



**Maria Tzankova, Association of Danube River
Municipalities**

Prof. Asen Asenov, University of Ruse

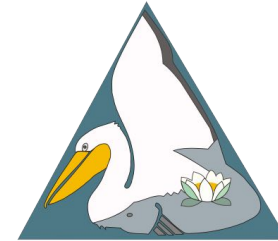
Ivaylo Kadishev, Municipality of Ruse



Florin Nemtanu – Politehnica University of Bucharest

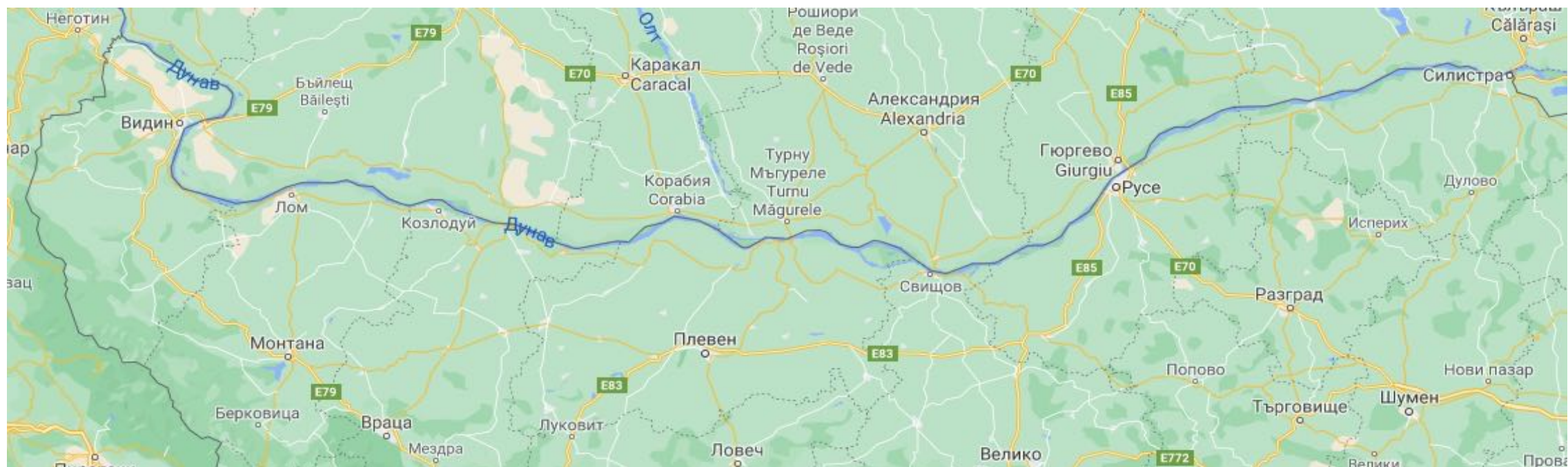
Iulian Nichersu - DDNI

Valentin Moldoveanu – FLAG Delta



Bulgarian-Romanian Cooperation – Decarbonizing Danube and Danube Delta

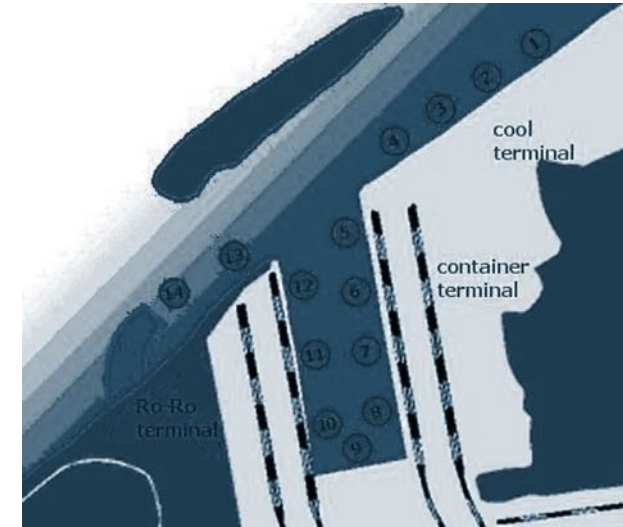




DANUBE REGION IN BULGARIA

- The region features the Danube - inland waterway and core transport axis in Europe; energy corridor;
- Waterborne transport - 470 km long stretch of Danube river (border with Romania), 36 inland ports, passenger and freight terminals; 6 crossing points; the infrastructure not modernized and the fleet is a polluter;
- The strategic development of the Danube region in Bulgaria is towards region's better transport and energy connectivity, use of clean transportation/ alternative fuels, especially the inland waterway mode, intermodality; modernization of ports and fleet;
- Lots of small and medium-sized towns along the river that experience demographic and industrial decline;
- A lot of protected areas and habitats;
- The region is among the poorest regions in the EU, notwithstanding the economic opportunities, related to the river;
- Nascent ecosystem for decarbonization.

DANUBE REGION IN BULGARIA



PORT RUSE EAST

- The state Bulgarian Ports Infrastructure Company (BPI Co.) is the owner and operator of Ruse-East Port. The terminal is under preparation for granting a concession in two sites:
- • Port terminal Ruse-East - 1 “, (including ship berths from № 1 to № 8) part of a port for public transport of national importance Ruse;
- • Port terminal Ruse-East - 2 “, (including berths from № 9 to № 14) part of a port for public transport of national importance Ruse;

THE RUSE EAST PORT

Ship berths:	14
Quay Front:	1618 m
Maximum depth in front of the berths:	2,50 m
Open storage area:	190 500 sq. m
Warehouse area:	15. 800 sq. m

- Ruse Hydrogen Project:
 - ✓ retrofitting an existing tugboat with a zero-emission hybrid battery and fuel cell drivetrain;
 - ✓ operating the vessel on the Danube River
 - ✓ vessel will be refueled at Port Ruse East using a novel mobile refueling solution;
 - ✓ low carbon hydrogen produced from an electrolyser located at the Ruse new bus depot, fueling 20 FC buses.
- Activities are planned in the context of the Green Hydrogen @ Blue Danube Important Project of Common European Interest (IPCEI)
- The initial deployment is expected to lead to a broader strategy, involving the Danube region in Bulgaria for its engagement for contribution to Bulgaria's climate targets.





- ✓ Ruse Municipality;
- ✓ Ruse Municipal Transport J.S.Co;
- ✓ University of Ruse;
- ✓ Bulgarian River Shipping J.S.Co;
- ✓ The Association of Danube River Municipalities;
- ✓ Bulgarian Hydrogen, Fuel Cell and Energy Storage Association;
- ✓ Bulgarian Academy of Sciences.

LOCAL STAKEHOLDERS

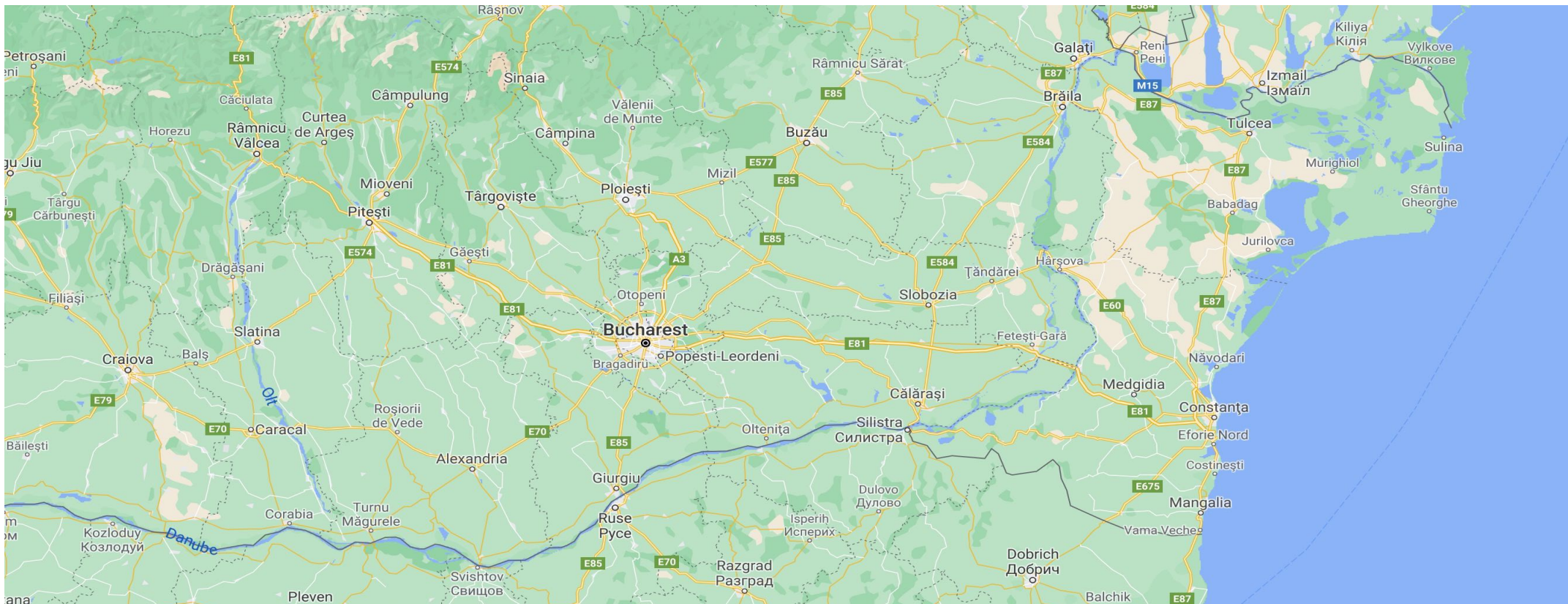
- Actions on the necessary legislative/regulatory adaptation and respective adaptation in education and training programmes;
- Securing funds;
- Development and implementation of similar projects.

Stakeholders:

- Local authorities in the Danube Region;
- Specialized administration - Executive Agency “Maritime administration”, Bulgarian Port Infrastructure Company;
- Transport and energy companies, chambers of commerce and industry;
- Structures at regional and local level, engaged with socio-economic policies: Local action groups, Regional development agencies, Euroregions;
- Procurers of components for hydrogen production;
- Danube Digital Innovation Hub
- Regional and local media.

DECARBONIZING PORT CITIES

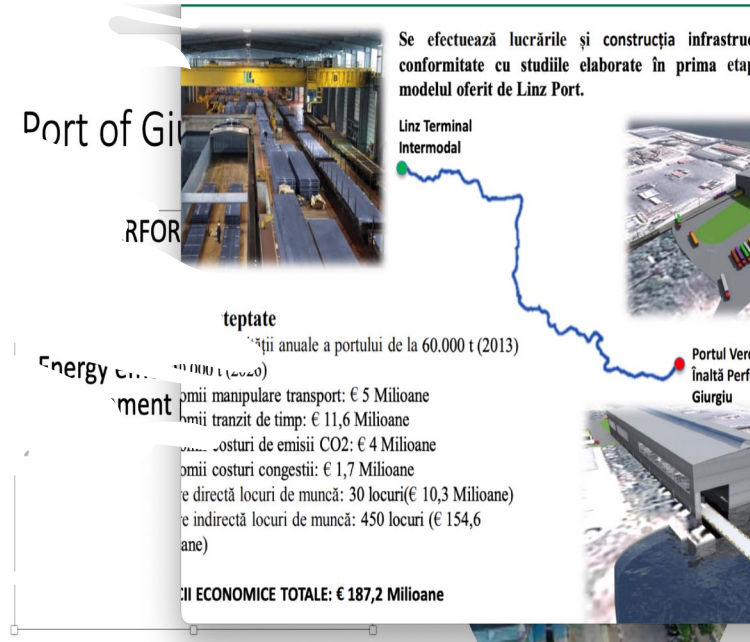




DANUBE REGION IN ROMANIA

Port of Giurgiu

- HIGH PERFORMANCE GREEN PORT
- 15.5 millions euro – CEF
- Energy efficiency and environment protection



Portul Verde și de Înaltă Performanță Giurgiu Etapa II – Construcția		
Date, informații și cifre		
<ul style="list-style-type: none"> Program de Implementare 09/2015 – 03/2020 State membre implicate Romania 	<ul style="list-style-type: none"> Bugetul general al proiectului € 15,594,063 Contribuția UE € 13,254,954 (max. 85%) 	
ILR Logistica Romania S.R.L.	Municipalitatea Giurgiu	SC Administrația Zonei Libere Giurgiu SA
<ul style="list-style-type: none"> Terminal intermodal logistic, încluzând: <ul style="list-style-type: none"> Acoperiș integral: aprox. 1.38 km De capital De cale ferată: aprox. 760 m De nivel de cale ferată De cale pentru camioane: aprox. 54 km 	<ul style="list-style-type: none"> Pregătirea terenului pentru construirea terminalului intermodal: <ul style="list-style-type: none"> Demolarea vechii stații ferry-boat – activitate care este în curs de desfășurare. 1 trecere la nivel de cale ferată Eco-restaurarea a locației 	<ul style="list-style-type: none"> Infrastructură rutieră reabilitată: 1,38 km Secțiunea vechiului cheu reabilitată: aprox. 54 km



Port of Tulcea & Danube Delta

- Decarbonizing Danube Delta (3D Initiative)





Passenger Transport

- Galati – Tulcea
- Tulcea – Danube Delta:
- Chilia; Sulina; Sfantul Gheorghe
- County Administration – Project on mobility
- Scheduled and unscheduled transport (tourists).
- Shared mobility(?) Private

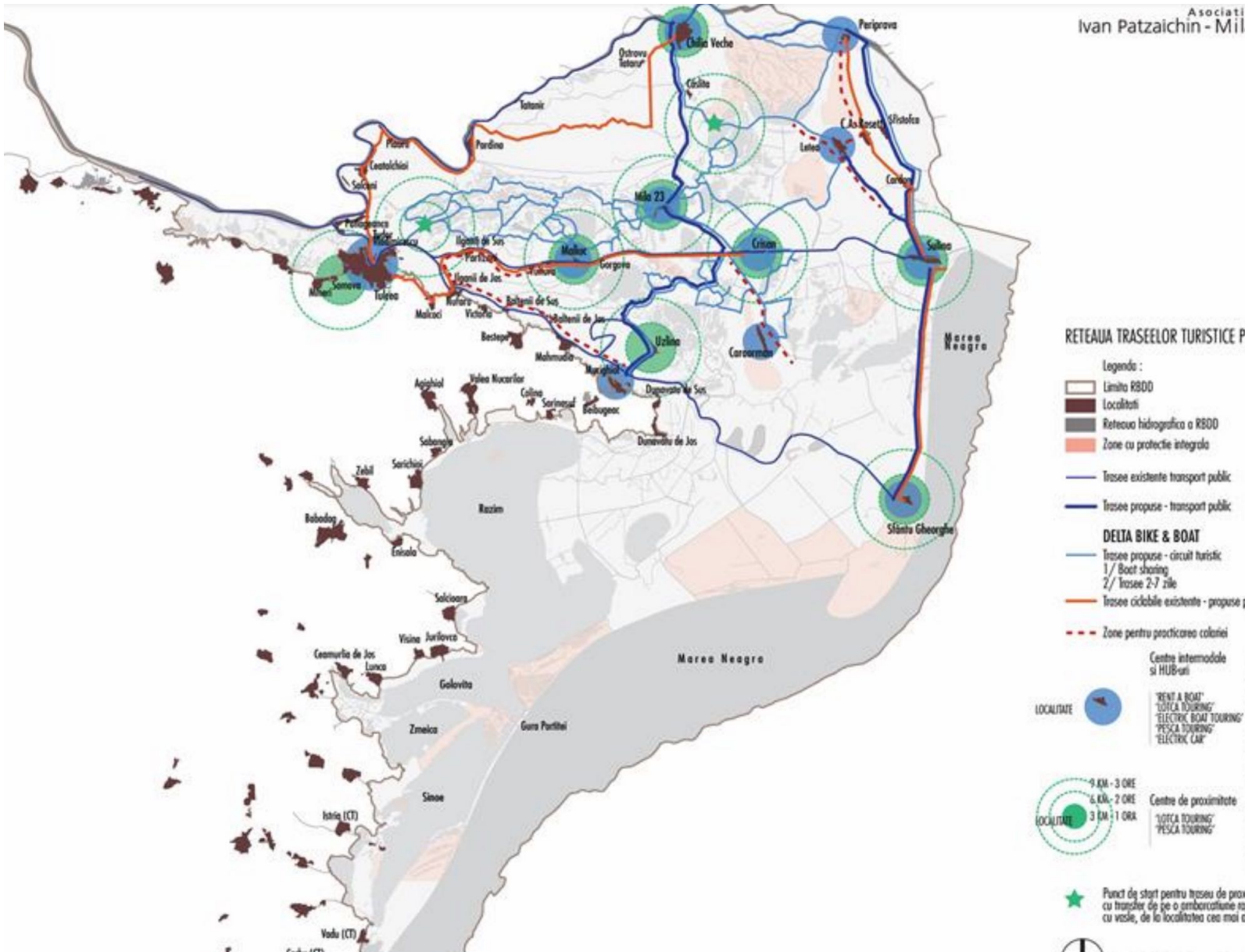
Green approach

- Green port
- Green vessels
- Green Journeys
- Digitisation of port activities
- Smart & intelligent & integrated transport systems
- Multimodal and green trips
- Sustainability- UN-SDGs



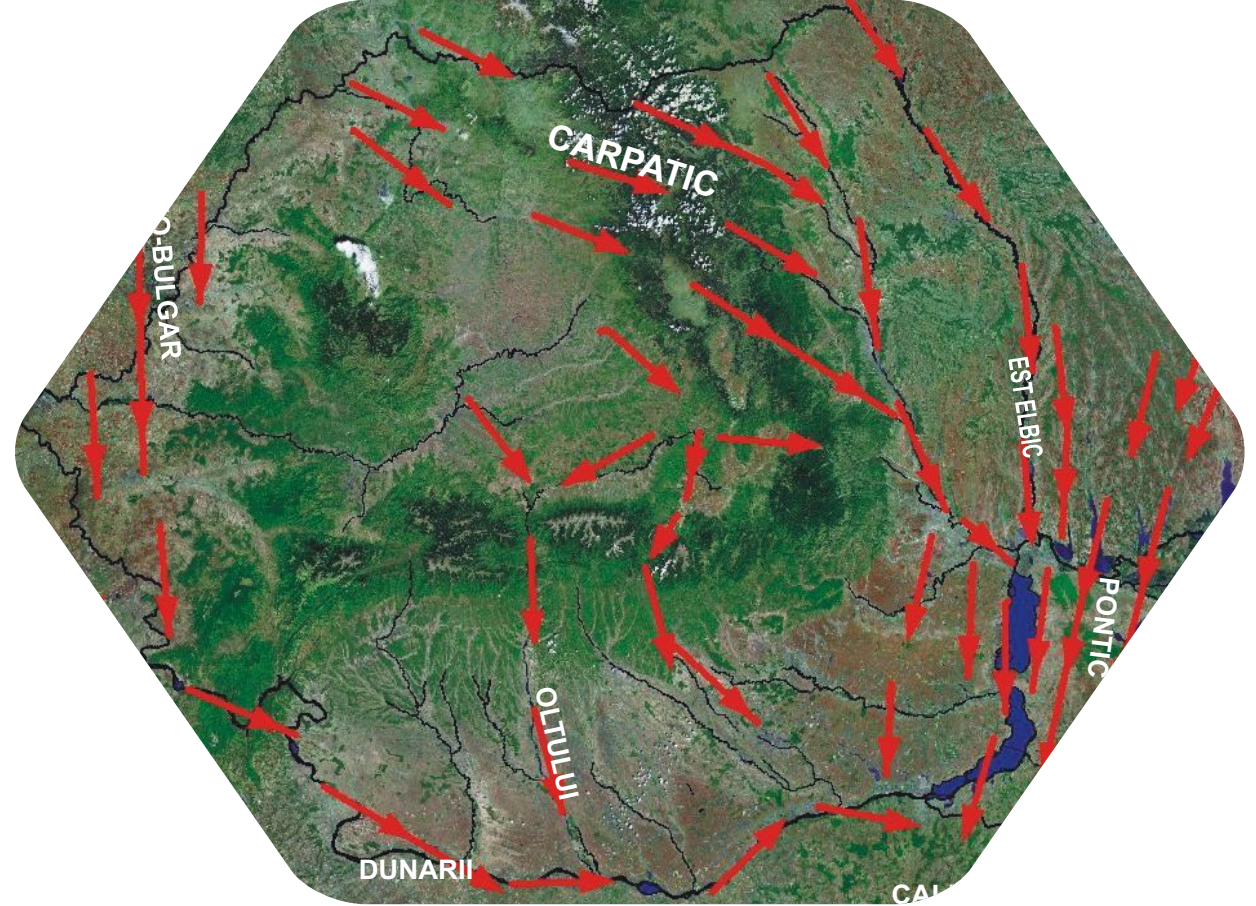
Projects and actions/initiatives

- Transdanube.Pearls - Network for Sustainable Mobility along the Danube - **Interreg**
- TRANSDANUBE “Sustainable Transport and Tourism along the Danube”
- SUMP Tulcea



Smart, Low Carbon & Integrated Mobility

- Mobility as a Service (MaaS)
- Green Mobility: low carbon
- Biodiversity protection
- Multimodal & shared mobility
- Waterborne smart mobility
- Natural flows – mobility of species



Map of migration routes that cross Romania in autumn

(transposition in GIS format Doroşencu A. after Ciochia V.)



Biodiversity of the Danube Delta

- the mosaic of habitats hosts a unique mix of flora and fauna species, with about 2000 vascular plants and more than 3000 animal species;
- high density of species that are rare or missing in other European areas;
- represents a treasure for the natural heritage of Europe and for ensuring the overall connectivity of species;
- home to several globally threatened bird species, including the red-breasted goose, the Dalmatian pelican and the pygmy cormorant, which either breed or winter in the delta.





Main issues regarding biodiversity protection

- In the context of climate change and mobility development, the conservation of biodiversity and environmental quality in the Danube Delta is a main challenge;
- preferential habitats and natural passageways of the species must be determined and mobility solutions must be adapted in relation to them;
- It is necessary to investigate the synergistic effects of climate change and other pressures on biodiversity and ecosystems and integrate measures for nature conservation, climate protection and adaptation.



Smart Port City



Smart Innovation
Hub – around the
green port- Tulcea



Extension of the
concept: Smart City
– Smart Port City:



Port as an urban
development entity



WATERPOLITAN –
area: challenges &
opportunities



Wetland – city
neighborhoods



Port of Sulina

Conclusions

- Decarbonizing Danube and Danube Delta – challenge
- Mobility – electro & hydrogen
- Waste to energy solutions & Circular Economy
- Biodiversity
- Cooperation along the Danube – Lower Danube
- Exchange of local experiences and knowledge
- Quality of life and jobs

Thank you!

- asasenov@uni-ruse.bg
- adrmdanube@gmail.com

- florin.nemtanu@upb.ro
- iulian.nichersu@ddni.ro

