



Zentropy-MICE

Reshaping a new concept of MICE sustainability under an urban entropy approach to enhance the legacy to Valencia citizens and optimize energy, matter and information

Concept note for potential Transfer Partners

- Start date: December 1st 2024
- End date: May 31st 2028
- Topic: Sustainable tourism



About the project

Summary

Around 25% of travel in the world is accounted for business trips. The MICE sector (tourism related to business trips for Meetings, Incentives, Congresses & Events) has significant externalities on urban sustainability (greater volume of GHG, 30% more income than leisure tourism, longer average stay, more acquisition power, non-precarious employment) and takes place mainly in cities (>100.000 inhabit). Cities and MICE planners are concerned about reducing the footprint of events but not sufficiently attending to how to measure it and enhance the legacy for citizens, a key issue for urban sustainable tourism. Valencia, the 3rd city by MICE visitors (ICCA ranking) in Spain (3rd in the world), a sustainability best practice (2022 EU Smart Tourism Capital and 2024 Green Capital) aims to test a new MICE concept to foster connections with the city by using an urban entropy approach beyond sustainability. Reducing the level of disorder and generating exchange flows between MICE and the city, Zentropy will contribute to optimizing tourism externalities value. A new way of measuring entropy elements through an innovative calculator (measured before and after new events) and applying 9 new programs aiming at building exchange flows of the entropy elements (energy, matter & information) piloted into 2 different events (4100 visitors) hosted by the Convention Center (PdC) while a monitoring tool is launched to assess the tourist experience and data is collected for better understanding.

Partnership

- Main Urban Authority: Valencia City Council
- Valencia Conference Centre
- Las Naves Foundation of Valencia region for strategic promotion, development and urban innovation
- Technical University of Valencia
- Visit València
- Khora urban thinkers

Main challenges to be addressed

The MICE (Meetings, Incentives, Conventions, Exhibitions) sector accounts for 15-20% of world tourism. Specially developed in cities with over 100,000 inhabitants, MICE tourism has significant impacts on urban areas due to its specificities. It generates a greater carbon footprint due to a higher percentage of air travel and greater distances from tourist origins, the intensive energy consumption of MICE infrastructures, and greater volumes of internal trips in the city. Despite post-COVID digitization efforts, MICE activities largely remain on-site, contributing to prolonged stays (2-7 days) and concentrated utilization of city resources. However, the MICE sector positively affects knowledge, information, and the economy. It generates more economic revenue than other forms of tourism (3 times more spending). Nevertheless, these effects do not reverberate in the city to their full potential, and new MICE tourism profiles (millennials and GenZ) demand new interaction and emotional experiences, greater climate change awareness, and integration with local city life. Spain is the 2nd country in the world in terms of MICE events organized, only behind the USA (ICCA ranking, 2022). Valencia is the 3rd Spanish city in this ranking with 19% of MICE

tourism (Spain's average is 11%). 27% of these activities occur in its Convention Centre (Palacio de Congresos) with 135 MICE events and 116k visitors in 2022. However, Valencia's population does not tap into the positive impacts of the MICE sector, as the Palacio is an isolated element for the city. Traditional tourism sector research on impacts only considers emission sources and economic revenues but urban areas are exchange systems, generators, and hosts of human activity impacts. Entropy research focuses on the energy, matter, and information exchanges in balanced systems (2nd Act of Thermodynamics) as cities are. Thermodynamic systems, like cities, continuously exchange elements, but if these exchanges turn inefficient, the system quickly deteriorates, increasing entropy. These exchanges can be highly inefficient, needing higher amounts of matter and energy to remain balanced. The closer and the more links between system elements exist, the more efficient the system is, and the increase of entropy tends toward zero. Valencia seeks to apply an entropy approach (energy, matter, and information) to the MICE sector to use it as a trigger for the city's socio-economic development and green transition.

Proposed solution

Valencia wants to develop a new congress model with minimal entropy growth by organizing energy, matter, and information (E+M+I) flows between the MICE ecosystem and its host community while enhancing the system's complexity. Thus, Zentropy reduces negative impacts (carbon footprint and resource consumption) and boosts positive impacts (legacy and information sharing). To this end, an entropy calculator will be developed to compare congresses before and after putting in place dissipative structures (E+M+I programs) to favor exchanges with the city and reduce entropy. To define this methodology, we will consider the internal practices of the Palacio de Congresos (PdC) and the opportunities to generate urban exchanges. To ensure the continuity of the quality of the service and the adaptation of the project to their needs, we will characterize the MICE tourist and its tourist experience. Once the methodology has been defined, we will measure the entropy in two congresses at present and define guidelines to be followed for a MICE entropy 0 system. The MICE-Valencia dissipative structures (E+M+I exchange programs) seek to make the relationship between the MICE system and the city more complex, increasing the number of exchanges and reducing the loss of resources. These exchanges are structured around the 3 entropy libraries. ENERGY: programs E1 and E2 will transform the MICE infrastructure into a space for the city's carbon footprint reduction through sustainable mobility (favoring the use of public transportation and offering PdC's parking lot as a park-and-ride facility) and efficient and renewable energy (reducing PdC's consumption, developing self-consumption and creating an energy community with a nearby school). MATTER: programs M1, M2&M3 will improve PdC's circularity by reducing food waste and collaborating with local stakeholders for waste reuse (compost for local schools and recircularization of wood, carpet, and advertising canvas for future congresses or other purposes). INFORMATION: programs I1, I2, I3 and I4 will promote information exchange and legacy, beyond the current social approach, with citizens (empowerment and awareness), knowledge institutions (collaboration opportunities), local businesses (opportunities), tourism SMEs and destination managers. Once the design of the programs is completed, we will measure the entropy in two congresses where they will be implemented to assess the entropy level and a scalability model for other events

Transfer of the innovative solution

Transnational transfer is a mandatory aspect of every European Urban Initiative (EUI) – Innovative Actions (IA) project, aiming to enhance the innovation capacity of cities serving as Transfer Partners (TPs) and to increase the adaptability and transferability of innovative solutions to other EU urban areas. This component supports the Main Urban Authority (MUA) and three TPs from different Member States in considering the transfer and scaling of innovative practices.

What are we looking for in transfer partners

Some aspects we will consider to select the transfer partners are:

1. **A consolidated MICE activity and business tourism** (addressed by the ICCA International Congress and Convention Association ranking: 32 EU cities are among the MICE Top 50 in the world by number of international events, some of them located in less developed or in transition regions);
2. Cities interested in **tourism sustainability and innovation** (such as the European Capitals of Smart Tourism 2023 and 2024 shortlisted capitals or cities belonging to the Sustainable Tourism Partnership of the European Urban Agenda) and
3. Urban areas with **large, singled-use MICE infrastructures** (Fairs, Congress Buildings...) **embedded in consolidated urban environments**. These 32 EU countries have urban areas with similar characteristics or situations:
4. Cities that have already made progress on the **urban sustainability model** with a relevant background in research related to infrastructure use optimisation (detected through C1.5 research). Most MICE tourism best practices focus on the environmental pillar of sustainability, while only a few identified European urban areas consider legacy or take a more holistic perspective.
5. Transfer Partners Cities should meet criteria related to specific **EU development classification**: they should be located in less developed or in transition areas (2/3 TP).

Key Principles of Transfer Cooperation in EUI-IA Projects

The transfer component aims to prepare TPs for replicating innovative solutions and to enhance their innovation potential. This includes understanding both the practice (innovative solution) and the process of developing urban innovations.

The outcome of transfer cooperation varies: some TPs may replicate the entire innovation, while others may adapt selected elements. TPs are encouraged to challenge the status quo and explore ambitious adaptations beyond the easiest elements.

TPs should use the transfer cooperation to learn about the innovative solution, adapt it locally, and plan future implementations. This also includes increasing their readiness and capacity to innovate by observing the MUA's processes.

A key objective is to increase the transferability of innovative solutions by identifying and explaining necessary conditions, resources, and other factors for successful implementation. This includes disseminating information to a broader EU urban audience.

Transfer Expert

Each IA project will have a Transfer Expert to advise on transferability, guide the project, and support the Permanent Secretariat in monitoring the transfer cooperation. These experts collaborate with IA Experts to ensure effective implementation. This holistic approach to transfer cooperation aims to maximize innovation, adaptability, and practical implementation of urban solutions across different EU member states.

Budget

Each TP will receive a fixed lump sum of EUR 150,000 (EUR 120,000 from ERDF and EUR 30,000 as own contribution). This lump sum will cover key expenses including:

- Staff costs involved in transfer cooperation.
- Travel costs for site visits and partnership meetings.
- Preparation of obligatory deliverables and outputs.
- Preparatory works for transferring the innovative solution (external expertise, investment documentation, pilot investments, local co-creation activities).
- Communication activities.

Stages of Transfer

Before the Start

- WP Transfer Timing: Starts latest 12 months after the IA project begins (December 2025) and lasts until the Implementation phase ends (May 2028).
- Initial Year Tasks:
 - Finalize formal aspects of transfer cooperation (Partnership Agreement, financial, organizational).
 - Jointly prepare the Work Package Transfer (objectives, activities, roles, approval from Permanent Secretariat).
 - Establish a shared project culture.
- Approval: Draft WP Transfer must be approved by the Permanent Secretariat before implementation.

Stage 1: Making Sense of the Concept

- Objective: Ensure TPs understand the innovation concept and establish a working culture.
- Duration: ~3 months.
- Activities:
 - Introduce TPs to the innovation concept.
 - Establish cooperation culture and operational aspects.
 - Conduct an obligatory Opening Site Visit (1.5-2 days) for immersive learning.
- Output: Transfer Expert produces an Innovative Solution ID Card post-visit.

Stage 2: Local Lift Off

- Objective: Reflect on IA project learnings and assess transfer feasibility.

- Duration: 6-9 months.
- Activities:
 - TP's individual assessment (Transfer Capacity Survey, SWOT analysis).
 - Develop individual roadmaps.
- Output: Each TP completes a Transfer Capacity Survey, SWOT analysis, and individual roadmap.

Stage 3: Feasibility Testing

- Objective: Deepen practical readiness for transferring the innovative solution.
- Duration: Minimum 18 months.
- Activities:
 - Deep dive into the innovative solution.
 - Implement individual roadmaps.
 - Conduct a Deep Dive Site Visit.
- Output: Each TP prepares a Transfer Study to assess feasibility and opportunity.

Stage 4: Preparing for Transfer

- Objective: Conclude activities, summarise the transfer journey, and prepare final outputs.
- Duration: ~6 months.
- Activities:
 - Summarize IA project implementation and lessons learned.
 - Conduct a Closing Site Visit.
 - Finalize Transfer Capacity Survey and Transfer Study.
 - Prepare EUI-Innovative Solution Model.
- Output:
 - EUI-Innovative Solution Model. (responsability of MUA)
 - Exit Transfer Capacity Survey. (TP)
 - Final Transfer Study. (TP)

Overview of the Transfer Stages

A visual overview summarizes the stages, pre-defined deliverables, and timing of site visits.

