

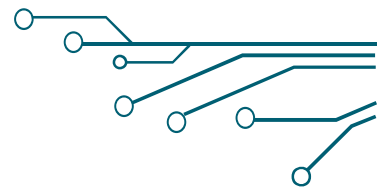
Danube Commission Expert Meeting on Development of Ports and Port Operations

21 March 2023

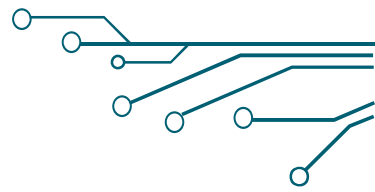
DaRePORT, Danube Region Ports as energy hubs for renewable energy and alternative fuels

Presenter: Robert Rafael, General Secretary Pro Danube International
Technical Secretariat of the Danube Ports Network

DaRePORT, Danube Region Ports as energy hubs for renewable energy and alternative fuels



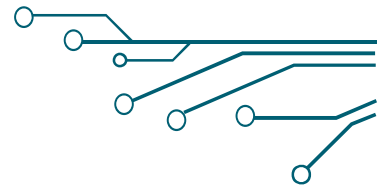
- The project aims to investigate the **potentials of Danube Region (DR) ports** in **renewable energy production, reduction of emissions and the subsequent logistics** throughout the Danube Region on a transnational basis.
- Danube Region ports promoted as **energy hubs** for **producing, storing and distributing renewable energy as well as alternative fuels** to selected customers from industries and transport while facilitating a sustainable energy mix
- Involvement of **energy experts & well proven transport experts**



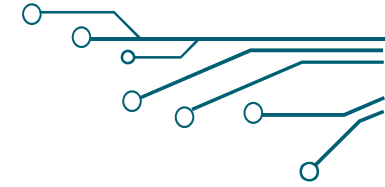
DaRePORT – Relevance of the project

- The **European Green Deal** – aiming to zero net emissions of greenhouse gases by 2050 and Europe to be the first climate-neutral continent
- **EU Strategy for the Danube Region**
 - Priority Area PA1A: Waterways Mobility
 - Priority PA2: Sustainable Energy
- **Renewable Energy Directive (2009/28/EC) & REPowerEU plan** – binding renewable energy target by 2030 to deliver around 45% of EU electricity consumption from renewable sources of electricity.
- Existing know-how from **previous and/or on-going projects** (like e.g. DAPhNE, GRENDEL, DIONYSUS, Energy Barge, CSSC LAB, etc.)

DaRePORT – Project main objectives



- Jointly develop **solutions** and create **favourable conditions** for **increasing the production and use** of energy from renewable and alternative sources
 - Assessment of policy, regulatory and financial framework affairs
 - Assessment on potential technologies in relation to the local characteristics and needs of ports
 - Development and rollout of use cases for the ports and their users
- **Masterplan** on renewable energy production in ports as a consistent long-term strategy
 - Reflecting **thematic group consultations** with infrastructure experts and users collecting best practices & **Consolidation of investment needs** with regard to financial aspects, human resources and digitalisation



DaRePORT – Project key facts



Project duration

30 months
01.01.2024 - 30.06.2026



Funded partners & Associated strategic partners

Energy and research institutions
Private and public ports & ports organisations
Ship design experts
Business support organisations
Private operators
National and local public authorities



Total Budget

Approx. 2,7 mil EUR
Interreg contribution 80%
Own contribution 20%

DaRePORT – Partners

- **Lead Partner:** Pro Danube International / AT
- **17 Funded Partners:**

Steinbeis 2i GmbH - Steinbeis Europa Zentrum/ DE
Technology Center Energy of Landshut University of Applied Sciences / DE

DST - Development Centre for Ship Technology and Transport Systems / DE

Ennshafen Port / AT

Port of Vienna / AT

CES clean energy solutions GmbH / AT

Public Ports jsc / SK

Hungarian Federation of Danube Ports / HU

Public Institution Port Authority Vukovar / HR

North-West Croatia Regional Energy Agency / HR

Port Governance Agency / RS

Port Bulmarket / BG

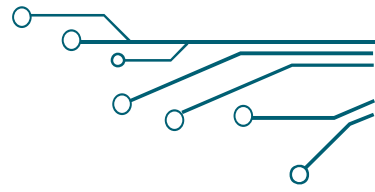
National Company “Maritime Ports Administration” SA Constanta/ RO

Ship Design Group / RO

Danube Cruises Romania / RO

Constanta South Container Terminal / RO

Constanta Port Business Association / RO



DaRePORT – Partners

- **11 Associated Strategic Partners:**

EFIP / BE

KVVH GmbH GB Rheinhäfen / DE

Danube Strategy Point / AT

via donau / AT

WIVA P&G / AT

Pro Danube Austria / AT

Rhenus Donauhafen Krems / AT

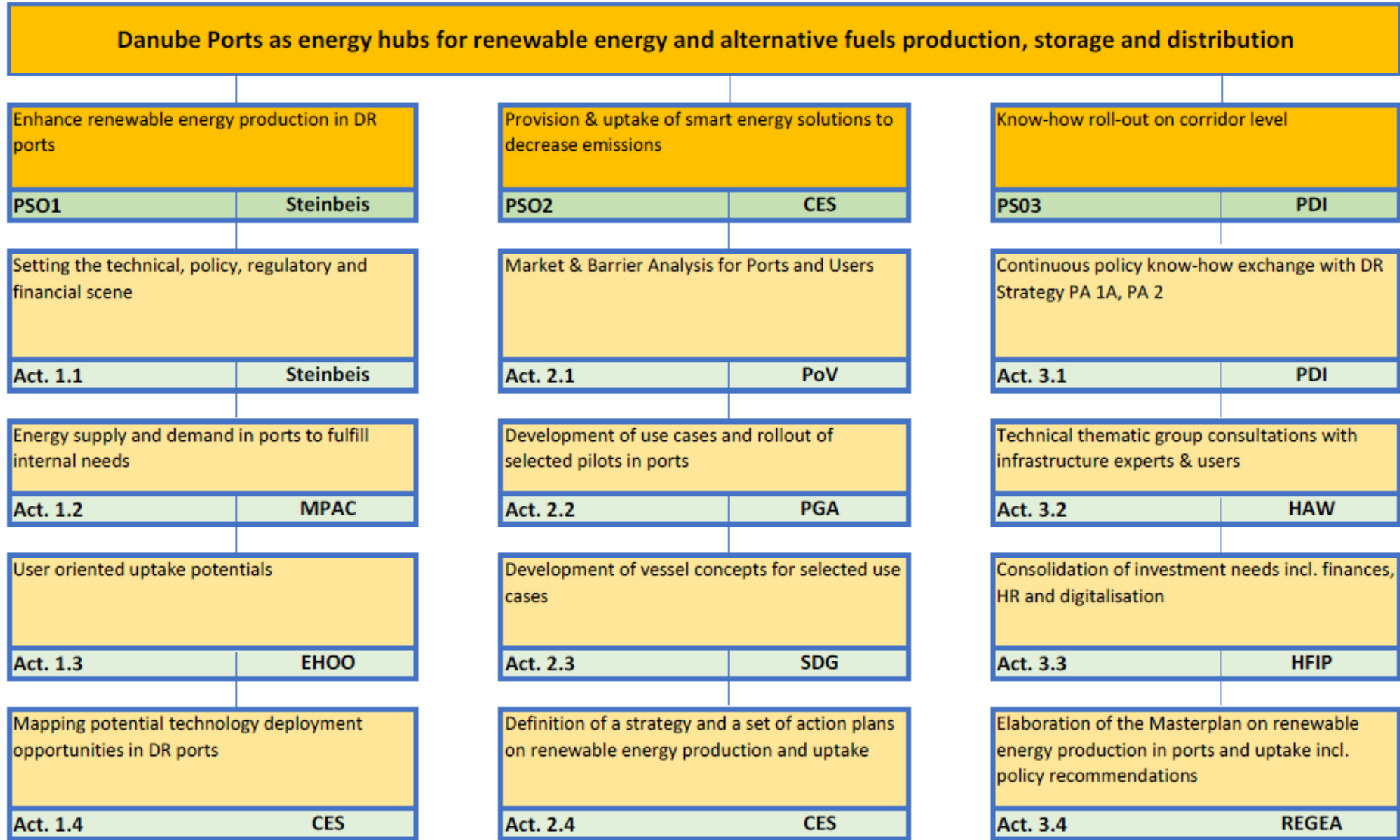
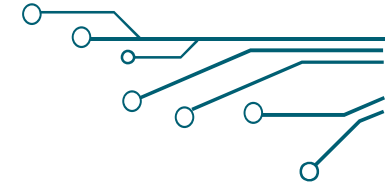
Port Authority Osijek / HR

Vidin Regional Administration / BG

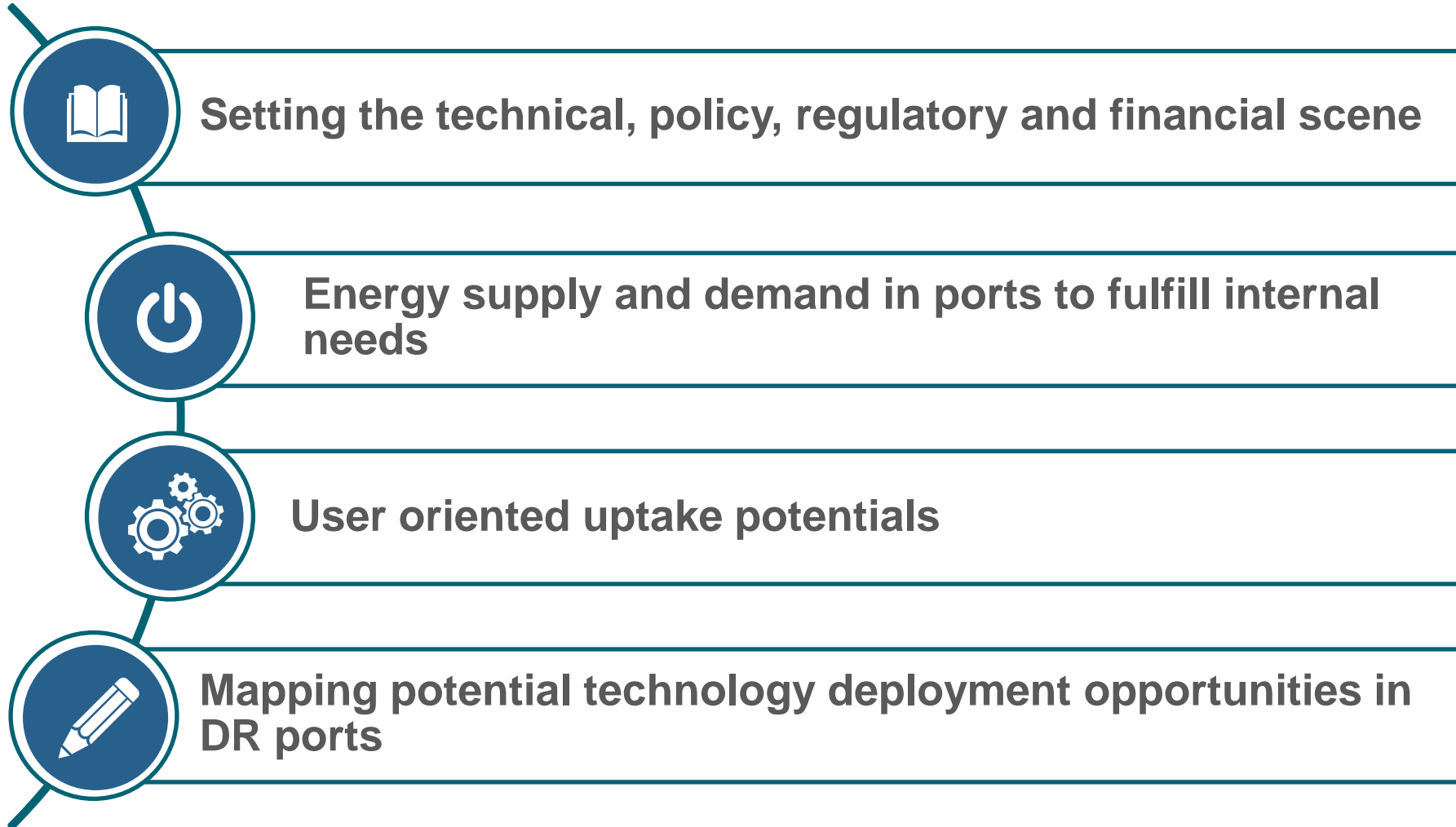
Vidin Municipality / BG

iC Ukraine / UA

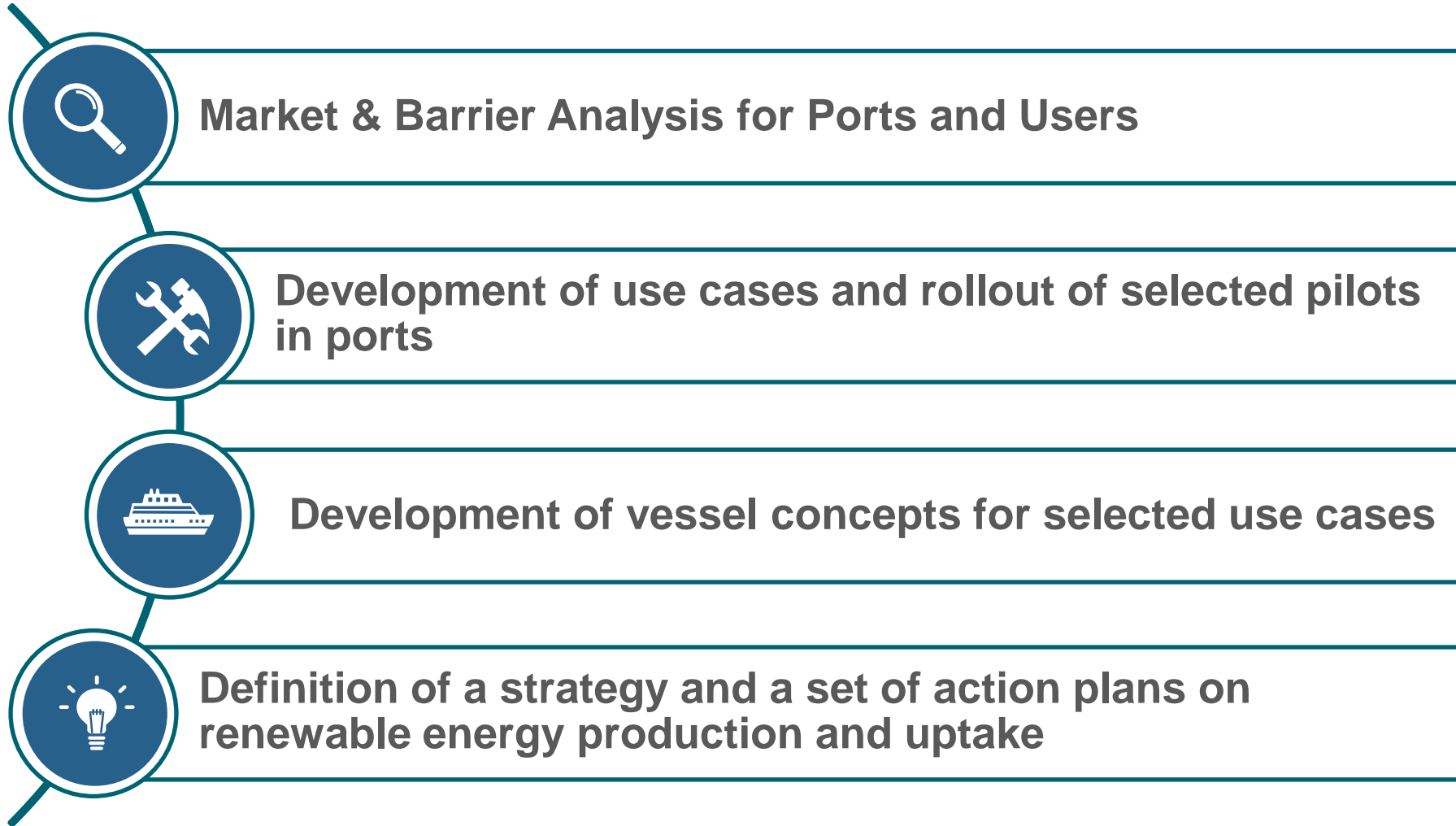
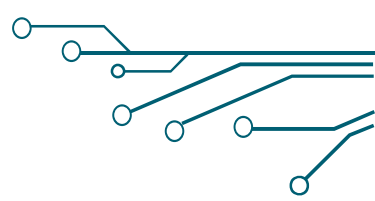
DaRePORT – WBS



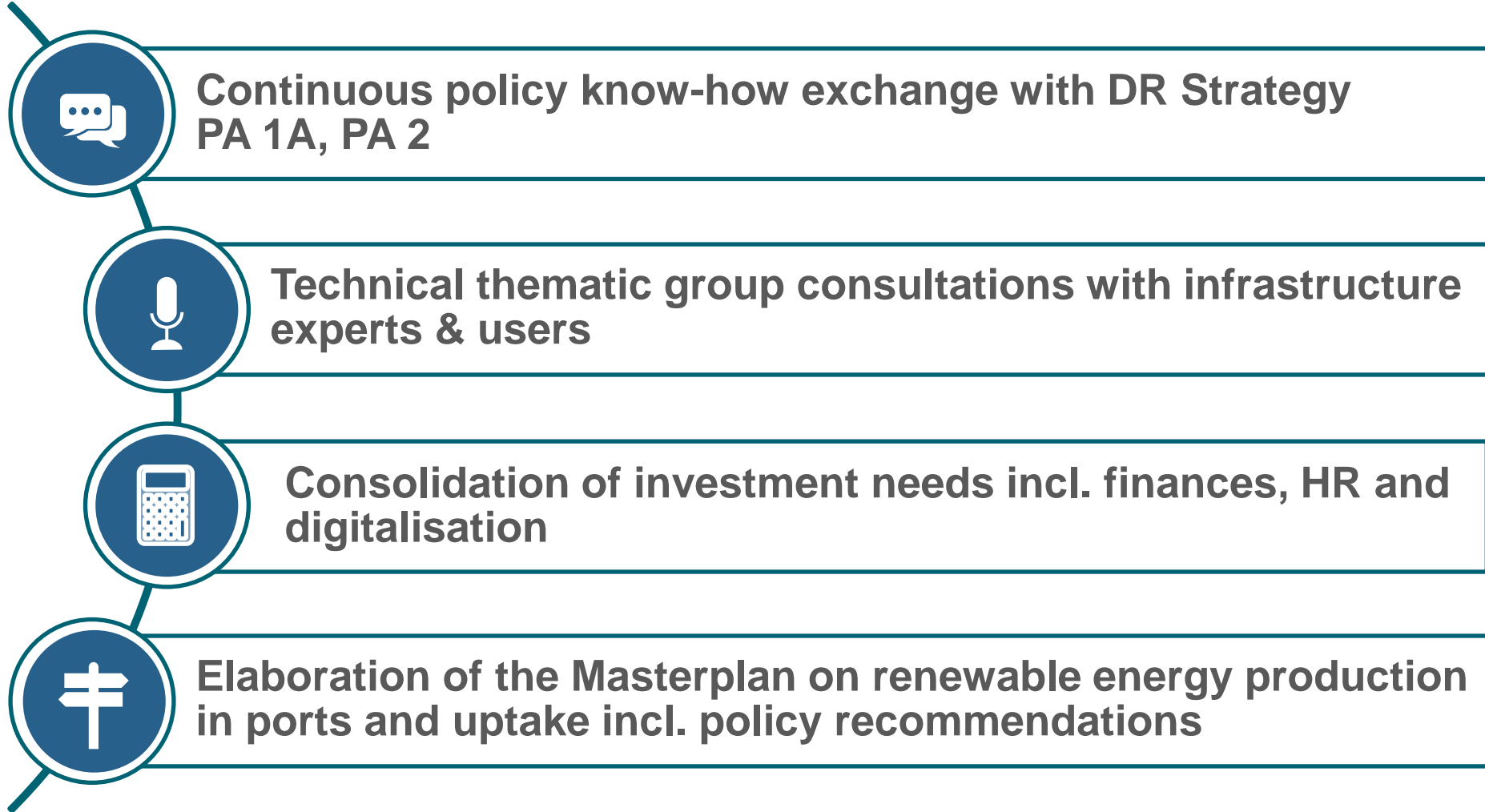
DaRePORT – 1st pillar: Enhance renewable energy production



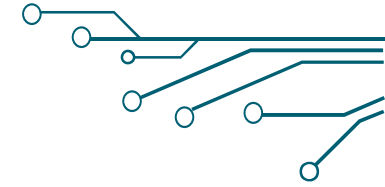
DaRePORT – 2nd pillar: Provision & uptake of smart energy solutions to decrease emissions



DaRePORT – 3rd pillar: Know-how roll-out on corridor level as input for policy making



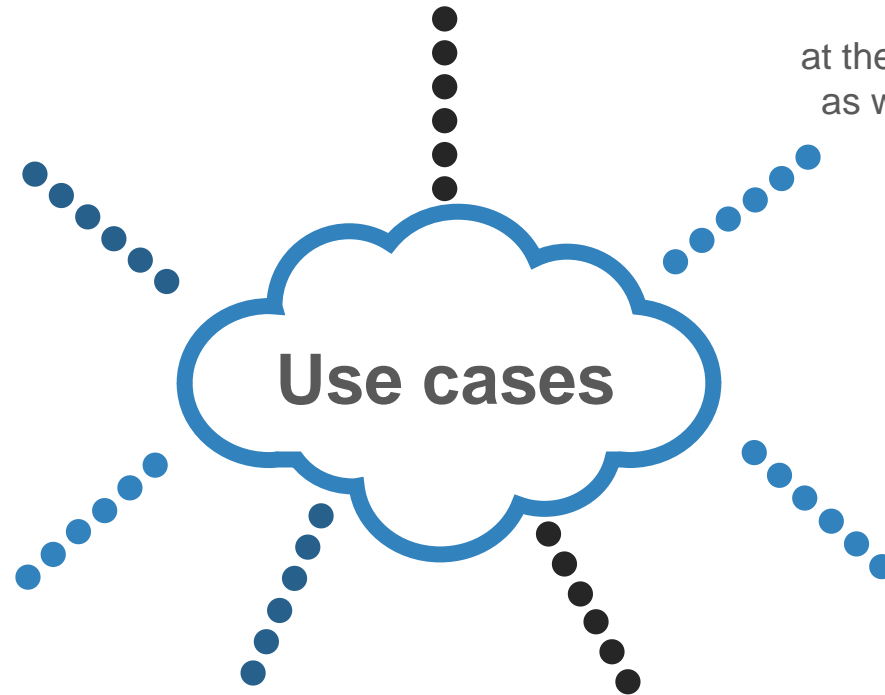
DaRePORT – Use cases



Investigation of installation possibilities of PV units
directly on or nearby water surfaces for production and further
installations for storage in ports

**Energy hub concept
for a bio-economy network**
based on innovative concepts using and
transporting biomass to be upscaled from a
factory located in Vidin, BG

**Study on the status of the current electric
power supply system**
at the passenger piers on the Danube River in Croatia,
as well as possibilities for on-shore power supply for
vessels while being moored



**Innovative technical concepts
for new vessel solutions**
used for port services and for a river
ferry and river leisure crafts

**Concepts for green power
generation**
to electrify port equipment & offering
OPS for maritime & inland crafts

**Study on the application
of hydrogen panels**
used for heating port buildings

**Concepts for
the pilots**
(next slide)

DaRePORT – Pilot activities



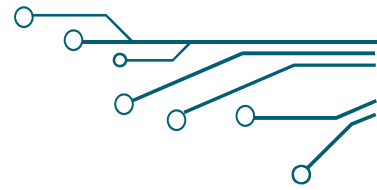
● PV power generation and usage
Dunaújváros (HU) port

● Modernisation of lighting system
Vukovar (HR) port

● PV power generation, usage
Zemun (RS) passenger port

● Power storage
Constanta (RO) container terminal

DaRePORT – Outputs



Matrix of potential technologies to be applied in Danube Region ports

Small scale pilot actions involving photovoltaic power generation in selected ports

Set of design plans of Danube vessels using sustainable alternative fuels

Strategy on renewable energy production and uptake

Action plans on renewable energy production and uptake

Thematic group meetings

Renewable Energy for Ports Masterplan

Thank you for your attention!



Pro Danube – the voice for better infrastructure and innovation in Danube transport

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Platform for the cooperation of Danube Region ports

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