (Vermeulen & Pyka, 2024). The tourism industry is undergoing transformative changes driven by the dual forces of digitalization and sustainability, fundamentally reshaping its structure and operations (Ben Youssef, 2020; Ben Youssef & Zeqiri, 2022; Majid et al., 2023; Goralski et al., 2020). Digital technologies such as artificial intelligence (AI), big data, the Internet of Things (IoT), and blockchain are enhancing the efficiency and personalization of tourism services while reshaping how destinations are experienced, managed, and marketed. These innovations enable real-time data analysis, optimize resource allocation, and provide tailored experiences to travelers, thereby elevating customer satisfaction and addressing operational inefficiencies. Concurrently, the sector faces increasing pressure to mitigate its significant environmental footprint, which includes challenges such as carbon emissions, over-tourism, resource depletion, and waste generation.

This necessitates a paradigm shift towards sustainable practices that align with global climate goals, support biodiversity, and promote responsible tourism behaviors.

This *Call for Papers* seeks to bring together cutting-edge research and practical insights that explore the intersection of digital technologies and sustainability within the tourism sector. We welcome contributions from academics, policymakers, practitioners, and industry experts who can provide fresh perspectives on how innovations, challenges, and opportunities, can uncover strategies for creating a more sustainable and technologically integrated tourism ecosystem. We encourage submissions that cover both theoretical and empirical approaches to the development of twin transition in tourism. Papers that include case studies, comparative analyses across regions or countries, or practical frameworks for implementation are especially welcome. We encourage papers that explore, but are not limited to, the following topics:

- Leveraging AI, IoT, big data, and blockchain to enhance sustainability in tourism.
- Smart tourism destinations: real-time data systems for resource optimization and visitor management.
- Role of digital platforms and apps in promoting eco-friendly travel options and responsible consumer behavior.
- Digital solutions for sustainable supply chain management in tourism in different countries.
- Renewable energy adoption and energy-efficient infrastructures in tourism facilities.
- Advanced waste management and water conservation systems in tourism operations.
- Innovations in reducing the carbon footprint of tourism activities.
- Digital tools facilitating recycling, reducing single-use plastics, and encouraging sustainable consumption.
- Case studies on circular economy practices in tourism businesses and destinations.
- Role of local, national, and EU-level policies in promoting sustainable tourism.
- Public-private partnerships fostering digital and green innovations in tourism.
- Governance frameworks balancing economic growth and environmental preservation.
- Ethical considerations and societal impacts of digital technologies in tourism.
- Impact of digital tools on promoting sustainable travel choices.
- Development and integration of smart infrastructure to support sustainable tourism
- Benchmark of different countries
- Etc.

References:

- Ben Youssef (2020). How Can Industry 4.0 Contribute to Combatting Climate Change? *Revue D' Économie Industrielle*.
- Ben Youssef, A., & Zeqiri, A. (2022). Hospitality industry 4.0 and climate change. *Circular Economy and Sustainability*, 2(3), 1043–1063.

- Goralski, M. A., & Tan, T. K. (2020). Artificial intelligence and sustainable development. *The International Journal of Management Education*, 18(1), 100330.
- Loorbach, D., Frantzeskaki, N., Avelino, F. (2017), Sustainability Transitions Research: Transforming Science and Practice for Societal Change, *Annual Review Environment Resources*, 42(1), 599-626.
- Majid, G. M., Tussyadiah, I. P., Kim, Y. R., & Pal, A. (2023). Intelligent automation for sustainable tourism: A systematic review. *Journal of Sustainable Tourism*, 31(10), 2421-2440.
- Müller, M., Lang, S. and Stöber, L. (2024) . Twin Transition – Hidden Links between the Green and Digital Transition. *Journal of Innovation Economics & Management*, N° 45(3), 57-94.
<https://shs.cairn.info/journal-of-innovation-economics-2024-3-page-57?lang=en>.
- Ortega-Gras, J.-J., Bueno-Delgado, M.-V., Cañavate-Cruzado, G., Garrido-Lova, J. (2021), Twin Transition through the Implementation of Industry 4.0 Technologies: Desk-Research Analysis and Practical Use Cases in Europe, *Sustainability*, 13(24), 13601
- Petrovic, B., Solingen, E. (2005), Europeanisation and Internationalisation: The Case of the Czech Republic, *New Political Economy*, 10(3), 281-303
- Rosa, P., Sassanelli, C., Urbinati, A., Chiaroni, D., Terzi, S. (2020), Assessing Relations between Circular Economy and Industry 4.0: A Systematic Literature Review, *International Journal of Production Research*, 58(6), 1662-1687.
- Sheller, M. (2016), Sustainable Mobility and Mobility Justice: Towards A Twin Transition, in Grieco, M., Urry, J. (eds), *Mobilities: New Perspectives on Transport and Society*, London, Routledge, 289-304.
- Vermeulen, B., & Pyka, A. (2024). The twin digital and green transition: Paradigm shift or tech fix? *Journal of Innovation Economics & Management*, 45(3), 1–26.

Submit your communication proposal by April, 30, 2025: <https://foruminnov25.univ-littoral.fr/en/submit/>