

## ABOUT THE PROJECT

GRENDEL supports the Danube fleet operators and their public counterparts in the ecological and economic modernisation of the sector and in the definition and deployment of necessary transition measures.

The overall goal of GRENDEL is to achieve a higher acceptance and wider use of inland waterway transport as an eco-friendly transport mode through improvement of environmental and economic performance of the Danube fleet.

GRENDEL addresses following fleet modernisation aspects:

- use of low carbon & alternative fuels
- reduction of air pollutant emissions (CO<sub>2</sub>, NO<sub>x</sub>, PM)
- reduction of overall energy consumption
- improvement of transport & logistics management processes to ensure better integration of the Danube IWT into logistics chains

## OBJECTIVES

- Know-how transfer for Danube fleet operators to raise the awareness of Danube fleet operators & sector,
- Elaboration of innovative technical vessel concepts & improved transport & logistic management processes,
- Development of favourable regulatory framework and supporting public authorities in designing public support measures (State Aid schemes) based on investment priorities of relevant fleet operators.

## PROJECT PARTNERS

Pro Danube International (AT) • DST - Development Centre for Ship Technology & Transport Systems (DE) • National Association of Radio Distress-Signalling and Infocommunications (HU) • Danube Commission (International Organisation) • Bulgarian-Romanian Chamber of Commerce and Industry (BG) • Pro Danube Romania (RO) • Romanian Maritime Training Centre – CERONAV(RO) • Ship Design Group S.R.L. Galati (RO) • Romanian Naval Authority (RO) • River Navigation Company NAVROM SA (RO) • Fluvius Shipping and Forwarding Ltd. (HU) • Danubia Kreuzfahrten GmbH (AT) • Innovation Centre of the Faculty of Mechanical Engineering in Belgrade (RS)

## ASSOCIATED STRATEGIC PARTNERS

Federal Ministry for Transport, Innovation and Technology (AT) • Ministry of National Development (HU) • Executive Agency Maritime Administration (BG) • CFND (RS) • DTSG (AT) • Romanian River Ship Owners and Port Operators Association (RO) • BAVARIA (DE) • Ministry of Maritime Affairs, Transport and Infrastructure (HR) • Ministry of Transport (RO) • Ministry of Transport and Construction (SK) • Bulgarian Register of Shipping (BG)

## PROJECT INFORMATION

GRENDEL project is co-funded through the Danube Transnational Programme of the European Union (ERDF and IPA funds). The project runs from 1 June 2018 until 30 November 2020. The total budget of the project is 1.825.000 €, divided between 13 beneficiaries.

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# GRENDEL

Green and efficient Danube Fleet

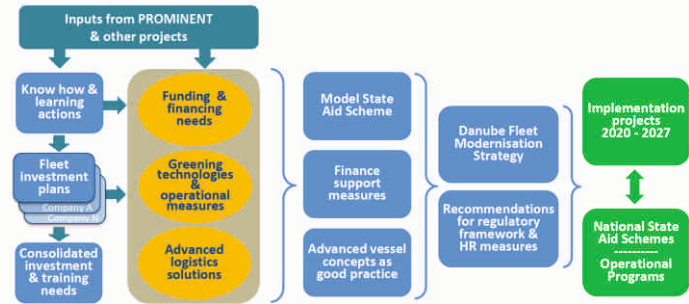
Budget in EUR

Overall: 1,824,999.20  
ERDF Contribution: 1,481,137.05  
IPA Contribution: 70,112.25

Towards modernisation & greening of the Danube inland waterborne sector and strengthening its competitiveness

## FINANCIAL PLANS & STATE AID SCHEMES

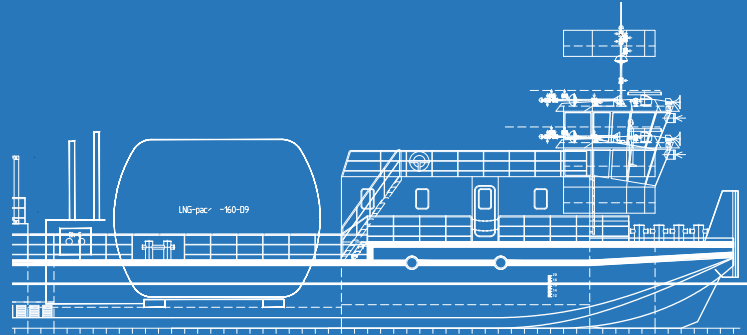
Innovation priorities, investment volumes and timelines for fleet modernisation consolidated based on real needs of inland vessels' operators will be the basis for elaboration of national State Aid schemes in the Danube riparian countries.



With the help of knowledge gained in the know-how transfer events and advice of experts, participating fleet operators will draft their individual investment plans targeting the most urgent fleet modernisation requirements (refurbishment & renewal). Assigned regional/national coordinators will consolidate main technological priorities and investment volumes required until 2027 on national levels. This consolidated information will serve as basis for the elaboration of a widely harmonized State Aid model, which will be implemented as national State Aid scheme in as many Danube countries as possible.

## ADVANCED VESSEL & INNOVATIVE LOGISTIC CONCEPTS

The availability of innovative and green vessel concepts elaborated by the „pioneering companies“ is a prerequisite for the successful modernisation of the Danube fleet. The conceptual designs prepared in GRENDL will serve as good practises for real-life deployment projects funded for example through the planned State Aid schemes.

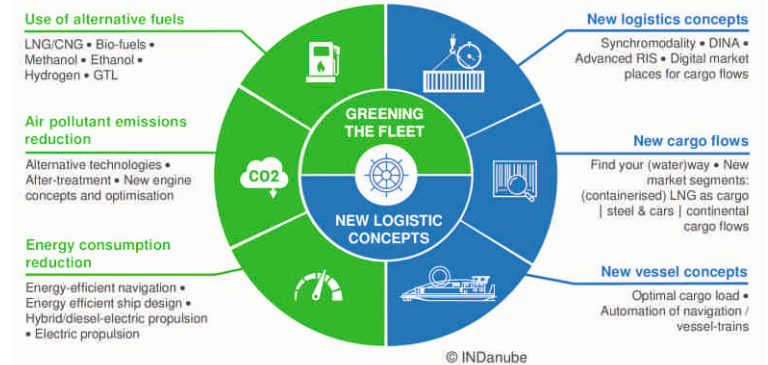


Three fleet operators, two cargo and one passenger vessels operators, will elaborate conceptual designs for greener and more efficient vessels. The innovative and promising greening technologies, the use of alternative fuels, solutions enabling energy efficient navigation, improving fuel consumption and decreasing air pollutant emissions or electricity produced from renewable sources will be addressed in these concepts.

Besides these new vessel concepts, GRENDL will investigate opportunities to improve transport & logistics management of fleet operators and to boost digitalisation. Recommendations on use and integration of tools, digital data, and services, including River Information Services (RIS), into company and logistics partner processes will be elaborated.

## DANUBE FLEET MODERNISATION STRATEGY

Favourable regulatory framework, well-designed public support measures and State Aid schemes elaborated in GRENDL shall trigger the innovation uptake by the inland waterway transport sector in the Danube region.



GRENDL brings together the Ministries of Transport and their authorities for elaborating a model State Aid scheme to help the sector and to trigger investments into greening technologies & operations. The model State Aid scheme will be based on modernisation needs of the sector. The model will be used by policy makers for developing national support measures addressing fleet modernisation. All output of the work of GRENDL will be consolidated into the Danube Fleet Modernisation Strategy defining sets of actions and measures for Danube fleet modernisation. The working platform of fleet operators established in GRENDL will also feed to the public consultations of Danube Commission.