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Empowering Open Innovation
Tourism Networks

FINAL PROJECT REPORT

JULY 2026



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Empowering Open Innovation Tourism Networks

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Faculty of Hotel Management and Tourism in Vrnjačka Banja

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Summary

The Empowering Open Innovation Tourism Networks (EOITN) project was developed to strengthen collaborative innovation capacities in tourism, as a strategic component of competitiveness, by fostering knowledge exchange, cross-sector cooperation, and stakeholder engagement. Recognising that innovation in tourism increasingly emerges through collaboration rather than isolated organisational efforts, the project adopted the principles of open innovation and destination ecosystem management to enhance sustainable and competitive tourism development particularly in Serbia, which is lagging behind other project partners with respect to the World Economic Forum's Travel & Tourism Development Index.

The project brought together academic institutions and tourism stakeholders from Poland, the Czech Republic, Hungary and Serbia with the common objective of analysing, supporting, and strengthening collaborative innovation network in Vrnjačka Banja, one of the most popular tourism destinations in Serbia. Through an integrated set of research and practical activities – including sharing best practices in collaborative innovation from the Visegrad region, stakeholder mapping in Vrnjačka Banja, qualitative interviews, Social Network Analysis (SNA), stakeholder meetings, an innovation hackathon, and the development of the open innovation digital platform – the project established a comprehensive framework for understanding and improving innovation collaboration in the tourism destination.

The comparative analysis of successful collaborative initiatives from the Visegrad group, including the Kraków Network, Crystal Valley, and Balatoni Kör, provided valuable evidence of how structured cooperation, trust-based governance, and knowledge sharing contribute to destination competitiveness and innovation capacity. These examples served as basis for developing a collaborative innovation network in Vrnjačka Banja.

The results of empirical analysis indicate strengthening of collaborative relationships in Vrnjačka Banja tourism destination following the implementation of project activities. The number of innovation-oriented connections among stakeholders increased, accompanied by higher network density, the inclusion of new stakeholders, and stronger integration across stakeholder groups. These improvements suggest that even relatively short-term interventions (when strategically designed) can stimulate meaningful changes in collaborative efforts and strengthen destination innovation ecosystem.

Beyond destination-specific achievements, the EOITN project generated a transferable methodology for establishing and developing collaborative innovation networks in tourism destinations. The proposed framework integrates stakeholder identification, network diagnostics, innovation facilitation, digital networking tools, and recommendations for governance, with continuous monitoring, and evaluation into a systematic implementation process that can be adapted to different destination contexts. As such, the report extends beyond documenting project activities by providing practical guidance for destination management organisations, municipalities, tourism enterprises, universities, innovation centres, and policy makers seeking to enhance innovation through collaborative approaches.

The report therefore serves two complementary purposes. First, it presents the principal achievements and impacts of the EOITN project. Second, it offers a practical implementation handbook that enables tourism destinations to build, develop, and sustain collaborative innovation networks tailored to their own governance structures and development priorities.

By combining empirical evidence and comparative case studies, the report serves as a guide to advancing destination innovation management and supporting the transition towards more collaborative, knowledge-driven, and resilient tourism ecosystems.

1. Introduction

Innovation has become one of the principal drivers of competitiveness, resilience, and sustainable development in tourism destinations. Rapid technological progress, changing visitor expectations, increasing market uncertainty, and the growing complexity of destination management require tourism stakeholders to continuously develop new products, services, experiences, and organisational practices. However, innovation in tourism rarely occurs within the boundaries of a single organisation. Instead, it emerges through interactions among multiple actors who contribute complementary knowledge, resources, capabilities, and perspectives. Consequently, collaborative innovation has become an essential mechanism for enhancing the competitiveness and long-term development of tourism destinations.

Unlike manufacturing industries, where innovation is often driven by research and development departments, tourism innovation is predominantly service-oriented and highly dependent on cooperation among diverse stakeholders. Tourism experiences are co-created through interactions among accommodation providers, restaurants, attractions, transport companies, travel intermediaries, destination management organisations, public authorities, educational institutions, technology providers, local communities, and visitors themselves. As a result, the ability of destinations to innovate increasingly depends on the quality of relationships established among these actors rather than on the innovative capacity of individual organisations alone.

This collaborative perspective is reflected in the concept of open innovation, which encourages organisations to move beyond organisational boundaries by actively exchanging knowledge, ideas and technologies with external partners. Rather than relying solely on internally generated innovations, organisations benefit from participating in networks that facilitate joint problem-solving. In tourism destinations, this approach creates opportunities for developing integrated tourism products, responding more effectively to market changes, and improving the overall visitor experience through coordinated stakeholder action.

The growing importance of collaborative innovation has also contributed to the emergence of the destination ecosystem perspective. Similar to natural ecosystems, tourism destinations consist of numerous interdependent actors whose individual performance is closely linked to the functioning of the entire system. Within such ecosystems, value is created collectively through continuous interactions among businesses, public institutions, universities, local communities, and other organisations. The ecosystem perspective therefore shifts attention from individual organisational success towards the capacity of destinations to coordinate collective action, facilitate knowledge exchange, and build trust-based partnerships that support continuous innovation.

An important conceptual foundation for understanding these collaborative processes is provided by the Triple Helix model, which emphasises interactions among academia, industry, and government as the primary sources of innovation. Universities contribute scientific knowledge, research capacity, and human capital; businesses transform ideas into

market-oriented products and services; public institutions establish regulatory frameworks, strategic priorities, and supporting infrastructure. When these three sectors collaborate effectively, destinations are better positioned to generate innovative solutions that simultaneously address economic, social, and environmental challenges. Increasingly, contemporary tourism destinations also incorporate civil society and local communities into these collaborative processes, reflecting broader ecosystem approaches to destination governance. Community acts as a co-creator and end-user of innovation, contributing local knowledge, needs, and feedback that enhance the sustainability of collaborative innovation networks.

Despite widespread recognition of the importance of collaboration, establishing effective innovation networks remains a considerable challenge for many tourism destinations. Stakeholders frequently operate independently, possess different strategic priorities, compete for limited resources, or lack mechanisms that facilitate systematic cooperation. Trust, communication, leadership, and institutional support therefore become critical factors influencing whether collaborative innovation networks emerge and develop successfully. Understanding how these networks function, how they evolve over time, and how they can be strengthened through targeted interventions represents an important challenge for both tourism researchers and destination practitioners.

The Empowering Open Innovation Tourism Networks (EOITN) project was initiated in response to these challenges. The project brought together universities and tourism stakeholders from Poland, the Czech Republic, Hungary, and Serbia, creating a multidisciplinary partnership that combined academic expertise with practical destination management experience. Supported by the International Visegrad Fund, the project sought to strengthen collaborative innovation capacities in the Vrnjačka Banja tourism destination, through a combination of stakeholder engagement, practical interventions, and international knowledge exchange.

By examining well-established collaborative initiatives such as the Kraków Network, Crystal Valley, and Balatoni Kör, the project identified governance models, organisational mechanisms, and collaboration practices that successfully stimulate innovation within tourism destinations. These experiences served as valuable benchmarks for the development of collaborative innovation network in Vrnjačka Banja while simultaneously generating transferable knowledge applicable to many other destinations facing similar development challenges. Social Network Analysis enabled Serbian partner as an end-user of the know-how from other Visegrad countries, to visualise existing collaborative structures, identify central and peripheral actors, evaluate network cohesion, and monitor changes in stakeholder relationships over time due to project activities. Simultaneously, workshops, networking events, and the innovation hackathon created opportunities for stakeholders to establish new relationships, exchange knowledge, and jointly develop innovative ideas.

This report represents the final synthesis of the EOITN project. Rather than serving solely as a record of completed project activities, it aims to consolidate the knowledge generated throughout the project into a practical resource for destination stakeholders. The report therefore has two complementary objectives.

The first objective is to present the principal outcomes and impacts of the EOITN project by summarising the findings obtained through network analyses, stakeholder engagement

activities, and comparative case studies. Particular attention is devoted to demonstrating how collaborative innovation network evolved during the project and how project interventions contributed to strengthening relationships among destination stakeholders.

The second objective is to provide practical implementation guidelines that can support tourism destinations in building stronger partnerships, enhancing knowledge exchange, stimulating innovation, and improving destination competitiveness. Although developed within the context of the participating destinations, these recommendations are intended to be sufficiently flexible for application throughout the Visegrad region and in tourism destinations worldwide.

Ultimately, the EOITN project demonstrates that collaborative innovation is not an isolated activity but a continuous process requiring strategic leadership, stakeholder engagement, mutual trust, and effective governance. Destinations that invest in strengthening collaborative networks are better positioned to generate innovative tourism experiences, respond to changing market conditions, and create long-term value for visitors, businesses, and local communities. The chapters that follow present the project's activities, findings, best practices, and practical recommendations that together form a comprehensive framework for collaborative innovation in tourism destinations.

2. Project Overview

2.1 Project Objectives

The Empowering Open Innovation Tourism Networks (EOITN) project was initiated to enhance tourism development in Serbia, which ranked 68th position in Travel & Tourism Development Index (TTDI) of the World Economic Forum (WEF) in 2024, being the fourth last among European countries. Serbia has significant tourism potential due to its natural resources (landscape, climate, mineral springs, ecosystem), cultural and historical heritage, events and other sources of tourism demand, but this potential is underutilised. Therefore, the project's primary goal was to enhance innovation capacity in tourism destination of Vrnjačka Banja, one of the most visited tourism destinations in Serbia, as a strategic component of competitiveness.

The growing need for stronger collaboration among tourism stakeholders arises from numerous challenges, including rapid technological change, increasing visitor expectations, labour shortages, sustainability requirements, and intensified competition. Addressing these challenges requires innovation; however, innovation in tourism rarely originates from individual organisations acting independently. Instead, it emerges through continuous interaction among tourism businesses, public authorities, educational institutions, technology providers, local communities, and other actors.

Supported by the International Visegrad Fund, the project established an international partnership involving higher education institutions from Poland, the Czech Republic, Hungary, and Serbia, creating opportunities for exchange of experiences and the development of transferable approaches to the management of collaborative innovation tourism networks.

Rather than treating innovation as an isolated organisational activity, the project adopted an ecosystem perspective in which destinations are viewed as dynamic networks of

interconnected stakeholders whose collective capabilities determine destination competitiveness. Consequently, the project focused on strengthening collaborative relationships through a combination of research activities, stakeholder engagement, practical workshops, innovation facilitation, and international benchmarking.

2.2 Project Activities and Outputs

The EOITN project combined empirical research with practical stakeholder engagement through a sequence of complementary activities:

- Identify tourism stakeholders collaborating on innovation in Vrnjačka Banja and evaluate their roles within the destination innovation ecosystem.
- Examine and share examples of successful innovation-based collaboration in participating countries from the Visegrad region.
- Stimulate strengthening collaborative innovation relationships among tourism stakeholders in Vrnjačka Banja through round tables and events.
- Develop a digital platform for open innovation, enabling match of tourism actors seeking the innovative solution with providers of solutions who may be students, professors, peers or other industry professionals.
- Monitor changes in collaborative innovation network structure in Vrnjačka Banja tourism destination following the project activities.
- Share guidelines that can support other tourism destinations in establishing and strengthening collaborative innovation networks.

2.2.1 Identification of tourism stakeholders collaborating on innovation in Vrnjačka Banja

The project began with identification of tourism stakeholders in Vrnjačka Banja tourism destination who practice collaborative innovation with others in the destination. Using purposive and snowball sampling techniques, local government, educational institutions, innovation centre, travel agencies, hospitality providers, and other relevant organisations were identified as potential members of collaborative innovation network. This activity established the foundation for all subsequent analyses and interventions by defining the boundaries of destination innovation ecosystem.

Prior to the commencement of project activities, a comprehensive stakeholder mapping identified 22 organisations actively involved in tourism development and willing to participate in the collaborative innovation network. These organisations represented the principal components of the destination's tourism ecosystem and reflected the Triple Helix model through the inclusion of industry, government, and educational institutions. The structure of stakeholders regarding categories is presented in Table 1.

Table 1. Categories of identified stakeholders

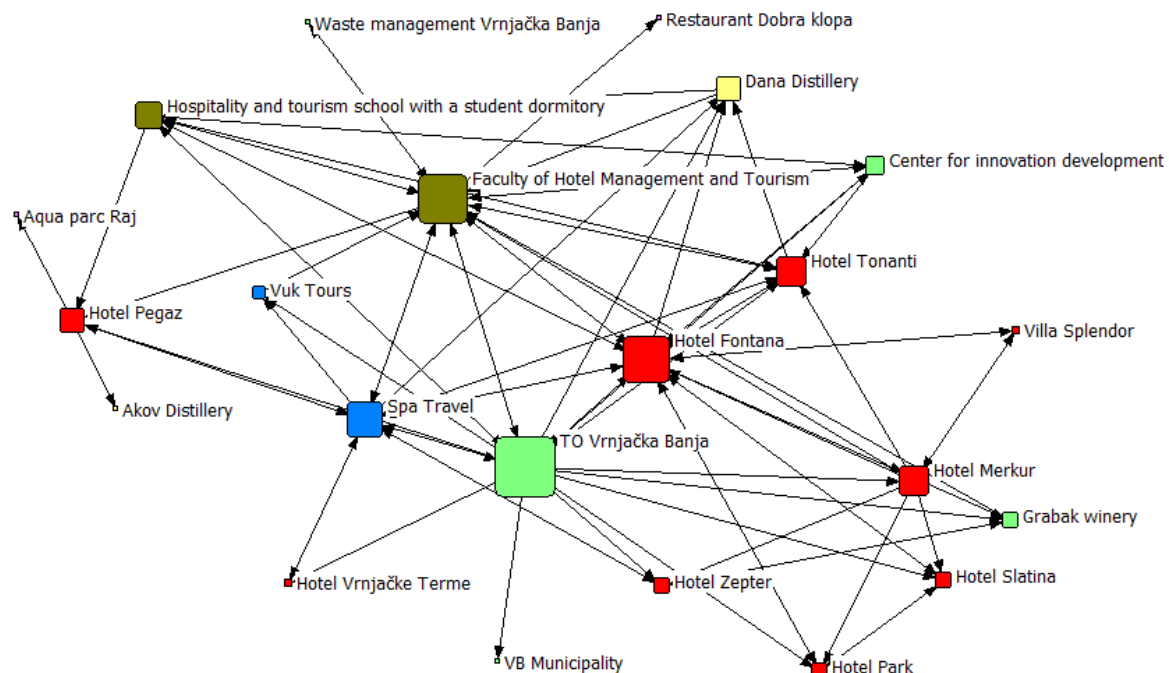
Stakeholder category	Number of organisations
Accommodation facilities	9
Educational institutions	2
Government and public institutions	4
Travel agencies	2
Hospitality and entertainment providers	2
Wineries and distilleries	3

The diversity of participating organisations represented one of the network's principal strengths. The inclusion of both public and private organisations, together with educational institutions, created favourable conditions for knowledge exchange and future collaborative innovation. Nevertheless, the existence of diverse stakeholders alone did not guarantee effective collaboration. The analysis revealed that many organisations maintained only a limited number of innovation-oriented relationships, while cooperation remained concentrated around several highly connected actors.

Following stakeholder identification, Social Network Analysis (SNA) was conducted in Vrnjačka Banja to visualise collaborative innovation relationships among destination actors. The analysis enabled researchers to identify: central stakeholders; peripheral stakeholders; collaboration intensity; network density; network cohesion; and opportunities for strengthening collaboration. The initial network analysis also served as a baseline against which future network development could be evaluated.

The baseline SNA revealed the existence of collaborative innovation network in Vrnjačka Banja, which was fully connected, meaning that all identified organisations participated in at least one collaborative relationship. Importantly, no isolated stakeholders were identified, indicating that every organisation maintained some degree of interaction with the broader destination network. This represented a favourable starting point for future network development. Figure 1 presents the baseline network structure.

Figure 1. Baseline Collaborative Innovation Network in Vrnjačka Banja



However, despite the absence of isolated actors, the network exhibited relatively modest levels of overall collaboration. Only 84 collaborative innovation ties were identified among the 22 stakeholders, resulting in a network density of 0.182. According to established SNA interpretation, this level of density characterises a network with low cohesion, suggesting that considerable opportunities existed for establishing additional collaborative relationships and improving knowledge exchange among stakeholders.

The analysis also demonstrated a relatively high degree of network centralisation. The out-degree centralisation reached 60.8%, while in-degree centralisation amounted to 30.8%. These values indicate that collaborative initiatives were initiated primarily by a relatively small number of organisations, whereas many stakeholders occupied more passive positions within the network. Such a structure is common in emerging collaborative ecosystems, where innovation activities depend heavily on several leading organisations rather than being broadly distributed across the destination. The main parameters' values with interpretation are presented in Table 2.

Table 2. Baseline Vrnjačka Banja collaborative innovation network indicators

Indicator	Initial value	Interpretation
Number of stakeholders	22	Diverse stakeholder ecosystem
Collaborative ties	84	Moderate number of innovation relationships
Network density	0.182	Low network cohesion
Out-degree centralisation	60.8%	Leadership concentrated among several actors
In-degree centralisation	30.8%	Moderate concentration of collaborative attention
Isolated actors	0	Entire network connected

Although central actors play an important coordinating role, excessive dependence on a limited number of organisations may reduce network resilience and constrain broader stakeholder participation. Consequently, one of the project's objectives was to stimulate stronger engagement among peripheral organisations and promote more balanced collaboration throughout the destination.

The baseline assessment identified several structural and organisational challenges that limited the innovation capacity of the destination.

- *Concentration of leadership* – Innovation activities depended heavily on a relatively small group of highly connected stakeholders. Such concentration increased the vulnerability of the network and limited opportunities for broader knowledge exchange.
- *Uneven stakeholder participation* – While accommodation providers and public institutions occupied relatively central positions within the network, several stakeholder categories – including smaller tourism businesses and complementary service providers – played only marginal roles in collaborative innovation activities.
- *Limited cross-sector cooperation* – Although representatives of academia, industry, and government were all present within the network, interactions among these sectors remained less intensive than expected. Strengthening Triple Helix collaboration therefore emerged as an important priority for subsequent project activities.

Despite these challenges, the baseline analysis revealed considerable potential for strengthening collaborative innovation within Vrnjačka Banja. First, the network already included representatives of all major stakeholder groups necessary for establishing a destination innovation ecosystem. This diversity provided a strong foundation upon which additional collaborative relationships could be developed. Second, the absence of isolated stakeholders suggested that communication channels already existed throughout the destination, even if many remained relatively weak. Strengthening existing relationships is generally more feasible than creating entirely new ones, making the network particularly suitable for collaborative interventions. Third, several organisations demonstrated strong leadership capacities and occupied central positions capable of facilitating wider stakeholder

engagement. Rather than replacing these leaders, the project sought to utilise their positions as catalysts for broader network development.

2.2.2 International Best Practice Analysis in the Visegrad region

One of the central activities of the EOITN project was to identify successful examples of collaborative innovation that could serve as practical benchmarks for tourism destinations seeking to strengthen their own innovation ecosystems, and particularly Vrnjačka Banja tourism destination. While every destination operates within a unique institutional, cultural, and economic context, many of the mechanisms that enable effective collaboration are transferable across destinations. Understanding these mechanisms is therefore essential for designing innovation policies and governance models capable of supporting long-term destination competitiveness. To achieve this objective, the project examined three established collaborative initiatives within the Visegrad region (Kraków Network (Poland), Crystal Valley (Liberec Region, Czech Republic) and Balatoni Kör (Lake Balaton, Hungary).

Each initiative represents a different governance model, organisational structure, and innovation pathway. Rather than attempting to identify a single "best" model, the analysis focused on understanding how different collaborative arrangements generate innovation, build stakeholder trust, facilitate knowledge exchange, and strengthen destination competitiveness. Together, these case studies demonstrate that successful collaborative innovation is not determined by organisational size or financial resources alone but by the ability to establish long-term partnerships based on shared objectives, mutual trust and contribution, as well as on continuous learning.

Kraków Network (Poland): Building a Collaborative Meetings Industry Ecosystem

Among the analysed initiatives, the Kraków Network represents one of the most structured examples of collaborative governance within the European meetings industry. Established in 2015 under the leadership of the Kraków Convention Bureau, the initiative was developed to strengthen cooperation among organisations involved in business tourism while simultaneously reinforcing Kraków's international position as a leading meetings destination.

Unlike traditional destination partnerships that primarily coordinate marketing activities, Kraków Network functions as an innovation platform bringing together representatives of hotels, convention centres, destination management organisations, universities, restaurants, event agencies, transport providers, cultural institutions, and municipal authorities. By 2025, the network had expanded to approximately 600 members organised into nine thematic working groups, making it one of the largest collaborative tourism networks in Central Europe. The network demonstrates that innovation is significantly enhanced when stakeholders regularly exchange experiences, jointly discuss strategic challenges, and collectively develop solutions to emerging market changes. Rather than competing in isolation, participating organisations recognise that improving the competitiveness of the destination simultaneously strengthens the competitiveness of individual businesses. Particularly noteworthy was the network's response during the COVID-19 pandemic. Instead of reducing collaboration, stakeholders intensified cooperation by jointly developing the Kraków Network Protocol, which established common standards for organising meetings and events under pandemic conditions. This initiative illustrated how trust-based collaboration can significantly increase destination resilience during periods of uncertainty.

Several characteristics distinguish Kraków Network as an example of good practice:

- institutional leadership provided by the Convention Bureau;
- clearly defined governance structure;
- thematic working groups facilitating continuous interaction;
- strong university involvement;
- systematic knowledge sharing;
- collaborative development of destination-wide solutions;
- long-term commitment of stakeholders.

The experience of the Kraków Network highlights several key lessons for successful collaboration and network development. Strong institutional leadership plays a crucial role in accelerating cooperation among stakeholders, while regular meetings are more effective than occasional conferences in maintaining momentum and fostering sustained engagement. The establishment of working groups enhances the network's capacity for continuous innovation by enabling focused collaboration on specific topics. Furthermore, the involvement of universities strengthens evidence-based decision-making by providing research expertise and analytical support. Finally, the network demonstrates that trust is built primarily through repeated interaction and ongoing collaboration rather than through formal agreements alone.

Crystal Valley (Czech Republic): Innovation through Cluster Collaboration

The Crystal Valley initiative represents a different but equally successful model of collaborative innovation. Unlike Kraków Network, which centres on the meetings industry, Crystal Valley was established to connect organisations operating across the traditional glassmaking industry while simultaneously transforming this industrial heritage into a tourism development resource.

The initiative integrates manufacturers, designers, educational institutions, museums, municipalities, tourism organisations, and creative industries into a single collaborative ecosystem. Rather than preserving industrial heritage as a static attraction, Crystal Valley continuously develops new tourism experiences through cooperation among cultural, educational, and commercial actors. One of its greatest strengths lies in combining innovation with regional identity. Stakeholders jointly develop new visitor experiences while simultaneously preserving traditional craftsmanship and strengthening the regional brand. Innovation therefore becomes complementary to heritage preservation rather than replacing it. The case also illustrates the importance of cross-sector collaboration. Tourism organisations alone could not have achieved similar outcomes without active participation from educational institutions, cultural organisations, creative industries, and local governments.

Several transferable principles emerge from this initiative:

- innovation builds upon local identity;
- cultural heritage becomes an innovation resource;
- public-private collaboration supports regional branding;
- educational institutions facilitate knowledge transfer;
- tourism serves as an integrator connecting different industries.

Crystal Valley demonstrates that collaborative innovation extends well beyond tourism businesses and may include actors traditionally considered outside the tourism sector. The experience of Crystal Valley provides several valuable lessons for fostering innovation and

sustainable regional development. Building innovation around an authentic local identity strengthens the distinctiveness and competitiveness of a destination, while connecting creative industries with tourism generates new economic opportunities and enhances the visitor experience. Transforming cultural and industrial heritage into innovative tourism products creates added value for both local communities and visitors. In addition, encouraging interdisciplinary collaboration fosters creativity and knowledge exchange across different fields, while positioning tourism as a platform that connects multiple sectors supports integrated development and long-term regional resilience.

Balatoni Kör (Hungary): Community-Based Innovation

The Balatoni Kör initiative illustrates a third governance model centred primarily on voluntary collaboration among entrepreneurs around Lake Balaton. Initially established by a relatively small group of tourism businesses, the initiative gradually evolved into a recognised regional network promoting quality tourism, local gastronomy, sustainability, and destination branding. Unlike highly institutionalised collaborative structures, Balatoni Kör demonstrates that innovation networks may successfully emerge from bottom-up entrepreneurial initiatives. Members voluntarily cooperate because they recognise the mutual benefits associated with destination-wide quality improvement. An important characteristic of Balatoni Kör is its relatively informal governance structure. Collaboration depends less on formal hierarchy and more on trust, shared values, and mutual commitment. Consequently, members actively support one another while simultaneously maintaining healthy market competition.

Rather than focusing exclusively on marketing, the network encourages:

- joint product development;
- promotion of local producers;
- sustainable tourism;
- knowledge exchange;
- innovation in gastronomy;
- collaborative destination branding.

The initiative also demonstrates how local food systems, small businesses, and regional identity can become important drivers of destination innovation. The experience of Balatoni Kör demonstrates that innovation can successfully emerge from grassroots initiatives driven by local entrepreneurs and community actors. In such collaborative networks, trust often serves as an effective substitute for formal governance structures, enabling flexible and efficient cooperation among participants. The network also illustrates that small businesses, when working collectively, can generate significant economic and social impacts that exceed the capacity of individual actors. Furthermore, a shared regional identity strengthens collaboration by fostering a sense of common purpose and mutual commitment, while the adoption of quality standards enhances collective competitiveness and reinforces the region's reputation as a distinctive tourism destination.

2.2.3 Study trip to Krakow University of Economics

Project participants met together at the Krakow University of Economics to exchange knowledge and experience related to open innovation and collaborative practices in the tourism industry. The first day began with a meeting with the Krakow Network initiative, a notable example of a collaborative innovation network within the city. This interaction provided valuable insights into the network's structure and operations. The Project members

also introduced the Project itself and shared information about their respective destinations along with insights into how collaborative innovation networks function in those areas. The day concluded with an internal meeting focused on assessing the Project's current progress, resolving ongoing issues, and planning for upcoming tasks and goals.

On the second day, a scientific seminar titled "Open Innovations in Tourism" was hosted by the Team from Department of Tourism at the Krakow University of Economics. The seminar focused on delivering lectures and transferring knowledge about open innovation and collaboration in tourism to colleagues and students of Tourism and Recreation. The Project partners presented findings from research conducted in their home regions, highlighting both innovations and the challenges faced in cooperation within the tourism market.

2.2.4 Stakeholder Round tables in Vrnjačka Banja

Although the baseline analysis demonstrated that collaborative relationships regarding innovation already existed within the destination, many organisations had limited opportunities to interact beyond their immediate business partners. A series of round tables was organised with tourism stakeholders in Vrnjačka Banja to facilitate dialogue among them. The round tables focused on: identifying destination challenges; exchanging experiences; presenting examples of good practice; encouraging interdisciplinary collaboration; and generating ideas for future innovation projects and directions of destination development. These activities increased awareness of the benefits associated with collaborative innovation.

A distinguishing characteristic of round tables was their interdisciplinary nature. Representatives of academia, industry, and government participated simultaneously, enabling participants to approach destination challenges from multiple perspectives. This interdisciplinary dialogue reflected the principles of the Triple Helix model and encouraged participants to move beyond sector-specific viewpoints. The round tables also promoted peer learning by allowing organisations to present their own experiences, discuss successful initiatives, and exchange practical knowledge regarding innovation management. Stakeholders expressed considerable willingness to strengthen cooperation, particularly regarding knowledge exchange, joint innovation initiatives, destination marketing, and the development of new tourism experiences. This positive attitude suggested that structural improvements could be achieved through relatively modest interventions designed to increase interaction and build trust among network participants.

2.2.5 Developing Open Innovation Platform

To ensure that collaboration continued beyond individual meetings, the project developed the open innovation digital platform "Connecting Tourism and Innovation" available on the project website (<https://hit-vb.kg.ac.rs/eoitn/eduplatform/?lang=en>). The main platform function is to connect tourism actors with anyone who can offer innovative solution, such as students, professors, peers from other organisations or various industry professionals. Providing innovation-driven solutions for real tourism industry challenges the platform contributes to maintaining and extending collaborative relationships after project completion.

The development of the digital platform reflects an important lesson emerging from the project: collaborative innovation increasingly requires hybrid communication models that combine personal interaction with digital networking tools. While trust is primarily developed through direct interpersonal contact, digital platforms ensure continuity of communication

and facilitate inclusion of new members who can contribute with their knowledge and experience.

The platform is created in English and national languages of all project partners (Polish, Czech, Hungarian and Serbian), so it can be used by academia and tourism industry in all partner countries from the Visegrad group. Moreover, it enables cross-country collaborative innovation in tourism that can be facilitated by the project partner universities.

2.2.6 Open Innovation Event

One of the project's flagship activities was the organisation of the Open Innovation Event at the Faculty of Hotel Management and Tourism in Vrnjačka Banja. The event brought together tourism practitioners, entrepreneurs, students, researchers, and public institutions to raise the awareness of collaborative innovation as an engine for sustainable tourism development, altogether with presenting best practices from the Visegrad region. All project partners were actively participating in the event. The central part of the event was student hackathon, focused on solving destination challenges through innovative thinking. Student teams participated with mentoring support from teachers at the Faculty of Hotel Management and Tourism in Vrnjačka Banja, the Kraków University of Economics, and the Technical University of Liberec. Students demonstrated a high level of knowledge, creativity, and practical skills in developing and presenting innovative business ideas, which were evaluated by an expert jury.

Beyond the innovative solutions produced during the event, the hackathon generated several important long-term benefits. It strengthened cooperation between academia and industry, introduced tourism businesses to new perspectives offered by students and researchers, and demonstrated the practical value of collaborative innovation. Participants also expanded their professional networks, creating relationships that extended beyond the event itself. The hackathon illustrated that innovation is not solely the outcome of technological development but also of effective collaboration among individuals possessing complementary knowledge and skills.

In addition to the hackathon, the program included lectures by professors from the Kraków University of Economics, the Technical University of Liberec, and the University of Pannonia, who presented examples of successful collaborative innovation networks in tourism destinations of the Visegrad Group countries.

IT solutions supporting open innovation in tourism were also presented, including the Valifiy application and the Platform for Open Innovation in Tourism, developed by the Faculty of Hotel Management and Tourism in Vrnjačka Banja.

2.2.7 Follow-up Network Evaluation

Following implementation of project activities, Social Network Analysis was repeated to evaluate changes in collaboration based on innovation among tourism stakeholders in Vrnjačka Banja. This approach enabled project partners to assess: network growth; newly established relationships; changes in stakeholder centrality; improvements in network cohesion and emerging collaboration patterns. The comparison between the initial and follow-up analyses provided empirical evidence regarding the project's impact on innovation-based collaboration among tourism stakeholders in Vrnjačka Banja tourism destination.

It should be acknowledged that the follow-up assessment was conducted approximately one year after the baseline analysis and only several months after the implementation of the principal intervention activities. Consequently, substantial structural transformations of the network were not expected within such a relatively short period. Nevertheless, the observed changes provide important indications regarding the project's contribution to strengthening collaborative innovation within the destination.

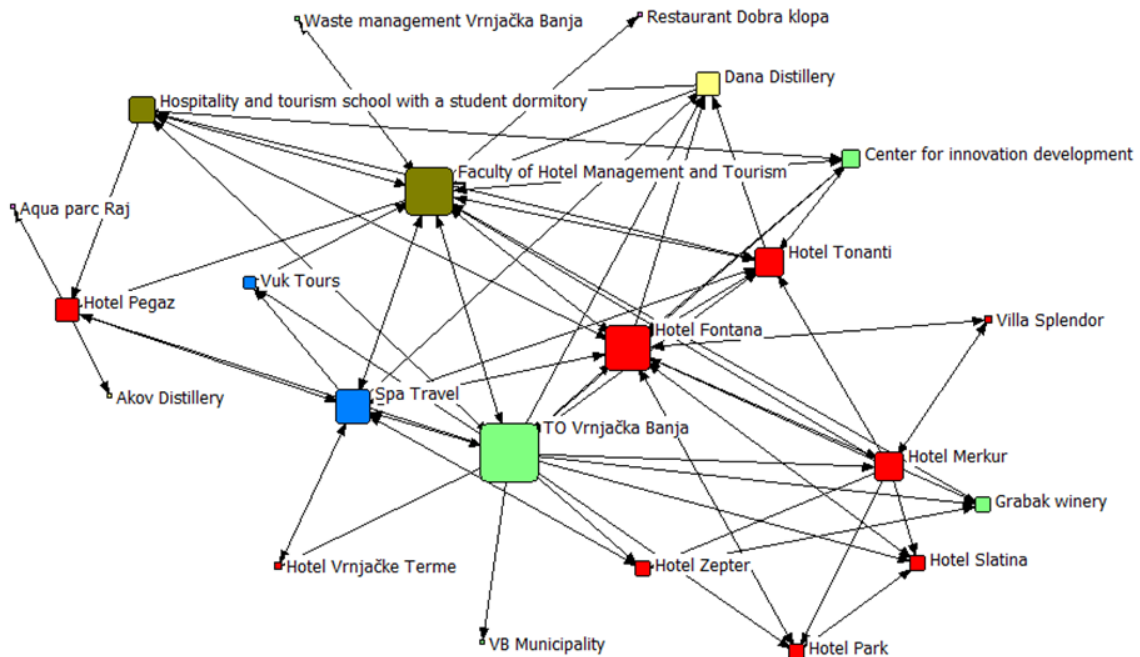
One of the first observable outcomes of the EOITN project was the expansion of the collaborative innovation network itself. While the initial assessment identified 22 organisations actively participating in innovation-oriented collaboration, the follow-up analysis recognised 25 stakeholders, reflecting the inclusion of three additional organisations within the destination innovation ecosystem. The newly incorporated stakeholders included Hotel Kocka, Vrnjačka Banja Zoo and Cultural Centre of Vrnjačka Banja. Although modest in numerical terms, this increase is significant because it demonstrates that the collaborative innovation network remained open and capable of integrating new actors throughout the project period. More importantly, the additional organisations represent different sectors of the tourism ecosystem, further increasing stakeholder diversity and strengthening cross-sector collaboration. The expansion of stakeholder participation illustrates an important characteristic of successful innovation ecosystems: collaborative networks are dynamic structures that continuously evolve as new organisations recognise the benefits of cooperation and become integrated into destination governance processes.

The most important structural change observed during the project relates to the substantial increase in collaborative relationships among stakeholders. The initial Social Network Analysis identified 84 innovation-oriented collaborative ties among destination stakeholders. Following project implementation, the number of collaborative relationships increased to 145 ties, representing an increase of more than 70%. Rather than simply reflecting greater communication among organisations, this increase indicates a broader pattern of knowledge exchange, joint activities, and innovation-oriented cooperation throughout the destination. Importantly, the increase in collaborative ties occurred across different stakeholder categories rather than being limited to a single sector. Accommodation providers, public institutions, educational organisations, tourism authorities, and complementary tourism businesses all strengthened their collaborative relationships, reflecting the project's emphasis on ecosystem-wide cooperation. The increase in network connectivity also suggests that stakeholders increasingly recognised collaboration as a source of competitive advantage rather than a potential threat to individual organisational performance.

Network density represents one of the most informative indicators of collaborative innovation because it measures the proportion of existing relationships relative to all potential relationships within the network. At the beginning of the project, the collaborative innovation network exhibited a density of 0.182, indicating relatively limited interaction among destination stakeholders. Following project implementation, network density increased to 0.242, representing an increase of approximately 33%. According to Social Network Analysis interpretation, this change reflects a transition from low toward moderate network cohesion, indicating that organisations became substantially more interconnected than before project implementation.

Although the network remains in a developmental stage, the observed improvement demonstrates that relatively targeted interventions can significantly strengthen collaborative structures within a comparatively short period.

Figure 2. Evolution of the collaborative innovation network of Vrnjačka Banja



While the increase in collaborative relationships represents the most visible project outcome, several additional structural changes provide further evidence of network development. The inclusion of new organisations increased stakeholder diversity and strengthened representation of complementary tourism sectors. At the same time, previously established organisations generally expanded their collaborative activities, creating a denser and more interconnected innovation ecosystem. The follow-up analysis also confirmed that no isolated stakeholders existed within the destination network. Every organisation maintained at least one collaborative innovation relationship with another stakeholder, indicating that the destination had succeeded in maintaining an inclusive collaborative structure throughout the project period. Another encouraging finding relates to the strengthening of relationships between stakeholder categories representing the Triple Helix model. Collaboration among educational institutions, public authorities, and tourism businesses became more intensive, creating more favourable conditions for knowledge transfer and joint innovation activities. Although some organisations continued to occupy more central positions within the network, collaborative activity became more broadly distributed, reducing excessive dependence on a limited number of actors.

Table 3. Evolution of the collaborative innovation network

Network indicator	Initial network	Current network	Change
Number of stakeholders	22	25	+3
Collaborative ties	84	145	+72.6%
Network density	0.182	0.242	+33.0%
Network cohesion	Low	Moderate	Improved
Isolated stakeholders	0	0	Maintained
Triple Helix representation	Present	Strengthened	Improved

The comparative indicators clearly demonstrate that collaborative innovation within Vrnjačka Banja became both broader and stronger during the implementation period.

The observed improvements should not be interpreted solely as numerical changes in network indicators. More importantly, they reflect broader organisational and behavioural transformations within the destination. First, collaboration increasingly extended across different stakeholder groups, reducing fragmentation within the destination innovation ecosystem. Second, stronger interpersonal relationships established through project activities created favourable conditions for future joint initiatives extending beyond the project itself. Third, the project contributed to strengthening the destination's institutional capacity for collaborative governance by demonstrating practical mechanisms through which innovation networks can be facilitated and managed.

These outcomes are particularly significant because collaborative innovation ecosystems typically evolve gradually over extended periods. Consequently, measurable improvements observed within approximately one year indicate that the EOITN interventions successfully accelerated the early stages of collaborative innovation network development in Vrnjačka Banja tourism destination.

Despite the positive developments, the follow-up analysis also demonstrates that collaborative innovation remains an ongoing process rather than a completed achievement. Several challenges remain relevant for the future development of the destination innovation ecosystem. Firstly, network continues to exhibit opportunities for establishing additional collaborative relationships, particularly among organisations located on the network periphery. Increasing stakeholder participation, expanding interdisciplinary cooperation, and strengthening links between tourism businesses and knowledge providers remain important priorities. Secondly, sustaining collaborative relationships requires continuous facilitation beyond the duration of externally funded projects. Without regular stakeholder interaction, leadership, and communication mechanisms, collaborative intensity may gradually decline over time. Consequently, collaborative innovation should be regarded as a permanent governance process requiring ongoing institutional support rather than a temporary project activity.

2.2.8 Presenting project results at the final conference in Veszprem

The final conference of the EOITN project brought together researchers, students, and tourism professionals to present the project's key achievements, exchange knowledge, and highlight the role of open innovation tourism networks in supporting sustainable destination development.

The conference featured presentations on successful examples of tourism networks operating across the Visegrad region, including the Kraków Network, Crystal Valley, and Balatoni Kör. Participants also learned about the development of a collaborative, innovation-driven tourism network in Vrnjačka Banja, Serbia. Through these case studies, the event demonstrated how cooperation among stakeholders can strengthen destination competitiveness, foster innovation, and create new opportunities for tourism development. The presentations also addressed the limitations and challenges faced by collaborative innovation networks.

In addition to reviewing the project's results, partners discussed opportunities for future collaboration and the long-term sustainability of the established networks. The conference provided a valuable platform for knowledge exchange, networking, and strengthening international cooperation among project partners and other participants.

2.2.9 Project website and results dissemination

The project website (<https://hit-vb.kg.ac.rs/eoitn/>) serves as the central online hub for presenting the project's objectives, activities, progress, and achievements to the public in a clear and structured manner. It is linked to the websites of all project partners and provides access to project reports, information about events, and the Open Innovation Platform developed to connect researchers, businesses, public institutions, and other stakeholders interested in collaborating on innovation in tourism.

In addition to the project website, the project's results and activities were promoted through the websites and social media channels of the project partners, as well as through press and television coverage.

3. Recommendations for Destination Stakeholders

3.1 Introduction

The EOITN project demonstrated that strengthening collaborative innovation networks requires the active participation of its members. Although all organisations contribute to destination competitiveness, their roles, responsibilities, and capacities differ considerably. Consequently, recommendations should be tailored to the specific functions performed by each stakeholder group rather than adopting a one-size-fits-all approach. The following recommendations are based on the empirical findings of the EOITN project, the comparative analysis of collaborative innovation networks in the Visegrad region, and the observed development of the collaborative innovation ecosystem in Vrnjačka Banja.

While primarily intended for tourism destinations, these recommendations may also support regional innovation strategies, destination governance reforms, and future international cooperation initiatives. The summary of recommendations is provided in Table 4, followed by their more detailed presentation.

Table 4. Stakeholder Responsibilities for Collaborative Innovation

Stakeholder	Primary responsibility	Main contribution
Destination Management Organisations	Network coordination	Governance, communication, stakeholder engagement
Municipalities	Strategic support	Policies, funding, institutional environment
Tourism businesses	Innovation implementation	Products, services, collaboration
Universities	Knowledge brokerage	Research, education, innovation facilitation
Tourism associations and NGOs	Community engagement	Networking, trust building, representation
Innovation centres	Technology transfer	Digital innovation, mentoring, smart solutions

3.2 Recommendations for Destination Management Organisations (DMOs)

Destination Management Organisations should assume the role of network orchestrators, facilitating collaboration among tourism stakeholders rather than acting solely as destination marketers. Key recommendations include:

- Develop collaborative innovation as an explicit component of destination strategy;
- Organise regular stakeholder forums and thematic working groups;
- Facilitate communication among businesses, universities, municipalities, and civil society;
- Use Social Network Analysis periodically to monitor collaboration and identify gaps;
- Promote joint destination innovation projects rather than isolated organisational initiatives;
- Establish mechanisms for recognising and disseminating innovative practices developed by local stakeholders;
- Encourage cross-sector partnerships that integrate tourism with culture, agriculture, technology, health, and creative industries.

By assuming a coordinating role, DMOs can strengthen trust, improve knowledge exchange, and increase destination resilience.

3.3 Recommendations for Municipalities and Policy Makers

Local governments create the institutional environment within which collaborative innovation develops. Their support is therefore essential for establishing long-term destination innovation ecosystems. Policy makers should:

- integrate collaborative innovation into local and regional development strategies;
- support multi-stakeholder governance structures;
- facilitate cooperation between public institutions and private organisations;
- provide small-scale funding for collaborative pilot projects;
- simplify administrative procedures for partnership initiatives;
- support digital infrastructure that enables stakeholder communication;
- encourage international cooperation and participation in European projects.

Municipalities should also recognise universities and innovation centres as strategic partners in destination development rather than solely educational institutions.

3.4 Recommendations for Tourism Businesses

Private tourism enterprises remain the principal generators of destination experiences and therefore play a central role within collaborative innovation networks. Businesses are encouraged to:

- actively participate in destination networking activities;
- share knowledge and practical experiences with other stakeholders;
- engage in collaborative product development;
- cooperate with educational institutions on research and innovation projects;
- participate in innovation hackathons and living laboratories;
- adopt digital technologies supporting collaboration and knowledge sharing;
- view collaboration as complementary to competition ("coopetition") rather than contradictory to it.

Particular attention should be devoted to involving small and medium-sized enterprises, which often possess considerable innovative potential but limited opportunities for structured collaboration.

3.5 Recommendations for Universities and Research Institutions

The EOITN project demonstrated that universities can function as knowledge brokers connecting public institutions, businesses, and communities. Higher education institutions should:

- facilitate evidence-based destination management;
- provide research supporting destination decision-making;
- organise innovation workshops and stakeholder training;
- integrate students into destination innovation activities;
- establish living laboratories addressing destination challenges;
- support entrepreneurship and tourism start-ups;
- monitor collaborative innovation networks through regular research.

Universities should increasingly position themselves as active partners in regional innovation ecosystems rather than limiting their activities to teaching and academic research.

3.6 Recommendations for Tourism Associations and NGOs

Professional associations, destination partnerships, and non-governmental organisations frequently possess extensive stakeholder networks and high levels of trust among members. They should:

- facilitate stakeholder dialogue;
- promote collaborative initiatives;
- disseminate examples of good practice;
- organise peer-learning activities;
- represent stakeholder interests within destination governance;
- support community participation;
- strengthen connections between tourism and local development initiatives.

Their relatively neutral position often enables them to connect stakeholders who might otherwise have limited interaction.

3.7 Recommendations for Innovation Centres

Innovation increasingly depends upon digital transformation and technology adoption. Innovation centres therefore represent valuable partners within destination ecosystems. They should:

- support digital innovation projects;
- facilitate technology transfer to tourism businesses;
- organise technology demonstration events;
- provide mentoring for tourism SMEs;
- encourage AI adoption where appropriate;
- participate in collaborative research projects;
- support smart destination initiatives.

Technology should always be introduced as an enabler of collaboration rather than an end in itself.

4. Conclusion

The comparative analysis of the Kraków Network, Crystal Valley, Balatoni Kör, and the collaborative innovation network of Vrnjačka Banja demonstrates that successful innovation ecosystems are not created by chance. Instead, they evolve gradually through continuous investment in relationships, institutional support, knowledge exchange, and collaborative governance. Although each destination possesses unique characteristics, the project identified a number of common success factors that consistently contributed to stronger collaboration and increased innovation capacity.

Across all analysed cases, collaborative innovation consistently depended on several interrelated success factors. A shared vision enabled network participants to align around common goals rather than individual interests, creating a strong foundation for collective action. Trust emerged as the fundamental condition for effective knowledge exchange and long-term cooperation, while continuous communication through regular meetings, workshops, and informal interactions sustained collaboration more effectively than isolated projects. Strong leadership also proved essential, with coordinating organisations providing strategic direction while encouraging broad stakeholder participation. For destinations seeking to strengthen innovation ecosystems, the principal lesson is clear: sustainable competitiveness is created not only through investments in infrastructure or marketing but also through investments in relationships. Building trust and long-term orientation, facilitating dialogue, encouraging joint learning, and establishing effective governance mechanisms are essential prerequisites for destination innovation.

Recommendations presented in this report offer practical guidance that extends beyond the participating countries. Tourism destinations throughout the Visegrad region (and internationally) may adapt these principles according to their own governance structures, institutional capacities, and development priorities. Importantly, collaborative innovation should not be viewed as a destination-specific initiative but as a long-term organisational capability requiring continuous investment in stakeholder relationships, knowledge exchange, and institutional learning. It is hoped that the experiences and recommendations presented in this report will encourage destinations to embrace collaborative innovation as a long-term strategic approach to sustainable tourism development and regional competitiveness.

The project also highlights several opportunities for future development. Further research may explore the long-term evolution of collaborative innovation networks, examine the role of digital technologies and artificial intelligence in facilitating stakeholder collaboration, and investigate how collaborative governance contributes to destination resilience under conditions of uncertainty. From a practical perspective, destinations should continue investing in collaborative platforms, interdisciplinary partnerships, and international cooperation while regularly monitoring the development of their innovation ecosystems through evidence-based evaluation approaches such as Social Network Analysis.

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