17th International NECTAR Conference
Brussels, Belgium, 3 - 5 July 2024

Mobilizing Stakeholders through Transport Digitization

Call for papers for the thematic session of Cluster 8 - ICT

Recent advancements in Information and Communication Technologies (ICTs) have ushered in a wealth of mobility-related data and information sources. These ICT innovations facilitate the collection of both passive and active mobility data through various new sensors, platforms and services, including mobile phone networks, sensor networks, smartcards, apps, games and social media, among others.

Smart cities are anticipated to harness this data to inform stakeholders, provide comprehensive reports, monitor mobility trends, and empower policymakers to make informed decisions that foster efficiency, sustainability, resilience, and equity. Nevertheless, data is merely a raw resource that necessitates substantial analysis to transform it into actionable information and knowledge.

The realm of mobility datasets has witnessed exponential growth in terms of quantity, volume, velocity of data generation, and the diverse types of data available. Yet, issues such as data fragmentation and concerns regarding data veracity (representativeness, completeness, privacy) pose challenges in optimizing its use.

This data has shown to be valuable for public (e.g. road authorities) and private parties (e.g. service providers) providing decision information on strategic as well as operational level. In addition, the rapidly evolving mobility-as-a-service — MaaS — architecture presents fresh challenges in seamlessly integrating physical and digital services for travellers (aka digital twins). Furthermore, ICTs can be used as participatory tools, to involve citizens / communities to improve understanding and create support. Therefore, the focus extends beyond data availability to include the methods and tools required to convert this data into valuable domain knowledge facilitating decision making for all stakeholders as well as stakeholder participation. These tools encompass various machine learning algorithms and explainable artificial intelligence (XAI), among other innovative techniques like augmented reality (AR), virtual reality (VR) and gamification.

In this call for papers, we invite contributions ICT based innovative methods, platforms, tools that could help stakeholders in making more data-driven and inclusive decisions. While the following examples are not exhaustive, they offer potential avenues of exploration:

- Innovative approaches to analyze large scale mobility data.

- Strategies for overcoming data fragmentation and ensuring data integrity.
- Integration of physical and digital services within the evolving mobility landscape.
- Applications of machine learning algorithms and explainable artificial intelligence in the context of mobility.
- Case studies showcasing successful data-to-knowledge transformation in mobility-related domains.
- Development of innovative visualisation or storytelling tools using for example digital twins.
- Development and usage of digital participatory tools using for example cloud technology, virtual reality/augmented reality, games, apps.

Deadline for abstract submission

January 31, 2024. Abstracts (max. 500 words) should be submitted electronically, using the form available on the conference website and following the instructions found there: https://mobilise.research.vub.be/nectar-conference-2024-general-call-for-papers

A copy of the abstract should also be sent to Luc Wismans (lwismans@goudappel.nl) and Siiri Silm (siiri@ut.ee).

Criteria for acceptance

Criteria for acceptance are scope, scientific quality, NECTAR membership and the possibility to fit the presentation in a coherent conference session. The number of participants of this thematic session will be limited to 8.

Venue

The NECTAR conference will be organized by the Vrije Universiteit Brussel and hosted on its campus.

Participation and NECTAR membership

Registration, meals, and accommodation for one night will be offered to NECTAR members, for only one author per paper. One night of hotel accommodation will be offered to participants who have confirmed their participation before April 30, 2024. One night of hotel accommodation might be charged in case of late cancellations. All practical details will be communicated through the conference website. In order to participate in the conference, a consecutive and current two-year NECTAR membership is necessary (2023-2024). Non-members can find details of how to join the association on the "Membership" page of NECTAR's website: www.nectar-eu.eu/membership.

Important dates:

Abstract submission: Jan 31, 2024
Notification of acceptance: Feb 29, 2024
Confirmation of attendance: April 30, 2024

We look forward to seeing you in Brussels!

Cluster 8 co-chairs

Eran Ben-Elia, Ben-Gurion University of the Negev
Siiri Silm, University of Tartu
Tuuli Toivonen, University of Helsinki
Luc Wismans, University of Twente

NECTAR is a European-based scientific association. The primary objective is to foster research collaboration and exchange of information between experts in the field of transport, communication and mobility from all European countries and the rest of the world. It is a multidisciplinary social science network bringing together a wide variety of perspectives on transport and communication problems and their impacts on society from an international perspective. For further information on NECTAR, use the link: http://www.nectar-eu.eu.