

# **GRENDEL: Green and Efficient Danube Fleet**

## **Development of innovative and greening inland vessel concepts**

**GRENDEL Final Event**

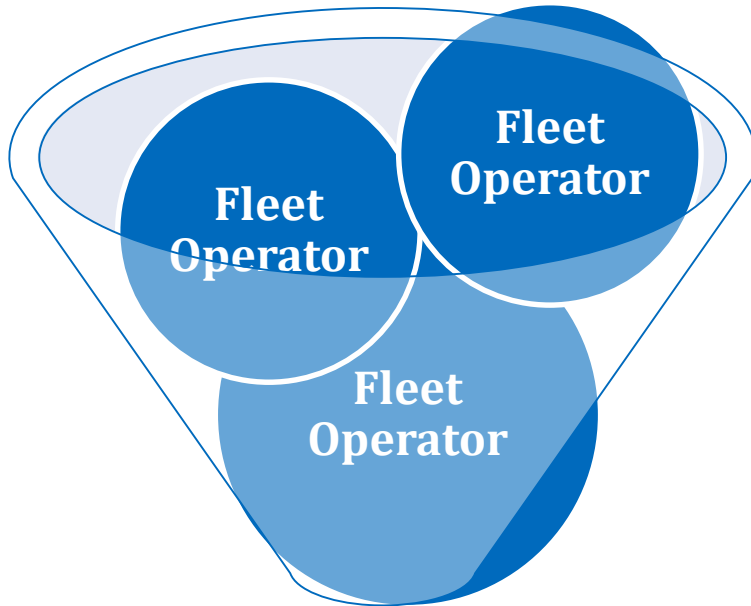
**Silviu METERNA (PDR)**

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# Work Package 4: Objective & Structure



**Preparatory Actions For  
Investing In Green Fleet**

**Modernization**

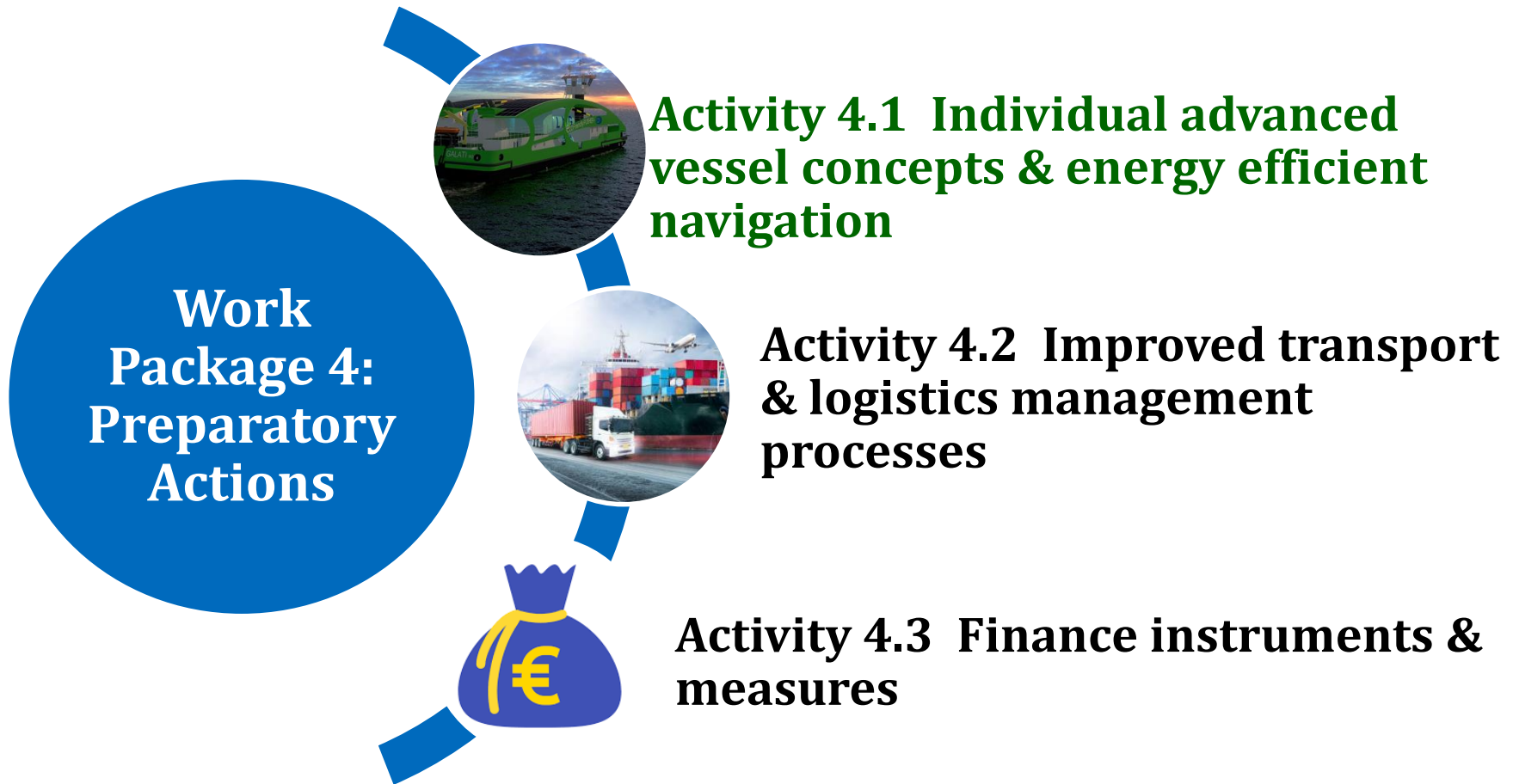
**In order to maintain its market position  
& reputation as:**

- **efficient**
- **safe**
- **environment friendly transport mode**

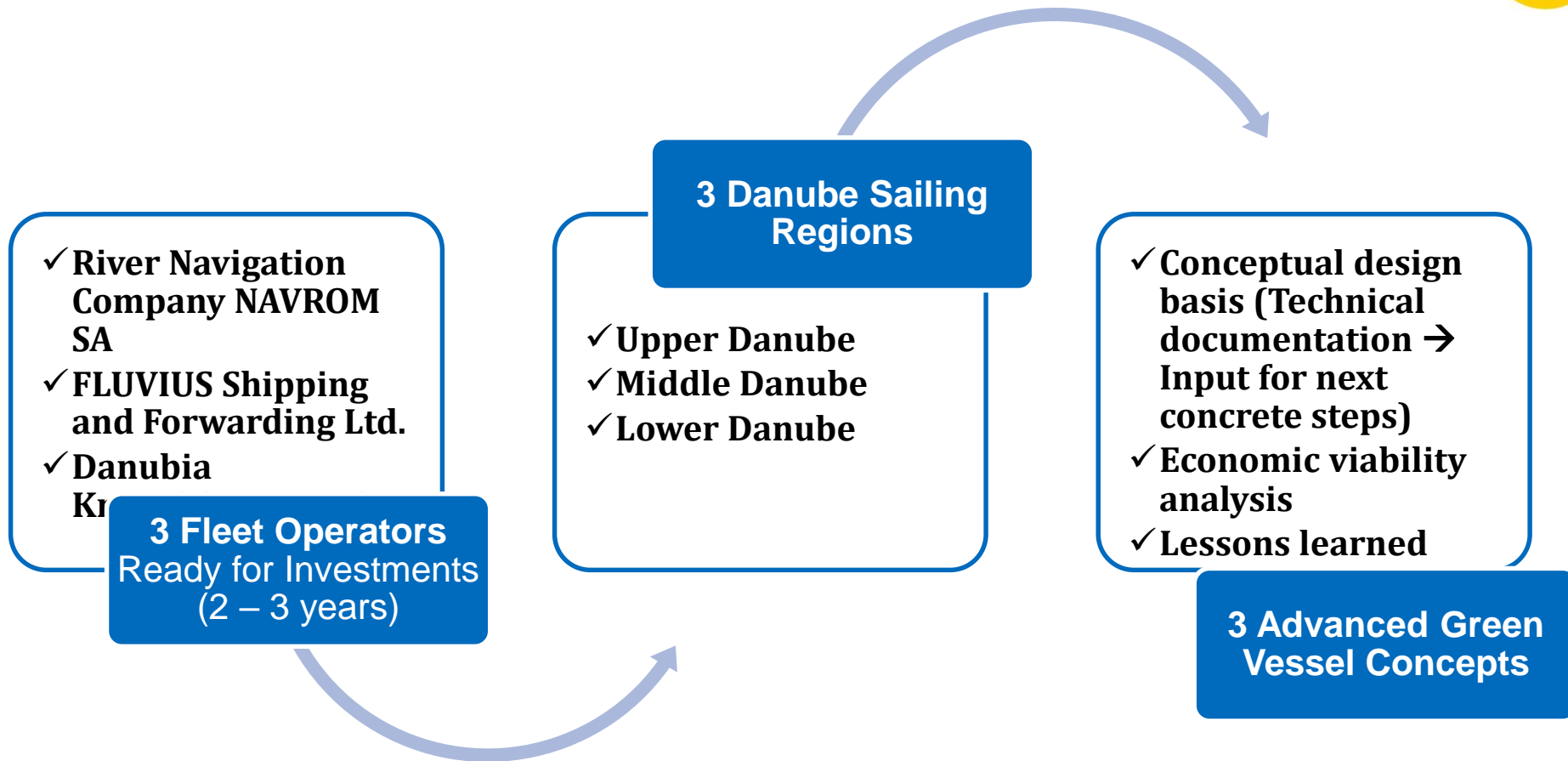
**IWT must adapt to:**

- **the new technological developments**
- **the market requirements**
- **the necessary improvement of its  
environmental performance &  
efficiency.**

# Work Package 4: Activities



# Work Package 4: Activity 4.1\_Key facts



# Work Package 4: Activity 4.1\_Approach



**“First Movers”**




**Good Practices**

**These companies shall function as “first movers” and deliver good practices for the others to follow.**

**Thus tangible showcases are provided for first green vessels & efficient operations in all regions.**

# Work Package 4: Activity 4.1\_Overview



<b>ACTIVITY NAME / NO.</b>	<b>Act 4.1 Individual advanced vessel concepts &amp; energy efficient navigation</b>		
<b>STATUS</b>	Started 	<b>TIME</b>	06.2018 - 11.2020
<b>BUDGET</b>	522,384.00 €	<b>LEADER</b>	PDR
<b>INVOLVED PARTNERS</b>	PDI, DST, RSOE, DC, BRCCI, CERONAV, SDG, RNA, NAVROM, FLUVIUS, DANUBIA, PDS, BMVIT, NFM, CFND, DTSG, BRS, BRCD, AAOPFR, BAVARIA, MMPI, MT, EAMA		

## Objective(s):

**Main goal:** To prepare selected fleet operators for fleet modernisation activities by elaboration of:

- (i) **advanced “green” vessel designs** considering most promising greening technologies and
- (ii) solutions leading to **increased efficiency in terms ship efficiency and navigation performance** (energy efficient navigation).

The involved fleet operators will elaborate advanced **“green” vessel concepts** that will be used during or immediately after the project as **basis for the technical documentation necessary for permits and for starting construction/retrofitting of vessels.**

The vessel concepts, incl. **analysis of their economic viability** will be summarised in **publishable reports with main facts & lessons learned.**

# Work Package 4: Activity 4.1\_Output






<i>Outputs</i>	<i>Details</i>	<i>Delivery period</i>	<i>Responsible</i>	<i>Quantity</i>
<b>Output 4.1</b>	<p><b>Innovative &amp; greening inland vessel concepts</b></p> <p><i>Advanced green &amp; efficient vessel concepts will be elaborated on a conceptual design basis. The technical documentation will serve for <b>launching permitting procedures for procurement/retrofitting of vessels.</b> These concepts, their economic viability analysis and lessons learned, are important elements of “near” future deployments in the Danube region. The selected <b>first movers shall trigger follow-up activities leading to good practices and showcases for efficiency &amp; environmental friendliness.</b></i></p>	<b>5 (30/11/ 2020)</b>	<b>SDG/NAVROM FLUVIUS DANUBIA</b>	<b>3</b>



# Work Package 4: Activity 4.1\_Deliverables



<i>Deliverables</i>	<i>Details</i>	<i>Delivery period</i>	<i>Responsible</i>	<i>Target value</i>
<b>D 4.1.1</b>	<b>Publishable report</b> from elaborated vessel concepts with main facts and lessons learned - <b>NAVROM</b>	<b>5</b> <b>(30/11/2020)</b>	<b>SDG / NAVROM</b>	<b>1</b> 
<b>D 4.1.2</b>	<b>Publishable report</b> from elaborated vessel concepts with main facts and lessons learned - <b>FLUVIUS</b>	<b>5</b> <b>(30/11/2020)</b>	<b>FLUVIUS</b>	<b>1</b> 
<b>D 4.1.3</b>	<b>Publishable report</b> from elaborated vessel concepts with main facts and lessons learned - <b>DANUBIA</b>	<b>5</b> <b>(30/11/2020)</b>	<b>DANUBIA</b>	<b>1</b> 



# Work Package 4: What's next?



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