

## Call for Papers

### **Digital Platforms, Generative AI, and the Future of Territorial Innovation Systems: Navigating the New Landscape of Intelligence and Innovation**

**(Short Title Rendering: AI4TIS)**

#### **Guest Editors:**

**Prof. Elias G. Carayannis**, George Washington University, USA ([caraye@gwu.edu](mailto:caraye@gwu.edu))

**Prof. Nico Komninos**, Aristotle University of Thessaloniki, Greece  
([nico.komninos@gmail.com](mailto:nico.komninos@gmail.com))

**Dr. Stavros Sindakis**, Hellenic Open University, Greece ([sindakis.stavros@ac.eap.gr](mailto:sindakis.stavros@ac.eap.gr))

#### **Special Issue Information**

##### **Background and Scope**

Territorial innovation systems are pivotal in driving the development of cities and regions by fostering technology, innovation, and knowledge-based growth. Key actors within these systems include financiers, research organizations, producers, market makers, and institutions that collectively contribute to innovation (Chenya et al., 2022). Digitalization has significantly impacted these systems by enhancing networking capabilities and introducing new layers of connectivity. Digital technologies have been extensively studied for their influence on innovation paradigms, digital ecosystems, and the management of digital innovation (Marino et al., 2023). Moreover, the integration of artificial intelligence (AI) into various sectors has led to advancements in risk management, decision-making systems, and the identification of characteristic risk factors through machine learning techniques (Lundvall & Rikap, 2022). The relationship between innovation and AI has been explored, highlighting the co-evolution of corporate and national innovation systems (Zhu et al., 2023).

In evolutionary economics and geography, territorial innovation systems are considered the driving force for the development of cities and regions, explaining the capacity of certain territories to propel and incubate technology, innovation, and knowledge-based growth. Cities and regions offer the physical and institutional framework for networking among key innovation actors, such as financiers, providing proper funding for innovation, research organizations, providing technology and new knowledge, producers with their suppliers undertaking production processes, and market makers, creating/opening markets with lead users, users and customers, and institutions safeguarding Intellectual Property Rights or providing incentives to innovation. Landmarks of this innovation paradigm include theoretical and empirical contributions from Nelson and Winters (1982), Morgan and Cooke (1997), Storper (1997), Cooke, Uranga, and Etxebarria (1998), Ludvall (1999), Carayannis, and Campbell (2010).

The future of territorial innovation systems is intertwined with the evolution of digital platforms and generative AI. As digital technologies continue to shape innovation landscapes, the incorporation of intelligent computing, collective intelligence, and open innovation becomes increasingly relevant (Yun et al., 2021; Dendiberya et al., 2023). These advancements impact traditional industries and pave the way for the development of smart cities and the sustainable growth of regions (Panuccio, 2019; Felici & Mazzocchi, 2022). Furthermore, the interplay between territorial factors and innovation is a critical aspect that requires more attention in research. Understanding the role of territories in fostering innovation and transitioning local systems is essential for sustainable development (Singh & Chouhan, 2021). Additionally, the utilization of AI in business systems and the design of intelligent products further exemplify the transformative potential of AI in driving innovation and enhancing competitiveness (Yang et al., 2021).

Digitalization is transforming this network-driven innovation paradigm by adding additional layers of networking. A rich literature delves into the contribution of digital technologies to innovation (Yoo, 2012; Barrett et al., 2015), the changes in the innovation paradigm due to digitalization (Baldwin and Von Hippel, 2011; Wu et al., 2015; Hinings et al., 2018), digital ecosystems for innovation (Oh et al., 2016; Komninos, 2013; Nachira et al. 2007), and the management of digital innovation (Yoo et al., 2012; Svahn and Henfridsson, 2012; Nambisan et al., 2017). A new

landscape of innovation is shaped by the way innovation systems are transformed by the Internet, resulting in the creation of digital-institutional-physical (DIP) innovation systems enhanced by telework, algorithmic platforms, big data, analytics, and AI.

This special issue aims to explore the transformative impact of digital platforms and generative AI on territorial innovation systems. It delves into how these technological advancements are reshaping the landscapes of urban and regional innovation, fostering new types of intelligence, enhancing cognitive abilities, and leveraging collective wisdom and computational power. The special issue is a follow-up of our recent work on this field, and two recent books on digital platforms and innovations for smart growth, sustainability, and safety (Komninos, 2020), and innovation and artificial intelligence (Carayannis and Grigoroudis, 2023) as well as other publications on Industry 5.0 and Society 5.0 (Carayannis et al., 2021; Carayannis et al., 2022; Bartoloni et al., 2022; Canestrino et al., 2024). This special issue focuses on how digitalization, particularly through AI and digital platforms, creates new opportunities for innovation through data-driven processes, smart ecosystems, and crowdsourcing mechanisms.

We expect that the Special Issue will shed light on the substantial shifts in urban and regional innovation systems driven by technologies that underscore different types of intelligence. Over the past two decades, cities and regions worldwide have channeled investments into creating comprehensive research and innovation systems composed of R&D labs, research institutes, districts for technology and innovation, startup incubators, co-working spaces, accelerators, and support institutions. Concurrently, digital transformation has given rise to new research and innovation opportunities based on data and networking, digital platforms, smart ecosystems, data-driven innovation, crowdsourced skills and funding, citizen science initiatives, and, lately, generative AI. These intertwined facets craft a fabric of interactive spaces of intelligence, technology, talent, and solutions, creating a new landscape of innovation. The SI invites papers that analyze the significant transformations occurring in the innovation systems of cities and regions, exploring how digital technologies, advances in artificial intelligence, enhanced cognitive abilities, collective wisdom, and machine computational power are amplifying these systems.

## **Focus and Themes**

This Special Issue seeks to unravel how digital platforms and generative AI are reshaping the fabric of territorial innovation systems, with a focus on:

### **1. The Role and Impact of Digital Platforms on Territorial Innovation Ecosystems:**

- How do digital platforms facilitate or hinder the growth of territorial innovation ecosystems?
- What are the mechanisms through which digital platforms influence the collaboration and competition dynamics within territorial innovation systems?

### **2. Generative AI's Contributions to Urban and Regional Development:**

- In what ways can generative AI propel the development of smart cities and regions towards more sustainable and inclusive futures?
- How does generative AI impact the decision-making processes within urban and regional planning and development?

### **3. AI-driven Analytics for Enhancing Territorial Innovation Capacities:**

- How can AI-driven analytics be leveraged to identify emerging innovation opportunities within specific territories?
- What are the challenges and opportunities in integrating AI-driven analytics into the strategic planning of innovation ecosystems?

### **4. The Intersection of AI, Digital Platforms, and the Sustainable Development Goals (SDGs) in Urban and Regional Contexts:**

- To what extent can AI and digital platforms contribute to achieving the SDGs within territorial innovation systems?
- What are the best practices for deploying AI and digital platforms in the pursuit of sustainable urban and regional development?

### **5. Policy Frameworks and Strategies for Nurturing AI and Digital Platform Innovations in Territories:**

- What policy frameworks are effective in supporting the growth and ethical governance of AI and digital platform innovations in territorial innovation systems?

- How can policymakers foster an environment conducive to AI-driven innovation while ensuring social equity and inclusion?

#### **6. Case Studies on the Transformation of Cities and Regions through Digital and AI Technologies:**

- What are the lessons learned from cities and regions that have successfully integrated digital and AI technologies into their innovation systems?
- How do specific territorial conditions influence the adoption and impact of digital and AI technologies in innovation ecosystems?

#### **7. Collaborative Innovation Networks and Ecosystems Enhanced by AI and Digital Platforms:**

- How do AI and digital platforms transform traditional collaborative innovation networks within territorial innovation systems?
- What new forms of collaboration and innovation ecosystems are emerging as a result of advancements in AI and digital technology?

#### **8. The Future of Work and Education in AI-driven Territorial Innovation Systems:**

- How is the future of work and education being reshaped by AI and digital platforms within territorial innovation systems?
- What strategies should territories adopt to prepare their workforce and educational institutions for the AI-driven future?

#### **9. Ethical Considerations and Societal Impacts of AI and Digital Platforms in Territorial Innovation:**

- What ethical dilemmas arise from the deployment of AI and digital platforms in territorial innovation systems?
- How can territorial innovation systems ensure that the benefits of AI and digital platforms are distributed equitably across all segments of society?

#### **10. Beyond Smart Cities: Envisioning AI and Digital Platform-Driven Territorial Innovation:**

- Beyond smart cities, how can rural and less-developed regions leverage AI and digital platforms for innovation and growth?
- What are the implications of AI and digital platforms for the connectivity and integration of diverse territorial innovation ecosystems?

## Important Dates

- **Submissions System opens:** 1 July 2024
- **Paper Submission Deadline:** 31 January 2025
- **First Round Review Decision to Authors:** 30 April 2025
- **Revised Manuscript Due:** 29 August 2025
- **Second Round Review Decision to Authors:** 28 November 2025
- **Final Revised Manuscript Due:** 27 February 2026
- **Final Author Notification of Acceptance:** 1 June 2026

### Manuscript submission information

## Submission Guidelines

- All manuscripts should be submitted through the *Technovation* [online submission system](#) from 1 July 2024 to 31 January 2025.
- Submissions must fully follow the [Guide for Authors](#) for *Technovation*.
- Authors should select “*Special Issue: Digital Platforms, Generative AI, and the Future of Territorial Innovation Systems*” as “Manuscript Type.”

Questions regarding all aspects of this special issue may be addressed to **ALL** of the co-guest editors:

- Elias G. Carayannis ([caraye@gwu.edu](mailto:caraye@gwu.edu)),
- Nico Komninos ([nico.komninos@gmail.com](mailto:nico.komninos@gmail.com)),
- Stavros Sindakis ([sindakis.stavros@ac.eap.gr](mailto:sindakis.stavros@ac.eap.gr)).

## References

- Bartoloni, S., Calò, E., Marinelli, L., Pascucci, F., Dezi, L., Carayannis, E., ... & Gregori, G. L. (2022). Towards designing society 5.0 solutions: The new Quintuple Helix-Design Thinking approach to technology. *Technovation*, *113*, 102413.
- Canestrino, R., Carayannis, E. G., & Magliocca, P. (2022). The noncontextual drivers of innovation: Development and validation of the 5H-INN survey. *IEEE Transactions on Engineering Management*.
- Carayannis, E. G., & Campbell, D. F. (2010). Triple Helix, Quadruple Helix and Quintuple Helix and how do knowledge, innovation and the environment relate to each other?: a proposed framework for a trans-disciplinary analysis of sustainable development and social ecology. *International Journal of Social Ecology and Sustainable Development (IJSESD)*, *1*(1), 41-69.
- Carayannis, E. G., & Grigoroudis, E. (Eds.). (2023). *Handbook of Research on Artificial Intelligence, Innovation and Entrepreneurship*. Edward Elgar Publishing.
- Carayannis, E. G., Dezi, L., Gregori, G., & Calò, E. (2021). Smart environments and techno-centric and human-centric innovations for Industry and Society 5.0: A quintuple helix innovation system view towards smart, sustainable, and inclusive solutions. *Journal of the Knowledge Economy*, 1-30.
- Carayannis, E. G., Grigoroudis, E., Stamati, D., & Valvi, T. (2019). Social business model innovation: A quadruple/quintuple helix-based social innovation ecosystem. *IEEE Transactions on Engineering Management*, *68*(1), 235-248.
- Chenya, L., Aminudin, E., Mohd, S., & Yap, L. (2022). Intelligent risk management in construction projects: systematic literature review. *Ieee Access*, *10*, 72936-72954.
- Cooke, P., Uranga, M. G., & Etxebarria, G. (1998). Regional systems of innovation: an evolutionary perspective. *Environment and Planning A*, *30*(9), 1563-1584.
- Dendiberya, M., Tishutina, O., Barchukov, A., Leontiev, R., & Fedchenko, I. (2023). Assessing the possibility of creating “smart cities” in Khabarovsk territory and its economic consequences. *E3s Web of Conferences*, *380*, 01034.
- Felici, F. and Mazzocchi, G. (2022). Territory matters: a methodology for understanding the role of territorial factors in transforming local food systems. *Land*, *11*(7), 1046.

- Komninos, N. (2020). *Smart Cities and Connected Intelligence: Platforms, ecosystems and network effects*. Routledge.
- Lundvall, B. Å. (1999). National business systems and national systems of innovation. *International Studies of Management & Organization*, 29(2), 60-77.
- Lundvall, B. and Rikap, C. (2022). China's catching-up in artificial intelligence seen as a co-evolution of corporate and national innovation systems. *Research Policy*, 51(1), 104395.
- Marino, D., Lafuente, J., & Tebala, D. (2023). Innovations and development of artificial intelligence in Europe: some empirical evidences. *European Journal of Management and Business Economics*, 32(5), 620-636.
- Morgan, K., & Cooke, P. (1998). The associational economy: firms, regions, and innovation. *University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship*.
- Nelson, R.S., and Winters, S.D. (1982). *An Evolutionary Theory of Economic Change*. Harvard University Press.
- Panuccio, P. (2019). Smart planning: from city to territorial system. *Sustainability*, 11(24), 7184.
- Singh, N., & Chouhan, S. S. (2021, December). Role of Artificial Intelligence for Development of Intelligent Business Systems. In *2021 IEEE International Symposium on Smart Electronic Systems (iSES)* (pp. 373-377). IEEE.
- Storper, M. (1997). *The regional world: territorial development in a global economy*. Guilford press.
- Yang, W., Su, J., Zhang, S., Qiu, K., & Zhang, X. (2021). Intelligent design of product forms based on design cognitive dynamics and a cobweb structure. *Computational Intelligence and Neuroscience*, 2021, 1-17.
- Yun, J., Jeong, E., Kim, S., Ahn, H., Kim, K., Hahm, S., ... & Park, K. (2021). Collective intelligence: the creative way from knowledge to open innovation. *Science Technology and Society*, 26(2), 201-222.
- Zhu, S., Yu, T., Xu, T., Chen, H., Dustdar, S., Gigan, S., ... & Pan, Y. (2023). Intelligent computing: The latest advances, challenges, and future. *Intelligent Computing*, 2, 0006.