



The First Hydrogen Valley in Slovakia

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PEDAL Consulting s.r.o.
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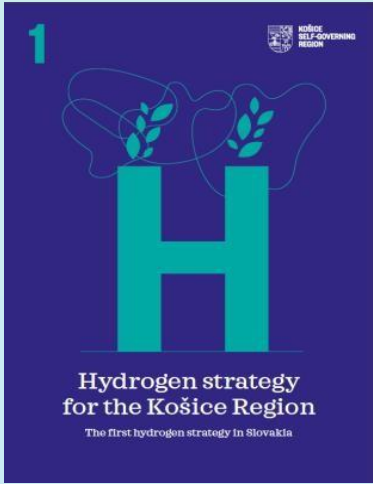
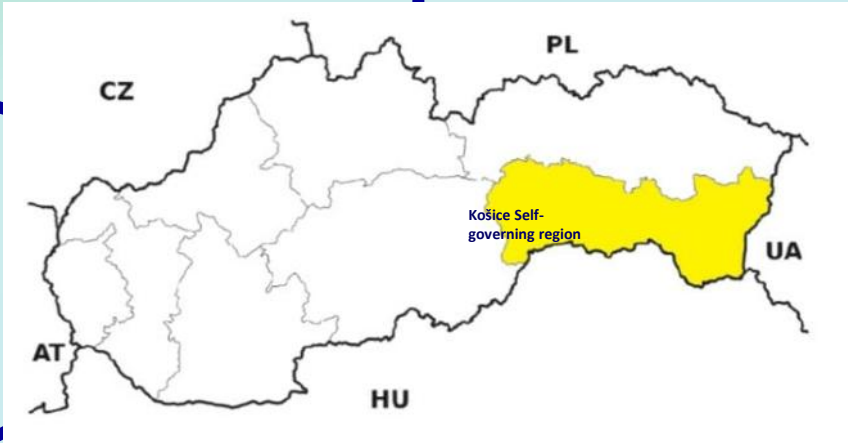
Co-funded by
the European Union



Clean Hydrogen
Partnership



Who We Are & How We Started?



PROJECT DEVELOPMENT
ASSISTANCE FOR REGIONS

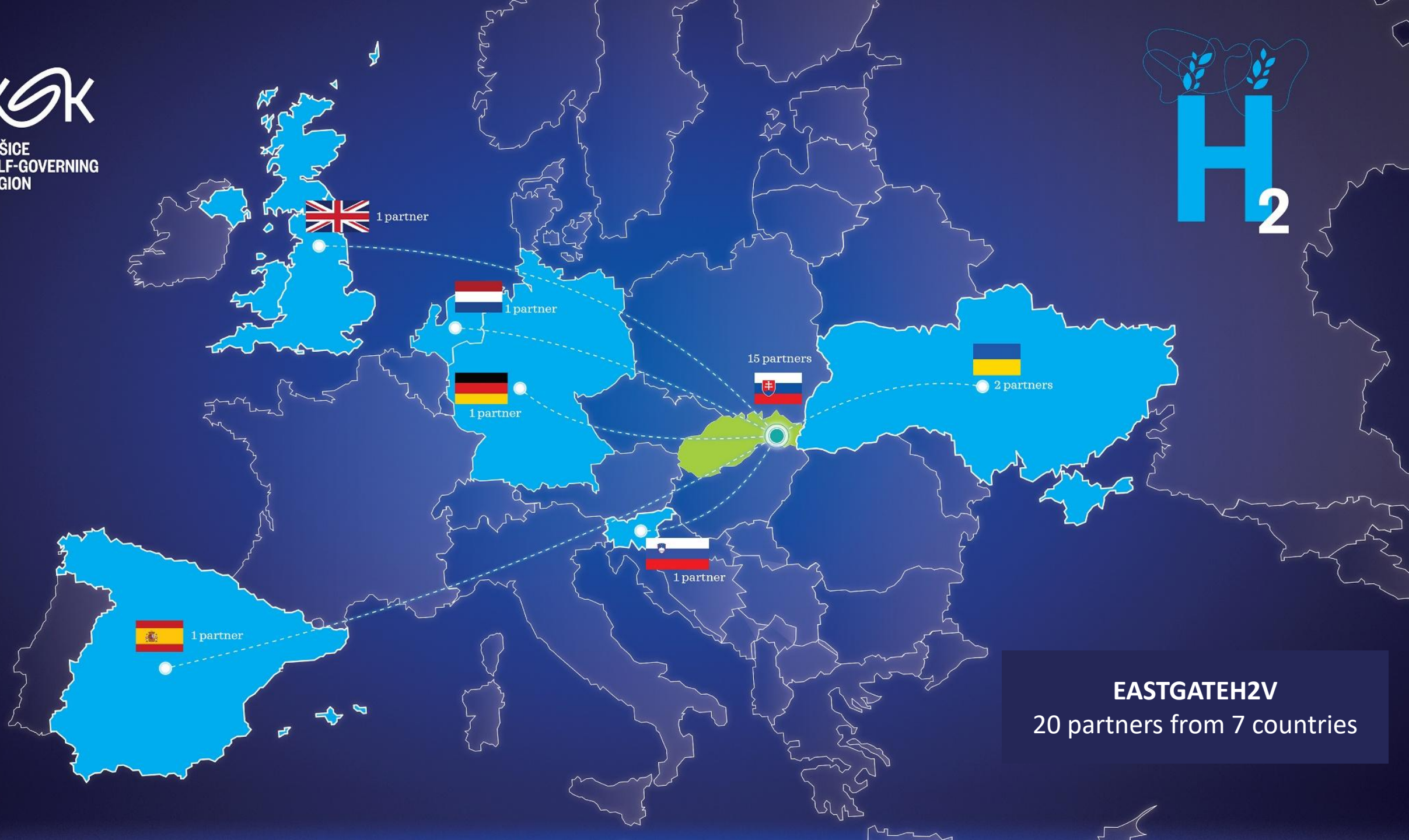
Memorandum of cooperation



Clean Hydrogen
Partnership



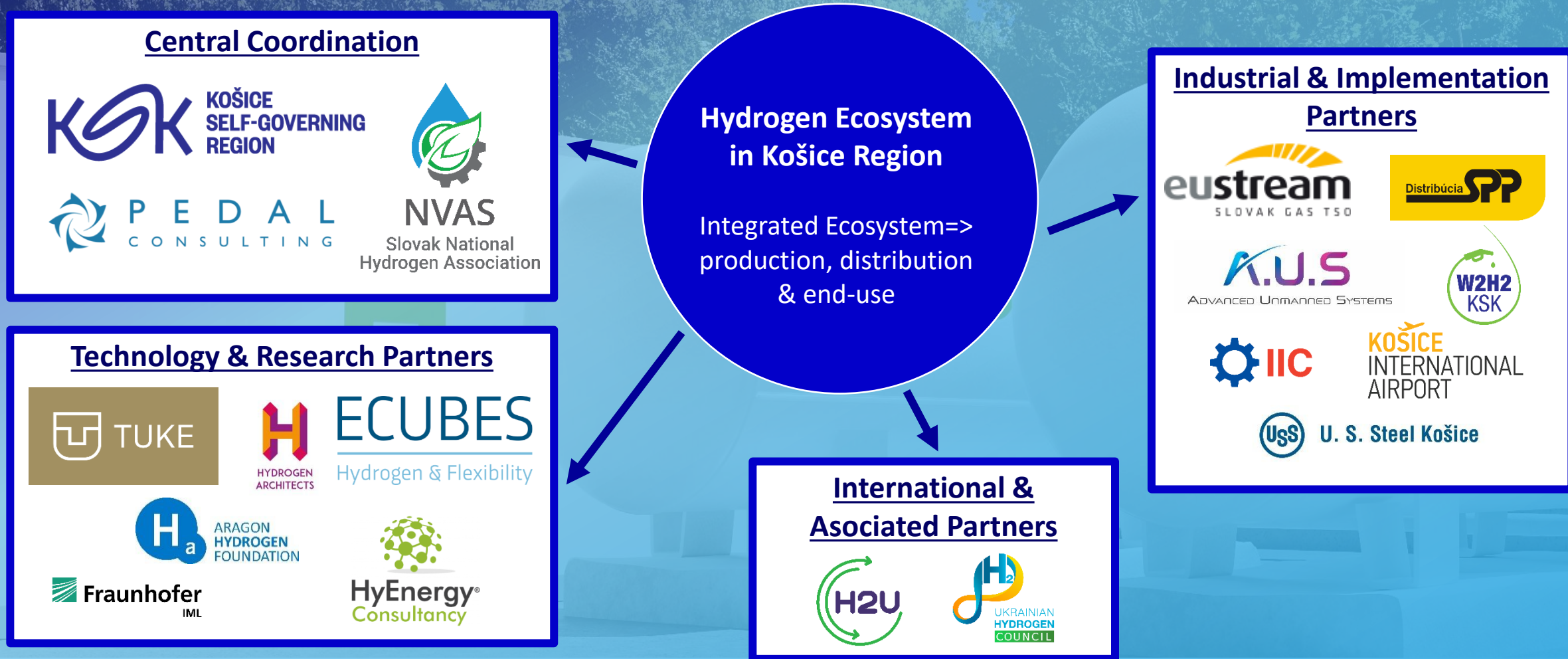
Autobusová
doprava KSK,s.r.o.



EASTGATEH2V
20 partners from 7 countries

EASTGATEH2V Consortium

Building the Hydrogen Valley in Eastern Slovakia



Central Coordination



KSK

Košice Self-Governing Region

Coordinator



NVAS

Slovak National Hydrogen Association

National Coordination & Dissemination



PIC

Pedal Consulting s.r.o.

Communication & Dissemination Leader



Technology & Research Partners



TUKE

Technical University Košice (TUKE, Slovakia)

Research & Education

**Fraunhofer Gesellschaft (Germany)**

Applied research, hydrogen valleys expertise



FHA

Fundación del Hidrógeno en Aragón (FHA, Spain)

Replication & Technical Expertise

**Hydrogen Architects BV (H2A, Netherlands)**

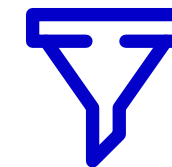
Design & System Modelling

**HyEnergy Consultancy Ltd (HYE, UK)**

Strategy & Advisory

**Ecubes Technologies (ECU, Slovenia)**

Hydrogen Technology Deployment





W2H2 KSK s.r.o. (W2H2)

Electrolyser & H₂ Production



Public Bus Transport Company KSK (ABD)

Public Transport Demonstration



Tomark Proton s.r.o. (TOM)

Hydrogen Aircraft / VTOL
Development



U. S. Steel Košice, s.r.o. (USSKE)

Industrial Hydrogen Use



Eustream a.s. (EUR)

Hydrogen Transmission Infrastructure



SPP – distribution, a.s. (SPP-D)

Gas Distribution & Adaptation



Airport Košice, a.s. (KSC)

Airport Decarbonisation Pilot



A.U.S. Advanced Unmanned Systems, s.r.o. (AUS)

Digital Twin Development



Industry Inovation Cluster (IIC)

Innovation Ecosystem Support



International & Associated Partners



Energy Association Ukrainian Hydrogen Council (UHC)

Cross-border Cooperation



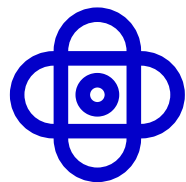
Hydrogen Ukraine LLC (H2U)

Hydrogen Supply Chain Development

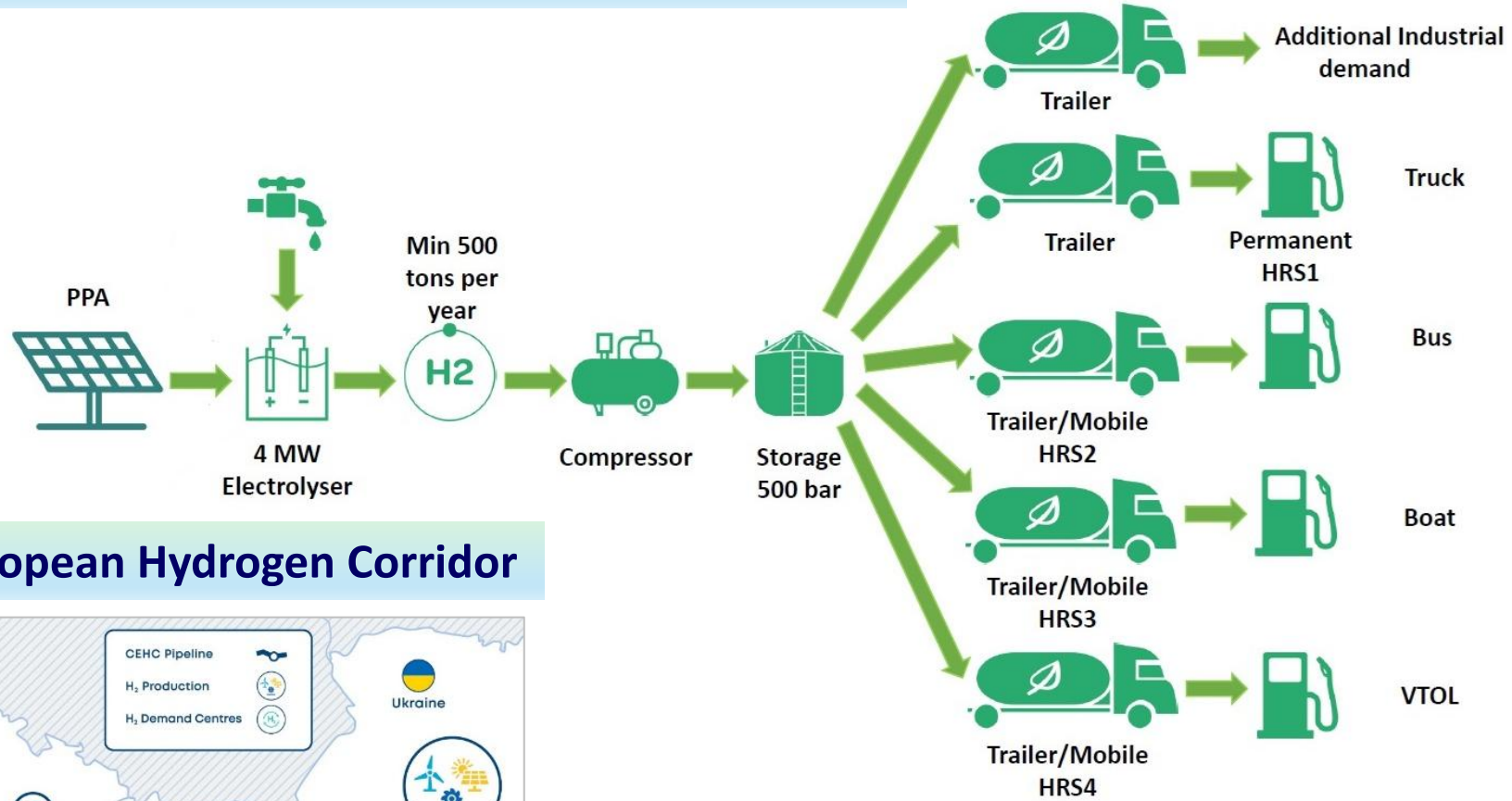


Replication Regions (CEE, Ukraine, Croatia, etc.)

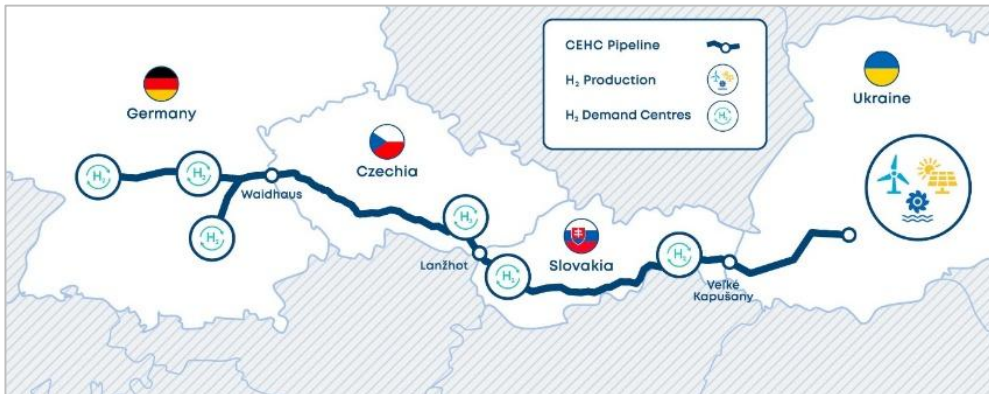
Knowledge Sharing



Creation of Hydrogen Valley in Košice Region: EastGateH2V



CEHC - Central European Hydrogen Corridor



Considering the need for decarbonization, the goal of the Košice Self-Governing Region is to deploy more than 40 hydrogen buses by 2030 and up to 80 by 2040. Therefore, it is essential to ensure the production of green hydrogen at a stable price and to develop a sustainable hydrogen infrastructure.

Hydrogen Consumption in the Transport Sector:

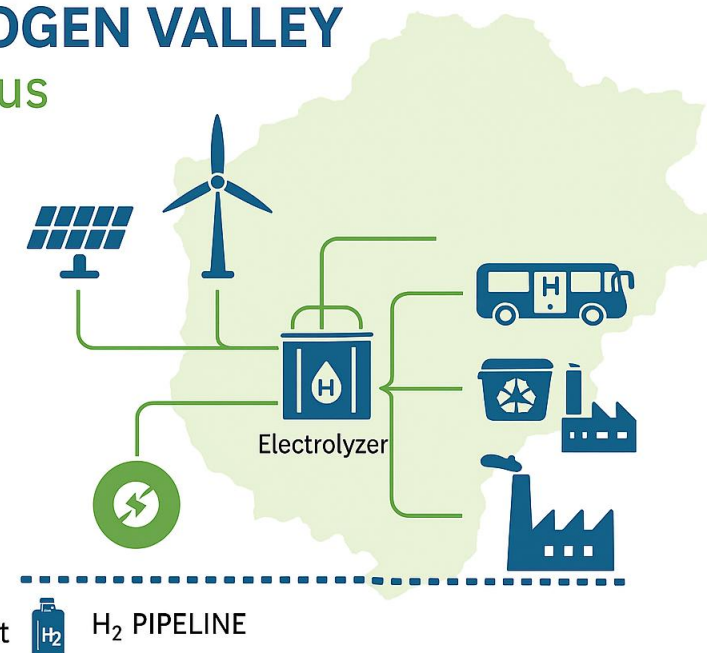
- Suburban buses: 10 pcs.; 30 pcs (Valaliky Industrial Park – Volvo, Košice, Michalovce)
- Trucks, last-mile heavy-duty transport, regional supply: 50; 100 pcs
- Cruise ship: 1 small, 1 larger
- Forklifts: 20; 80 pcs

EASTGATE HYDROGEN VALLEY Summary and Status

Deployment of an integrated hydrogen ecosystem in the Kosice Self-Governing Region of eastern Slovakia, at the border with Ukraine



-  Production Capacity
4 MW
-  Off-takers
450 tonnes H₂/year transport



By 2028, total hydrogen consumption in transport is expected to reach 500 tonnes of renewable hydrogen.



Regulatory and Policy Challenges

Workforce and Education

- **Need for dedicated educational programs**
- Shortage of skilled professionals in hydrogen technologies and related sectors.
- Limited availability of training programs focused on hydrogen safety, maintenance, and operations.
- Strong cooperation between universities, vocational schools, and industry is essential to develop tailored curricula.



Market and Demand Creation

Competition with Other Technologies

- Battery electric vehicles (BEVs) and alternative fuels compete with hydrogen solutions, influencing investment priorities and market uptake.

Complex Partnerships

- Collaboration among the public sector, private investors, universities, and EU institutions is essential but requires strong coordination and clear governance mechanisms.



Thank you

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