Interreg
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Danube Transnational Programme
OJP4Danube

OJP4Danube

Newsletter #2

September 2021

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Dear Readers,

It is our pleasure to launch the second issue of OJP4Danube Newsletter. With each new issue, we will try to enhance the exchange of significant information on our common multimodal cross-border trip within the OJP4Danube project.

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Welcome from UNIZA

The Department of International Research Projects – ERAdiate+ at the University of Zilina (UNIZA) has been set up as a follow-up to the successfully completed FP7 pilot ERA Chair project ERAdiate (Enhancing Research and Innovation Dimension of the University of Zilina in Intelligent Transport Systems). This is a small but dynamic and experienced international team engaged in a wide range of interdisciplinary R&I projects in the areas of Co-operative and intermodal ITS, Digitalisation and Decarbonisation of passenger transport systems, smart and sustainable mobility transitions, and traveller behaviour analysis.

Within OJP4Danube, UNIZA is a part of the Core Development Team (CDT) of the Open Journey Planner (OJP) solution. We led the ex-ante analysis and the use case definition tasks with a specific focus on cycling and rail integration. The key features that emerged from this research serve as groundwork for designing both the user interface and the back-end specifications, and ultimately, to provide recommendations on expanding the OJP4 standard to better support public transport and active mode integration across Europe. UNIZA is also in charge of the ongoing task regarding user experience design and user interface requirements. Additionally, UNIZA is guiding the Communication work package (including newsletters) and will contribute to the preparation of the demonstration pilots and testing the final solution into a real life.

What do we expect from the OJP4Danube project? At an organizational level, UNIZA will benefit from participating in OJP4Danube in several ways. The team will further develop its knowledge of cross-border and cross-organisational coordination mechanisms required for enabling multimodal mobility, and it will apply and enhance its design competences in web- and smartphone-based ITS solutions. UNIZA will also profit from strengthening its collaboration with public transport providers in partner countries. At a national level, the UNIZA participation in the project will enable Slovakia to benefit from better travel information and services with its neighbours in the Danube region. We also believe the project will support the promotion of more environmentally friendly cross-border traveling in Slovakia.

Sincerely Yours,

Prof. Tatiana Kováčiková, PhD.
Head of ERAdiate+ at the University of Zilina, Zilina, Sovakia

OJP4Danube Current Status: Outputs and Deliverables of WPs (April – September 2021)

- **WP T1: A.T1.2 — Developing the Organisational Architecture of OJP by ATE, Vienna, Austria**

In addition to a resilient technical architecture, an organisational architecture must be developed to complement the technical components and to ensure a sustainable and smooth operation of the OJP4Danube service also beyond the project period.

As part of WP T1, an organisational architecture was drafted within D.T1.2.1 – Transnational operational and organisational architecture for transnational information exchange. In this Deliverable, all relevant elements of the organisational architecture were discussed, including the stakeholder and governance structure, organisational processes, and collaboration structures.

Since the technical development of the OJP4Danube service is continuously progressing, this Deliverable is considered as a starting point and must be adjusted regularly. Notably, the implementation phase in WP T3 is expected to provide significant input for an optimisation of the organisation architecture.

Also, as a part of WP T1, the future adopters' needs in the Danube Region regarding OJP deployment have been discussed within D.T1.2.2 – Future adopters' needs in the Danube Region. This Deliverable analyzes the requirements and national environments of Croatia, Moldova, Serbia, Bosnia and Herzegovina and Montenegro and proposes the continuation of dissemination activities in these countries during the next period of the project development.

The findings of these two deliverables will be combined and processed, elaborating a deployment strategy for OJP, which will be outlined in the Output O.T1.1.

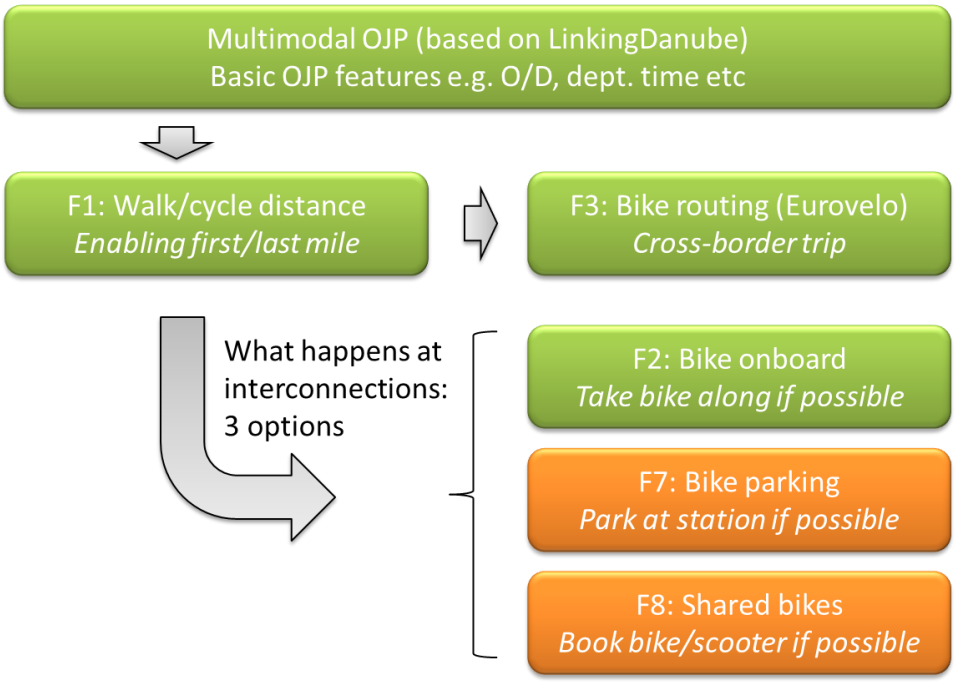
- **WP T2: Elaboration of Multimodal OJP at UNIZA, Zilina, Slovakia**

In the previous period leading to the first newsletter, we took the time to review a wide range of features and use-cases relevant for integrating eco-friendly mobility with public transport across the six participating Danube region countries. In this last period, we in the core development team (CDT) analyzed in more detail (together with all six transport information service providers –TISPs) the implementability and interoperability challenges of such features.

The biggest technical challenge is the need to implement first- and last-mile connectivity across borders, particularly in terms of ensuring the necessary cross-border hubs – called 'Exchange Points' – which are provided and dynamically selected by the Central OJP Router. This is needed to ensure cross-border journey planning should function seamlessly for the user. The second challenge is to enable user interface features that are relevant for travelers, while at the same time keeping compatibility with the OJP4 data standard.

For this reason, the CDT team recommended to keep the following most critical features:

- **Multimodal OJP:** All the basic functionalities required by a standard journey planner tool, basis for implementing additional features to support eco-friendly modes (Features 1-7)
- **Feature 1**: Accommodate trips that include a portion done by eco-friendly (active) mode like walking or cycling, and allowing the user to specify preferred or maximum distances and speeds
- **Feature 3**: Support cross-border bike routing which could overlap with existing EUROvelo routes. If possible and data is available, we will consider the option of labeling explicitly EUROvelo routes where relevant but offering EUROvelo as an input option to the user was cancelled due to the routing complications this caused.
- **Feature 2**: Enable the option 'Bike-on-board'. The first of three options take place at public transport transfer points: in this case, the traveler decides to embark on a motorized public transport together with his/her bicycle, which is used for the first and last mile of a trip.



- **Features 7 and 8** are nice-to-have as alternative options from the user perspective, i.e., the option of parking one's bicycle at the station instead of taking it onboard, or the option of renting a shared bike or scooter at some destination to complete the last leg of a commuting or tourism trip. More complex features such as Feature 4 on the type and quality of the cycling infrastructure; Feature 5 on providing topographical (ascent) information, and Feature 6 on public transport interchange facilities were dropped due to data availability and data standard challenges.

Ultimately, the user experience design for the above features will now set up.

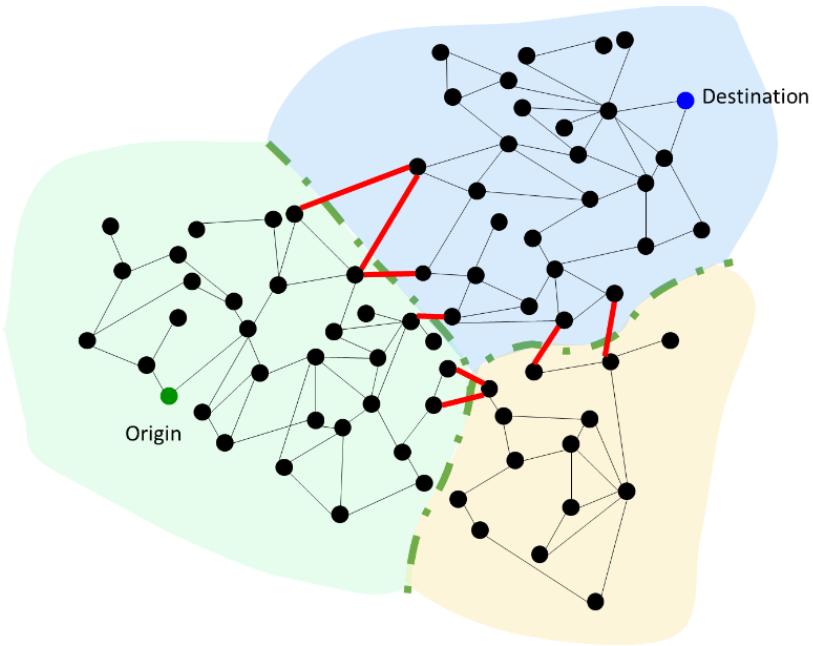
- **JP4Danube — Project Reinforcement at the Institute for Computer Science and Control, Budapest, Hungary**

To provide seamless information for the travelers, an effective transnational door-to-door journey planner is required where information from different operators, combined solutions, and value-added parameters appear in a realistic environment. The elaborated output related to the method development of the OJP4Danube project was aimed at finding a proper way of creating a routing option for multimodal transport networks connecting separate systems.

The proposed algorithm extensively supports improving mobility and intermodality. Hence, one of the goals of the development was to provide a seamless multimodal route planning solution. The elaborated method exactly realizes this by identifying the potential exchange points between separate networks, by filtering the suitable exchange points to run the routing algorithm between the local journey planners, and by introducing a utility function to rank the listed alternatives.

The proposed solution is built on a flexible heuristic algorithm which parameters can be easily updated and extended. In case of any changes, using the formulated theoretical background, a constantly up-to-date and realistic implementation can be derived from the foundations of the framework. In addition, the elaborated method is fully capable to cover wide geographical areas and to provide a transferable solution which can be applied by any traveler information service provider.

This solution has extensive benefits regarding the traveler's experience by supplying value-added information service when planning international routes with different transportation modes. The elaborated method enables a traveler to choose sustainable transportation modes and hence has an additional positive effect on the environment. As a result, a modal shift can be realized with soft initiatives being usually much cheaper and more efficient than hard initiatives.



- **OJP4Danube — Project Implementation at KORDIS JMK, Brno, Czech Republic**

In the South Moravian Region, the project partner KORDIS JMK keeps on implementing the project. The positive news is that the tender for the supplier of the necessary software modifications has been completed. The supplier will provide not only public transport timetables, but also some other transport modes – pedestrian and bicycle transport. This supplier will start work soon and will be built on the completed outputs of the OJP4Danube project.

- **OJP4Danube — Project E-learning Webtool at the University of Maribor, Maribor, Slovenia**

Framed within **Work Package 4** and devoted to the transfer of the know-how and the OJP4Danube approach to future adopters, the e-learning webtool will provide a platform for information and educational training on Open Journey Planning and the OJP4Danube approach. The OJP4 Danube e-learning webtool will serve, not exclusively, current and future adopters, OJP implementers and developers, infrastructure and (public) service providers, local, regional and national public authorities, and higher education and research institutions.

Being now built and prepared, the e-learning webtool will serve as a knowledge portal that can encourage the implementation of the developed OJP4Danube multimodal cross-border travel information system in other countries. The Faculty of Civil Engineering, Transportation Engineering and Architecture of the University of Maribor is guiding its preparation and development being supported by the remaining academic and research-oriented partners, ICS, UNIZA, PUT, ZITS and KHM. Content-wise, the webtool will host knowledge on the OJP Standard and its real-life application in the OJP4Danube service, policy background and connections with Public Transport EU Standards, such as Transmodel and NeTEx. The webtool will be built fully considering the requirements, guidelines and recommendations specified in the D.T4.1.1 report on the set up of the e-learning webtool for OJP, which covers the overview of the chosen solution, a synopsis of the content, related features, and technical aspects. The e-learning webtool will be available through the domain **ojp4danube-edu.net**, expected to be in function in December 2021.

Figure 1 - Conceptual mockup of the OJP4Danube e-learning webtool

Prospective Project-related Events and Activities (September – December 2021)

- **SCOM & OJP4Europe upcoming events**

3rd SCOM

The 3rd SCOM (Steering Committee Meeting) of OJP4Danube will be held **on 21st of September** on Zoom in combination with the OJP4Europe event. If you are interested to participate in this event, please register at ojp4danube@austriatech.at, stating the name(s) of the participant(s) and indicating whether you would like to join the meeting virtually.

OJP4Europe

Over the last past years, the relevance of the OJP standard as enabling tool to connect Europe has rapidly gained momentum.

To foster knowledge exchange and strengthen the collaboration between the key OJP-based journey planning networks across Europe and even beyond, AustriaTech is organising the **OJP4Europe** meeting in Vienna. This **OJP4Europe** meeting is a cross-project meeting which will bring together the consortia of the Interreg projects **OJP4Danube** and **LinkingAlps** as well as involve representatives of **EU-Spirit**.

The **OJP4Europe** will take place **on the 22nd of September 2021** due to Covid-19 restrictions via Zoom only.

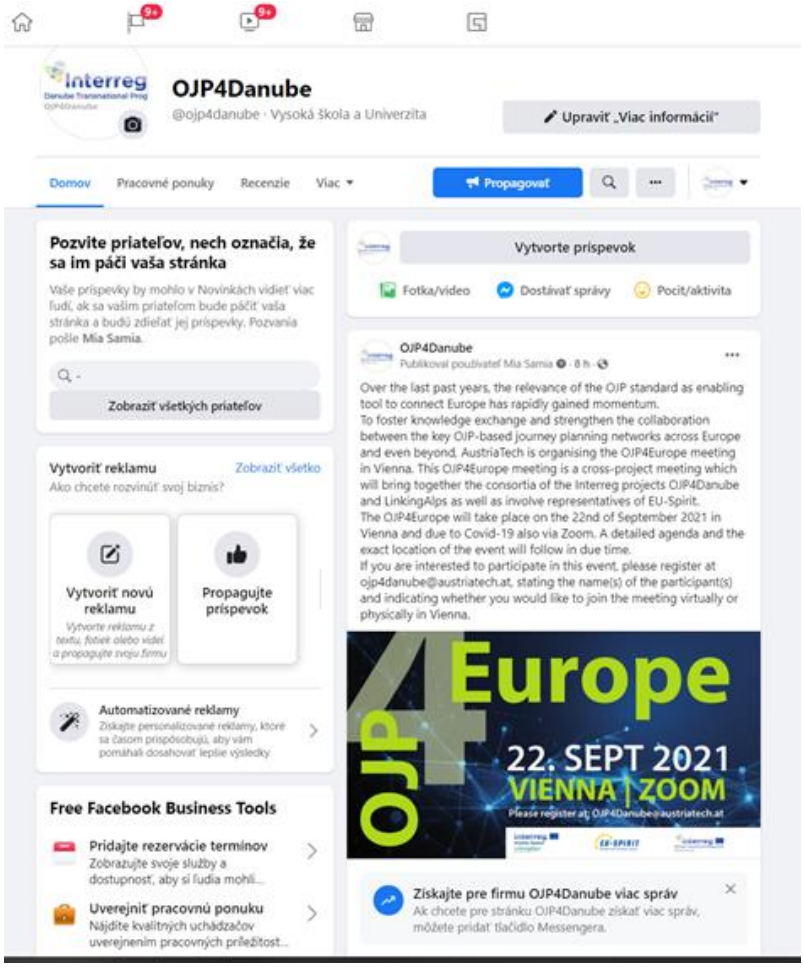
If you are interested to participate in this event, please register at ojp4danube@austriatech.at, stating the name(s) of the participant(s) and indicating whether you would like to join the meeting virtually.

OJP4Danube Social Media Channels

The OJP4Danube website serves as a dissemination and communication instrument for the project. The project website is envisaged as the main gateway to the outside world, including key project information.

The project website is hosted by INTERREG DTP platform.

Every month the UNIZA Communication Team publishes a story about one of the partners of OJP4Danube on its social media. You can also find all current and prospective events on our Facebook and LinkedIn channels. See the latest posts here:



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