

## LINKING TRANSNATIONAL, MULTIMODAL TRAVELLER INFORMATION AND JOURNEY PLANNERS FOR ENVIRONMENTALLY-FRIENDLY MOBILITY IN THE DANUBE REGION

### Goal of the project

There is a huge cross-border travel demand within the EU leading to hundred millions of cross-border trips every year by EU residents and further several hundred million trips by international tourists. More than 100 providers of traveller information services exist in Europe covering different levels, from local to regional, national and pan-European. The goal is to work on the inter-linking of existing services in order to enable transnational journey planning that goes beyond the territory covered by the single systems and offers travellers one seamless journey planning result.

### Short description of the project

The objective is to develop a decentralised system architecture that enables distributed journey planning.

### Project implemented by

An international consortium of journey planner- and transport operators in the frame of the INTERREG project "LinkingDanube" from Austria, Czech Republic, Hungary, Slovakia, Slovenia and Romania (with two partners, UPT and Electronic Solutions Ltd.)

### Implementation period

01.01.2017 – 30.06.2019

### Main activities

In particular the main objective is to develop a decentralised system architecture that enables distributed journey planning. By developing and establishing a common interface at each of the involved systems, the exchange of requests and results (not data) will be facilitated. The multiple responses of the involved systems have to be merged by means of an intelligent journey planner algorithm. The involved systems will engineer an application programming interface (open API) that allows bi-directional communication of the enquirer system (the system requesting information from other systems) and the responding systems. A common exchange specification will be developed that all participating systems will implement. Besides the method of implementing common gazetteers and exchange points within the distributed system will be one of the crucial points.

### Results

The actual development work of LinkingDanube will be done both on national level in a decentralised adaption of the national journey planners as well as on central level in setting up a central entity. In the end this means that national services will be able to "plug into" a common interface and provide seamless information from multiple

systems to cross-border travellers. After implementation and testing, the technical feasibility will be demonstrated for the respective regions in relevant use cases.

The pilot action will demonstrate, test and validate the developed concept and demonstrate how integrated journey planning helps to connect citizens and commuters across borders and rural regions to major hubs. In this way the demonstrations will be the basis for further large-scale implementation.

### Applicability and transferability of the results:

A central focus of LinkingDanube is the development of a concept for transnational multimodal journey planners in order to integrate the advantages of hub-to-hub-routing with local routing for cross-border regions and the elaboration of technical specifications for interface and data exchange. This concept shall build on existing structures in the partner countries, enhancing existing journey planners instead of creating a completely new structure and is completely transferable.

### Financed through/by

Co-funded by the European Union through the Joint Secretariat of the Danube Transnational Programme

### Research team

Assoc. Prof. Dumitru IANCULUI, PhD  
Assist. Prof. Attila GÖNCZI, PhD  
Assist. Prof. Sorin NANU, PhD  
Assist. Prof. Octavian STEFAN, PhD.

### Contact information

Assoc. Prof. Dumitru IANCULUI, PhD  
Faculty of Mechanical Engineering  
Department of Mechanical Machines, Equipment and Transportation  
Address: Bv. Mihai Viteazu No.1, 300222, Timișoara  
Phone: (+40) 256 404 294  
Mobile: 0744 780 588  
E-mail: dumitru.iancului@upt.ro  
Web: <http://www.mec.upt.ro>