

# OJP4Danube

## Linking of Services

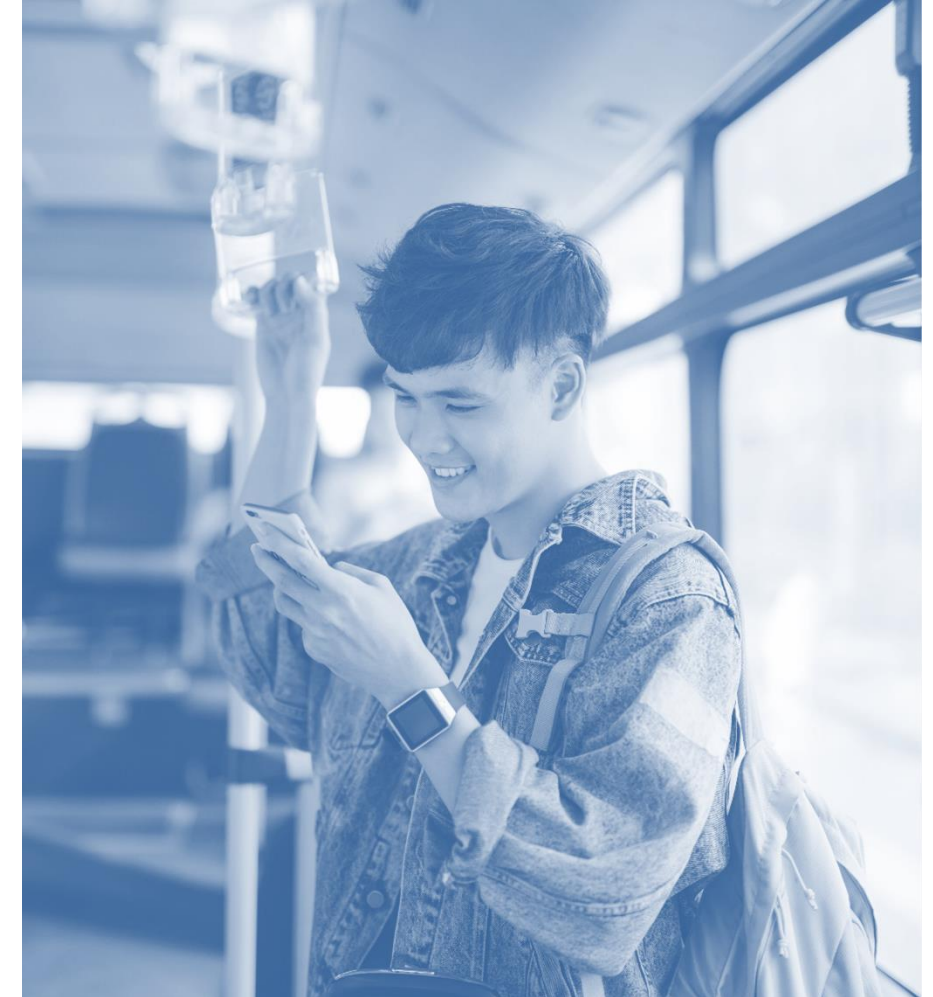
Towards a multimodal, cross-border traveler information network for the Danube Region

# The changing mobility needs

---

digitalisation  
connectivity  
automation  
sharing  
usage

---



# Mobility Services

## **Build on Information which is**

- Reliable
- Accurate
- Consistent
- Relevant
- Ubiquitous



## **Across different**

- Transport Providers
- Transport Modes
- Output Channels
- Borders

# The Evolution of Mobility Systems



# Linking of Services



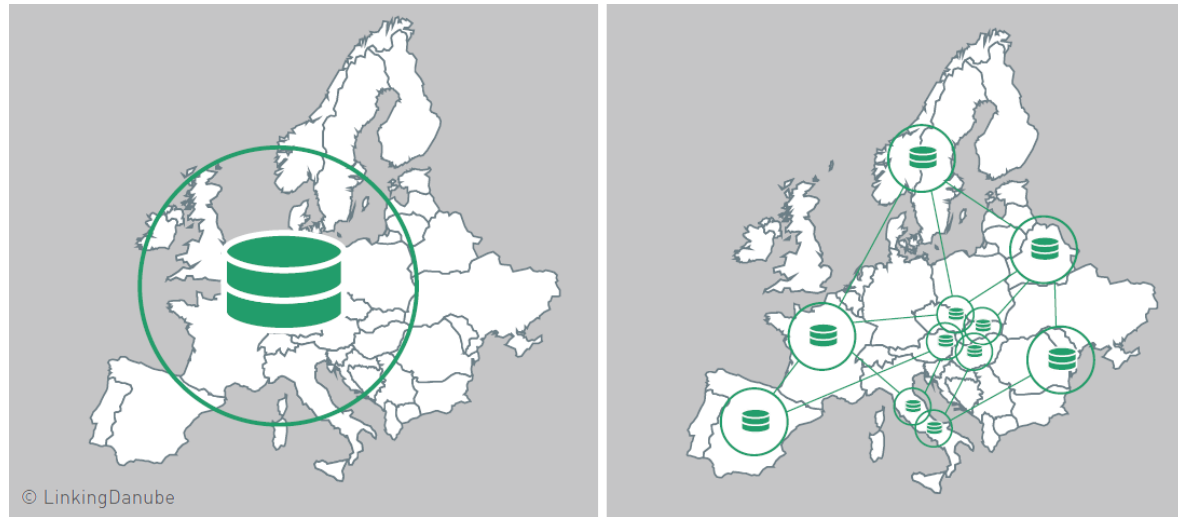
---

data  
services  
standards  
interfaces

---

# The Linking of Services Approach

**‘Linking of Services’ refers to the technical linkage of systems or services through interfaces (APIs)**



**Case of Journey Planning**

# The Linking of Services Approach

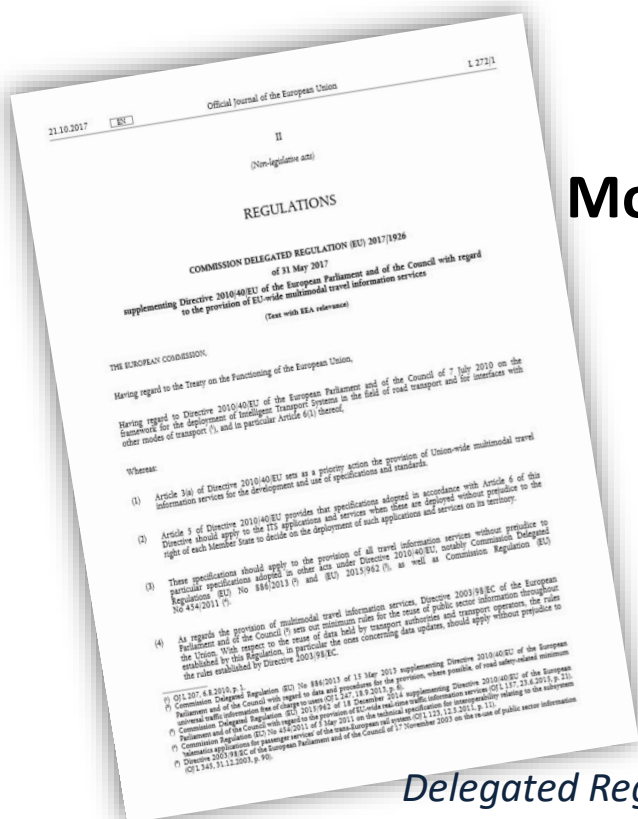
## Motivators

### Motivator 1 – No Seamless Journey Planning

- **No universal multimodal travel information system** (cross-border, operator-spanning) for public transport, rail, alternative mobility offers
- **Isolated travel information with local or regional focus**, without cross-border and cross-operator information
- **No door-to-door routing with possible for longer journeys** (integrating long-distance transport)

# The Linking of Services Approach

## Motivators



## Motivator 2 – European legislation & CEN Standard for ‘Linking of Services’

### Article 7

### Linking travel information services

*Delegated Regulation 2017/1926 Provision of EU-wide multimodal travel information services*



*CEN/TS 177118 Public Transport –Open API for distributed journey planning (2017)*



# The Linking of Services Approach

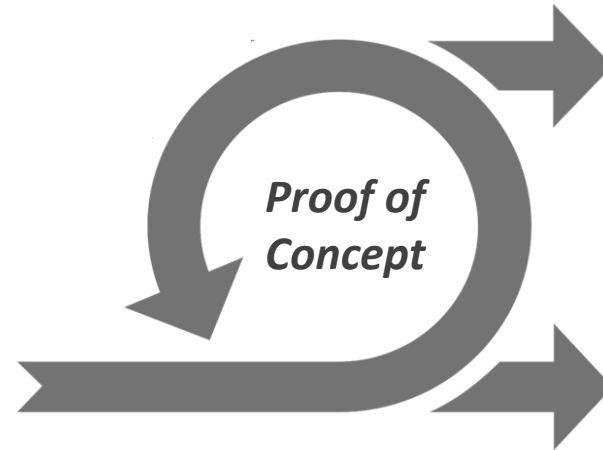
## Motivators

### Motivator 3 – Missing Viable Concepts for EU-wide Travel Information

- **Data Sovereignty** concerns as increasing hindering factor for centralized solution
- **Third party driven** innovation landscape
  - ⇒ new services are developed instead of innovating existing services

# The Linking of Services Approach

## Lead Projects – Linking Services across Europe



# The Linking of Services Approach

Project co-funded by the European Union



Linking multimodal travel information  
services in the Danube Region

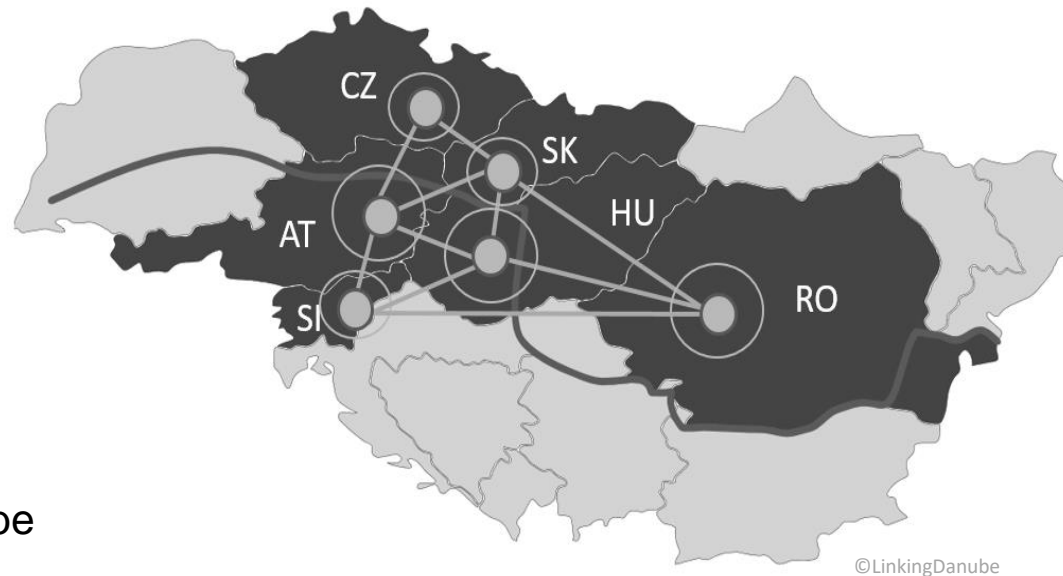


# Linking of Services

INTERREG Danube Region Program  
2017 – 2019 (30 months)

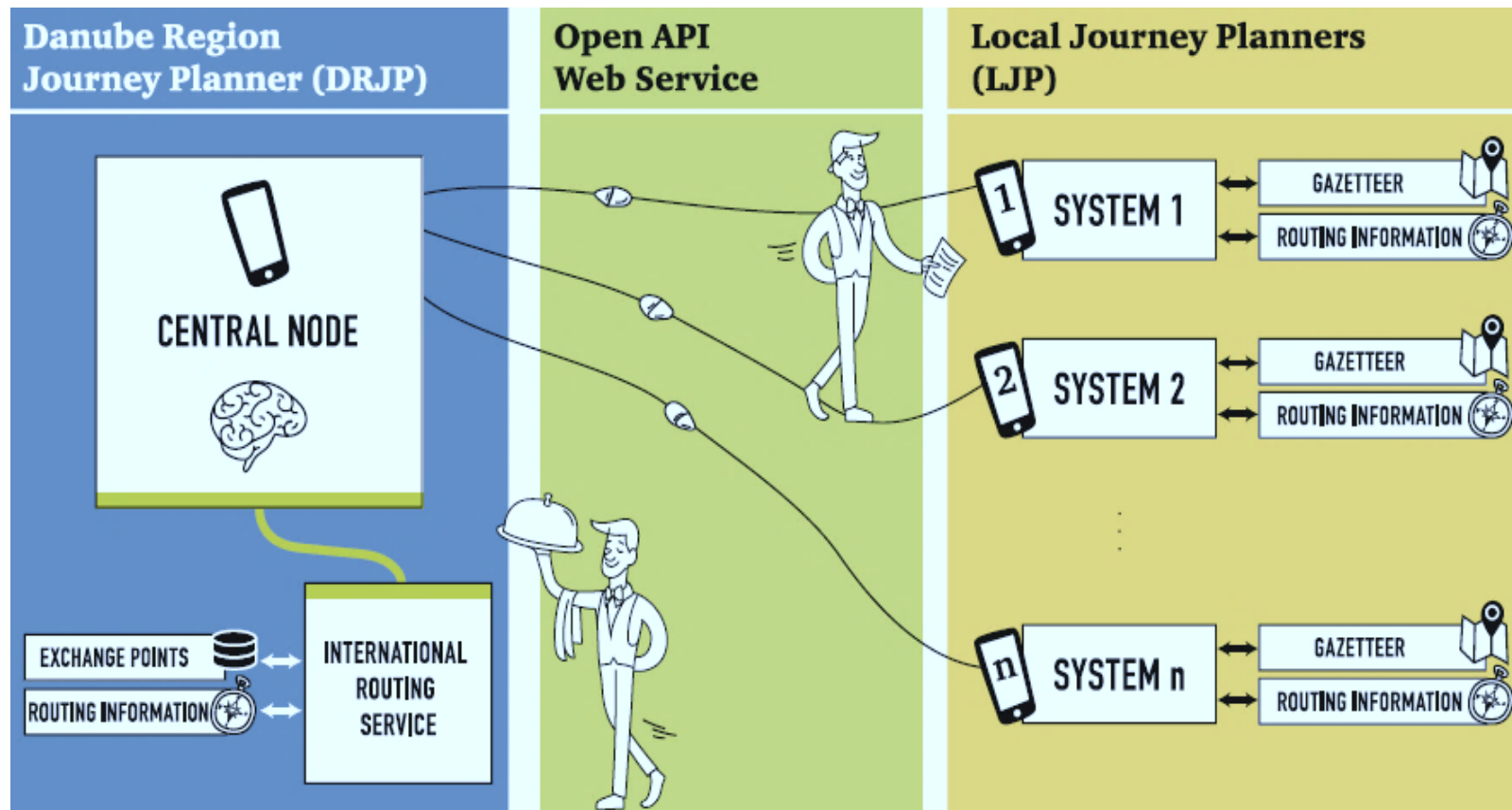
- 10 Project Partners
- 6 Danube Region Countries
- 6 Existing travel information services/ journey planners

Linking transnational, multimodal traveller information and journey planners for environmentally-friendly mobility in the Danube Region



# Linking of Services

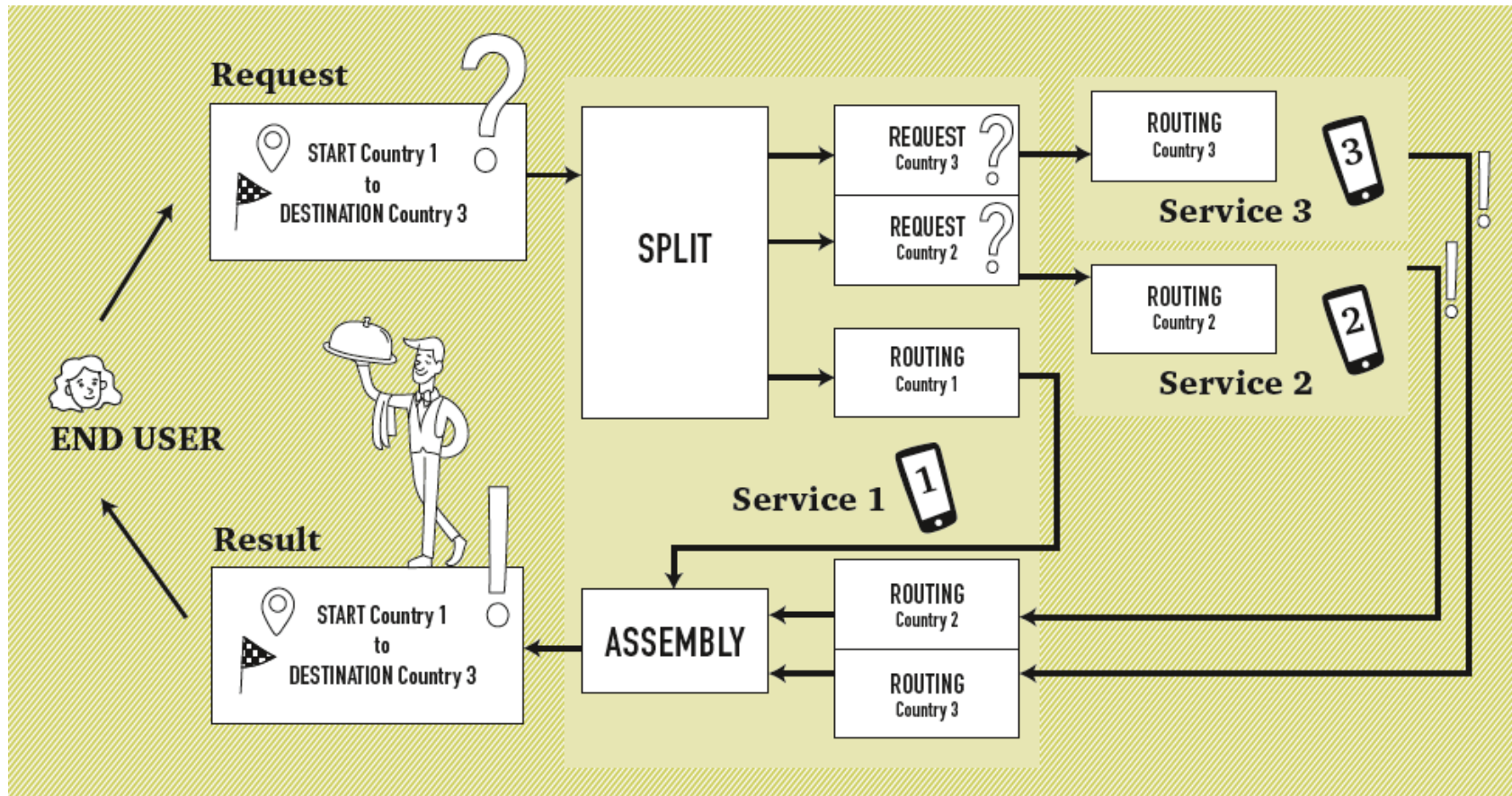
## Centrally Distributed Approach – Service Architecture





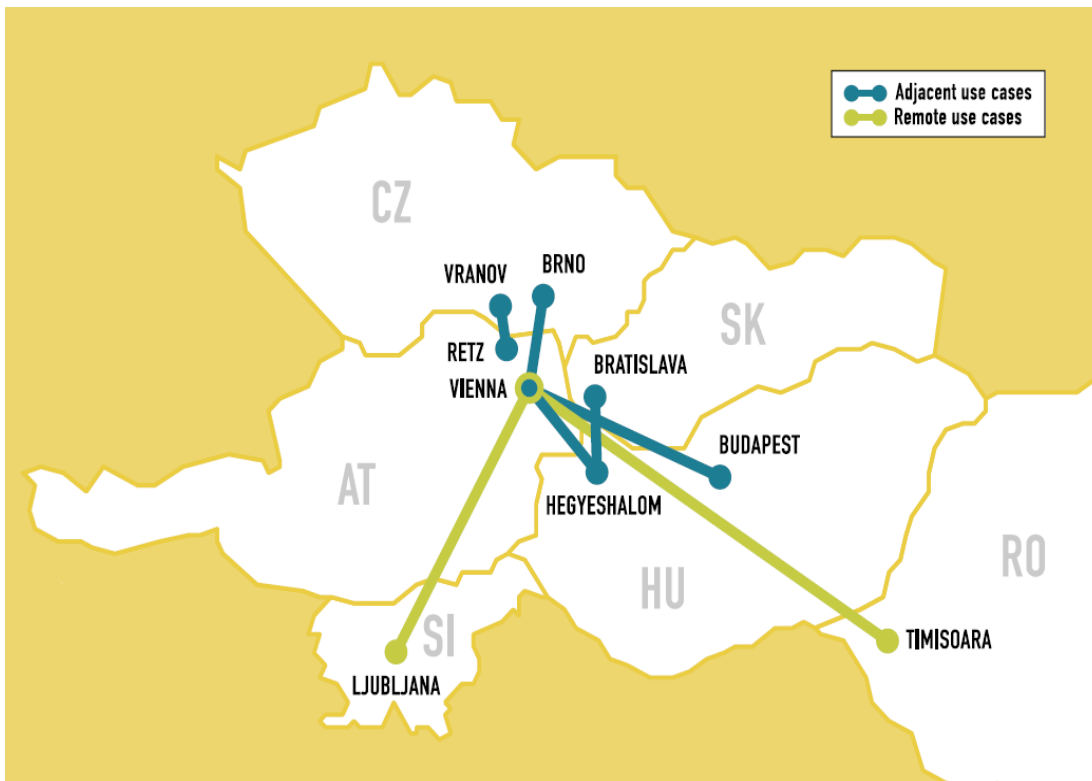
# Linking of Services

## Centrally Distributed Approach – Split and Assembly of Requests



# Linking of Services

## Output & Learning of LinkingDanube



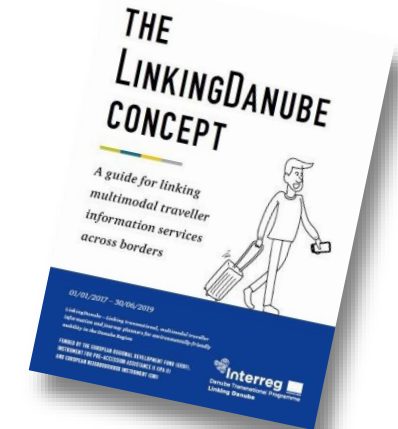
### Enhance the connectivity and accessibility

- **Danube Region Journey Planner**  
a decentralized (pilot) network of inter-linked journey planners in 6 countries
- **Danube Scout**

### Increased efficiency & organisation of the multimodal network

- **Concept** on 'Linking of Services'
- Transnational **Pilot Action**

**Proof-of-concept**



# Linking of Services

**From the 'Proof of Concept' of Linking of Services Approach  
to an Operational Service**



# OJP4Danube - Overview

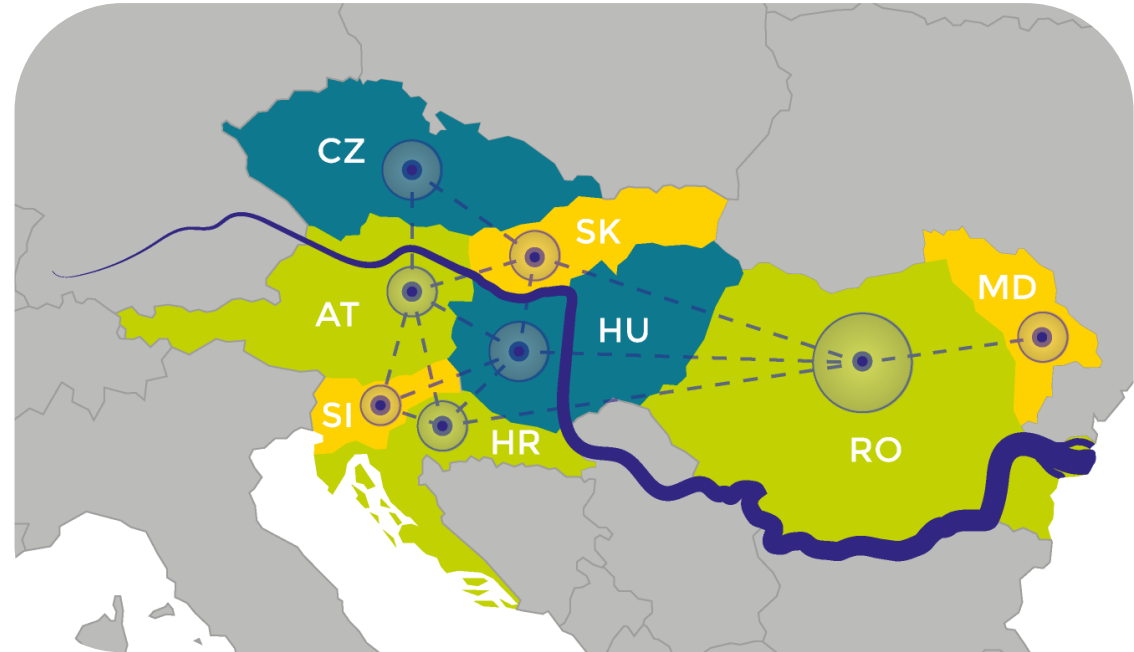
## **INTERREG Danube Transnational Programme**

Priority 3 - Better connected and energy responsible Danube region

2020 – 2022 (30 months)

- 14 Project Partners
- 8 Danube Region Countries
- 6 Existing travel information services/  
journey planners

Coordination mechanisms for multimodal cross-border traveler information network based on OJP for Danube Region



# Partner



AustriaTech - Federal Agency for technological measures Ltd. **(ATE)**  
Traffic Information Austria **(VAO)**



University of Maribor **(UM-FGPA)**  
Regional Development Agency of Ljubljana Urban Region **(LUR)**



Railway Company Slovakia, j.s.c. **(ZSSK)**  
University of Zilina **(UNIZA)**



Győr-Sopron-Ebenfurt Railway Corp. **(GYS)**  
GLI Solutions Kft. **(GLI)**  
Institute for Computer Science and Control **(ICS)**



Electronic Solutions SRL **(ELS)**  
Politehnica University of Timisoara **(PUT)**



KORDIS JMK a.s. **(KOR)**



Knowledge Hub Moldova **(KHM)**



Faculty of Transport and Traffic Sciences,  
University of Zagreb **(ZITS)**

# Key Objectives

- Implementation of a **durable and resilient Linked Journey Planning Service in the Danube Region**
- Enhancement of the technical solution from **centrally distributed to fully distributed** system
- Further development of LinkingDanube service and **expansion of active systems**
- Development of an **organizational architecture** to complement the technical architecture
- Develop a **framework strategy and basis for the harmonized implementation of OJP in Europe** together with the main players
- **(National/organisational) action plans** for the implementation of OJP in the participating organizations and countries

# Key Objectives - Multimodality

Focus on the **integration of bike routing in the distributed service**

- **Improve travel information** for cyclists
- **Linking** rail and cycle transport (!) (e.g. bike-on-train information)
- Develop **seamless, cross-border, cross-provider, multimodal bike routing**
- Warrant the **compatibility** to other OJP-based travel information services like LinkingAlps and EU-Spirits
- Collaboration with other Journey Planning Services via OJP > **Expansion of the service coverage and modality mix**

# Project Status

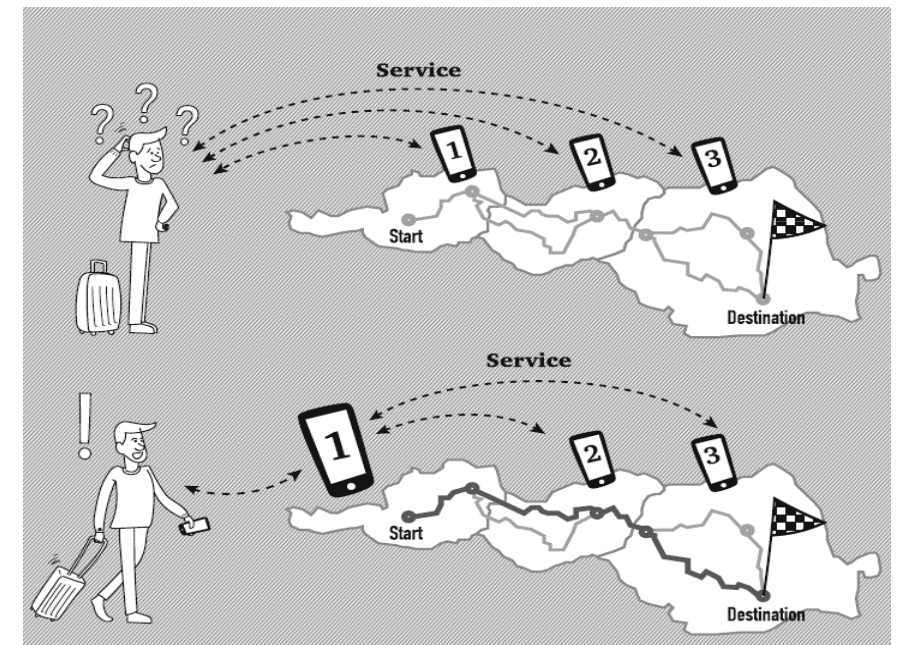
- Development of **technical architecture** is done
- Finalisation of **OJP Profile** and **requirements specifications**
- **Organisational architecture** → defining of organisational processes, roles and responsibilities is ongoing
- Development of **E-Learning Web-tool**
- Identifying **future adopters** needs in the Danube Region with regard to OJP deployment (who might be future adopters? what are their needs?)

# Why ,Linking of Services‘?

## Benefits...

### for the TRAVELLER

- **Simplified access** to sustainable, multimodal, seamless traveller information (across border and operators)
- Usage of **well-known JP App** of home service in the **language** of the traveller
- Information of the **highest quality and accuracy**
- Including **local transport/on-demand transport** (if available in the existing traveller information service)

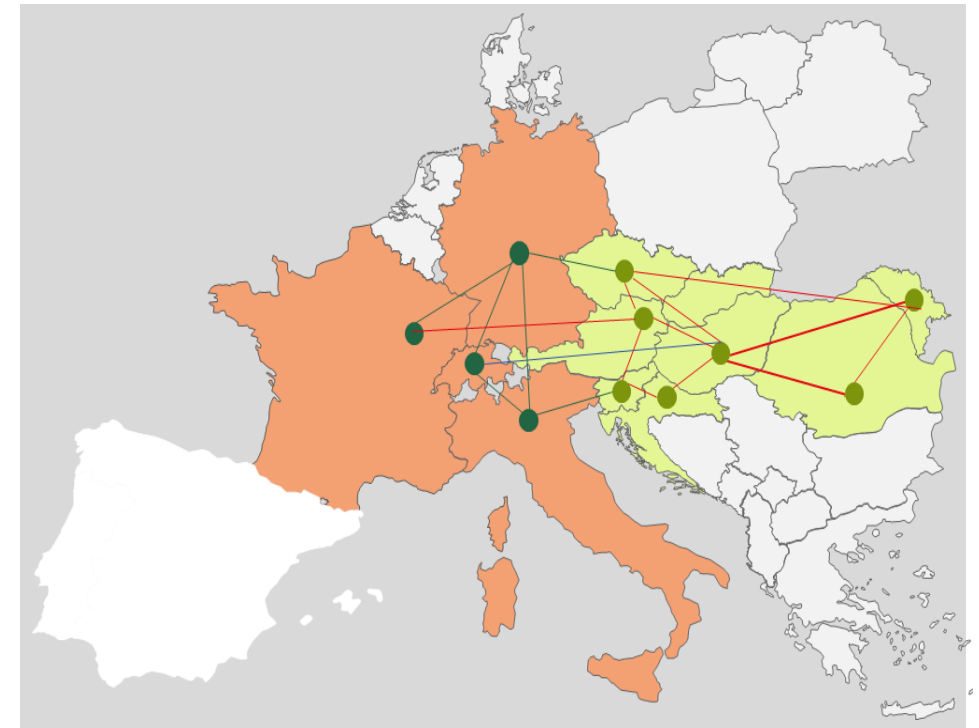


# Linking of Services

## Benefits...

### for the SERVICE PROVIDER

- **Sovereignty over data**
- Extension of the **range of the own system** by the coverage of all affiliated systems
- Thus, improvement of the **functionalities and quality of information** provision for customers
- **Strengthening the market position** of the local/regional service provider





# Linking of Services

## Benefits...

### for the **MOBILITY SYSTEM**

- **Supporting the sustainable mobility behavior of travelers**
- **Strengthening of the market position of small-scale / regional providers and regions** (vs. central, international platforms)
- **Strengthening the accessibility and connectivity of rural areas**
- **Solution for last / first mile issue**





# Linking of Services

## Benefits...

### for the **MOBILITY SYSTEM**

- **Supporting the sustainable mobility behavior of travelers**
- **Strengthening of the market position of small-scale / regional providers and regions** (vs. central, international platforms)
- **Strengthening the accessibility and connectivity of rural areas**
- **Solution for last / first mile issue**



# Linking Europe

**austriatech**

The main event poster for "Linking Europe 2021". It features a large, stylized "4" in the background. The word "Europe" is written in large, bold, yellow letters. Below it, the date "22. SEPT 2021" is written in white, and "VIENNA | ZOOM" is written in yellow. At the bottom, the registration information "Please register at: OJP4Danube@austriatech.at" is written in white. The background is dark blue with a network of glowing blue lines and dots. Logos for Interreg Alpine Space LinkingAlps, EU-SPIRIT, and Interreg Danube Transnational Programme OJP4Danube are visible in the bottom right corner.

**Europe**

**22. SEPT 2021**

**VIENNA | ZOOM**

Please register at: [OJP4Danube@austriatech.at](mailto:OJP4Danube@austriatech.at)

# Stay in touch with us!

- Sign up for the Newsletter:

<http://www.interreg-danube.eu/approved-projects/ojp4danube/campaigns>

- Follow us on Facebook and LinkedIn

<https://www.facebook.com/ojp4danube>

<https://www.linkedin.com/groups/9016380/>

- Contact us directly:

[OJP4Danube@austriatech.at](mailto:OJP4Danube@austriatech.at)

# Danke für Ihre Aufmerksamkeit

**Daniela Gamper**

**Team Trends & Technologies**

Raimundgasse 1/6  
1020 Wien, Österreich

T: +43 1 26 33 444

F: +43 1 26 33 444-10

office@austriatech.at

[www.austriatech.at](http://www.austriatech.at)

