

## **WP3 – Fleet Investment Planning**

*Act 3.2 – Elaboration of Individual Fleet Investment Plans*

## **WP4 – Preparatory Actions**

*Act 4.1 – Individual advanced vessel concepts & energy efficient navigation*

# ***PP 11 Danubia Kreuzfahrten GmbH involvement***

GRENDEL Consortium & Kick off meetings, Constanta, 27-30 August 2018

Radu Comanici, Danubia Kreuzfahrten GmbH



# A few words about Danubia Kreuzfahrten:

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- ✓ **Company established in 1960**
- ✓ **Decades of experience**
- ✓ **Trendsetter in River Cruise Concepts**
- ✓ **Launching first Amadeus vessel in 1997**
- ✓ **Existing fleet: 15 vessels with capacity over 1100 cabins**
- ✓ **Next vessel delivery 2019 planning for 2020 new concept**
- ✓ **70000 aprox. Number of yearly cruise passengers**
- ✓ **Introducing first cruise on the market from Amsterdam to Constanta**
- ✓ **Pioneer for new cruise areas and destination development**
- ✓ **Responsible Cruising = Green Globe certification**
- ✓ **Innovative engineering solutions**

# Points of distinction

## Pioneer in European River cruising

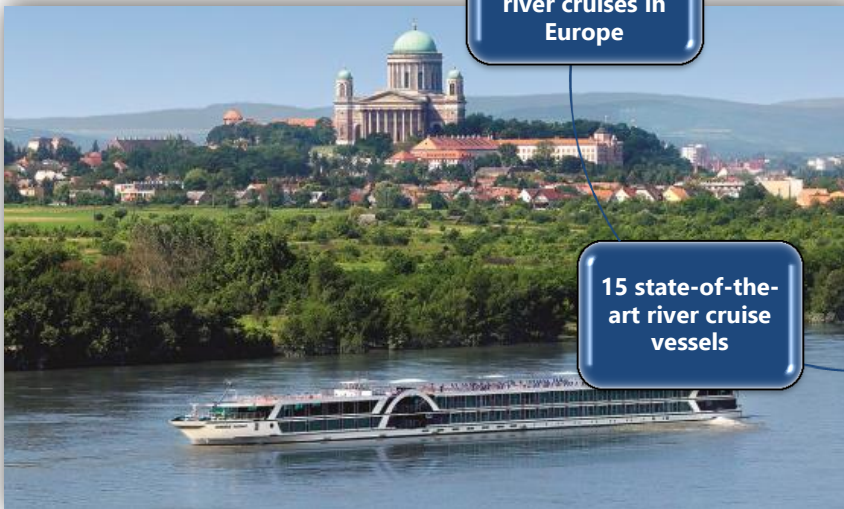


European cruise line

Over 40 years of experience in river cruises in Europe



Family-owned



15 state-of-the-art river cruise vessels



International standard of excellence



# DANUBIA operational area



# Our Key Assets:



## Experience

Since the company registration we have gained decades of experience in the field;

## Partners network

Close and carefully selected network of reliable partners for co-development and proactive

## Innovation

With an open mind set for new ideas, the expectations of our clients are turned into our mission in order to make the difference;

## Our Team

Highly trained and competent people focused on delivering creative solutions based on experience and expertise;

# Overview of activities to be performed by DANUBIA in the project:



- **Project management (progress reports, validation of expenditures, SCOM meetings) – WP1**
- **Communication activities (kick – off and final event) – WP2**
- **Participate at know-how transfer workshops** (Act 3.1 Technical aspects, Act 4.2 Transport management, Act 4.3 Finances)
- **Elaboration of detailed company individual Fleet Investment Plans** (Act 3.2)
- **Elaboration of advanced green vessel & operational concepts** (Act 4.1)
- **Cooperation during the analysis of own processes & provide input regarding the requirements** (Act 4.2)
- **Comment & review outcomes& deliverables, contribute to the public consultations** (Act. 3.3 Consolidated investment needs & training requirements; Act. 5.1 Regulatory framework; Act. 5.2 State aid “activities”; Act. 5.3 Danube Fleet Modernization Strategy & Recommendations)
- **Make use of the support expected for fleet operators & consolidating financing opportunities** (Act 4.3)

# GRENDL expected outcome & involvement :



- Green cruising based on advance vessel concepts
- Double loop learning actions and information exchange with project partner and industry as a basic process of the INTERREG programmes
- Providing inputs for State Aid Schemes back-financed through the EU Funds, for after treatment systems for exhaust emissions at the older vessels
- Increase awareness of the technical challenges faced by vessels to fulfil regulatory framework
- Building good practice examples for environmentally friendly solutions to be followed and implemented also by other cruise vessel operators
- Creating economic affordable solutions for modernisation and greening, without creating competitive disadvantage for implementation
- Elaborating overarching solutions applicable for all vessels in the fleet and effective adaptation modules for the older vessels
- Establishing a transnational cooperation platform with key stakeholders.

# GRENDEL approach

To meet the challenges with the best solution we have established a holistic approach

## CUSTOMER

### UNDERSTANDING

Keep in mind the expectation of the passenger as main stakeholder  
Promote greening action and investments using marketing tools



## CRUISE

### EXPERTISE

Combine pioneering approach with inhouse expertise for tailored platform to integrate and value new concepts

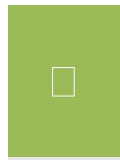


### GREENING THE FLEET

## ALREADY

### EXPERIENCE

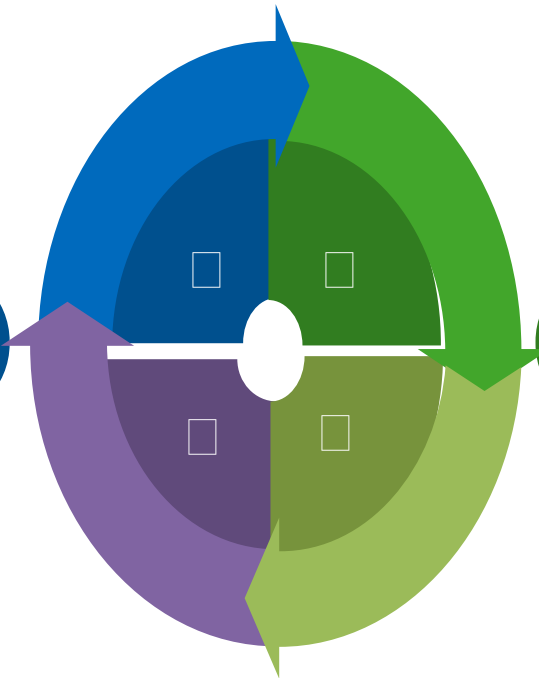
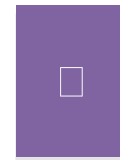
Developing, integrating and fine tuning initiated projects as air injection, special resilient mounting, FEM/SEA studies



## INNOVATIVE

### DEVELOPMENT

Reinvent the entire concept from the scratch. New logistic. Environmental friendly schedules with low engine load.





# Act 3.2 – Elaboration of Individual Fleet Investment Plans



Existing fleet	Sewage treatment plant		Engines + Engine room retrofitting	Comfort increasing based on FEM&SEA	
	Retrofitting	Reconversion	Emissions treatment systems	Vibration	Sound reduction
Amadeus		700	X	350	450
Amadeus Rhapsody		700	X	350	450
Amadeus Classic	250	700	X	350	450
Amadeus Royal	250		X	350	450
Amadeus Symphony		700	X	350	450
Amadeus Princess	380		X	350	520
Amadeus Diamond	410		X	350	520
Amadeus Elegant	300		X	250	300
Amadeus Brilliant		600	X	350	520
Amadeus Silver I	150		X	400	350
Amadeus Silver II	150		X	600	150
Amadeus Silver III	150		X	150	100
Amadeus Queen			X	GL	GL
Amadeus Star			X	GL+	GL+
Amadeus Provence			X	GL	GL



# THE ADVANCED VESSEL CHALLENGE



## **Make the difference**

Look into the future to adapt and create solution to modernise the fleet in a green concept for:

- Competitive advantage
- Proactive approach to start to find solutions for future regulatory limits



## **Long term strategy**

Transform vision in tangible targets. Fleet investment plan strategy until 2027 based on financial volume

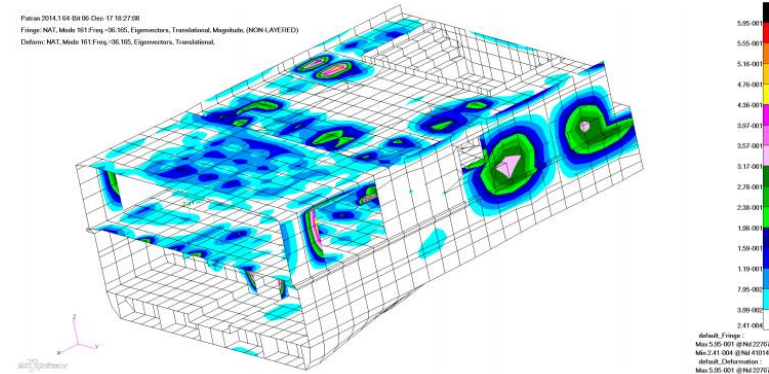
Anticipate market trends. Committed to act as pioneers. Invest into research and invent the wheel again

# Act 4.1 – Individual advanced vessel concepts & energy efficient navigation

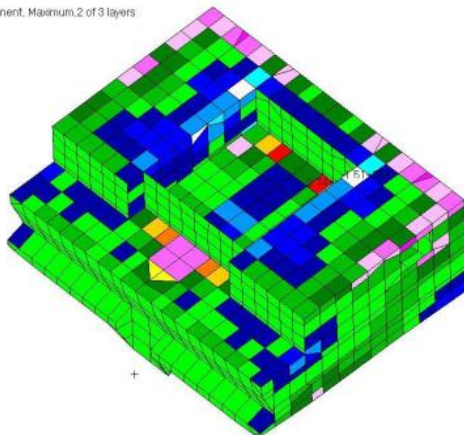


FEM / SEA Analysis to define critical areas and structural born noise

Draught vs. Comfort = Dampening and stiffening with low weight solution



...X Component, Maximum, 2 of 3 layers





# Act 4.1 – Individual advanced vessel concepts & energy efficient navigation



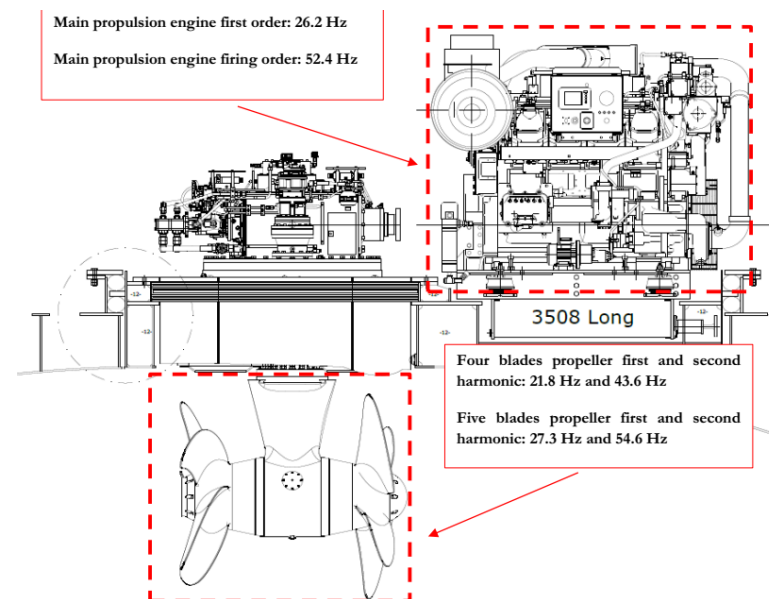
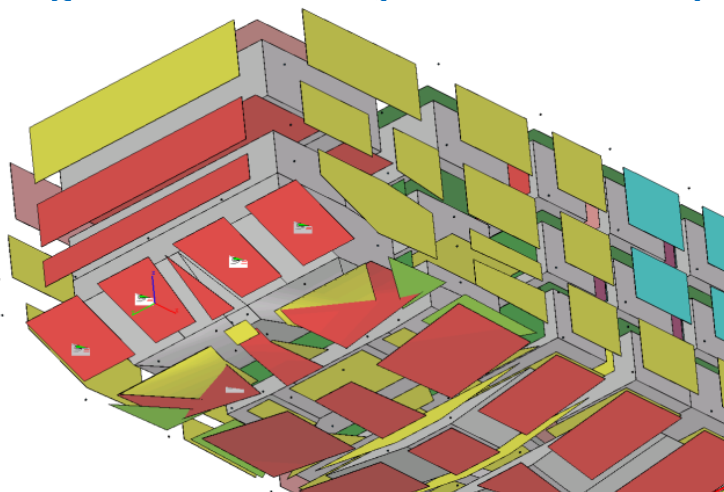
## Analyzing tools :

- Energy Efficiency Design Index (EEDI)
- Energy Efficiency Operational Index (EEOI)

## Intended Output:

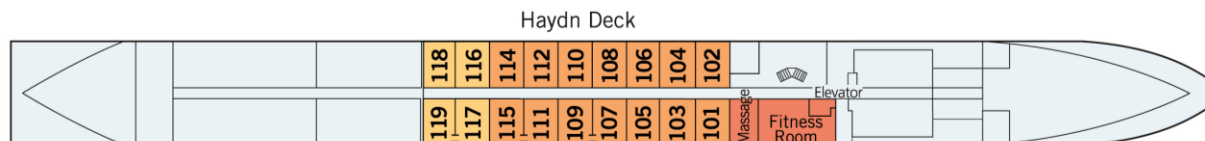
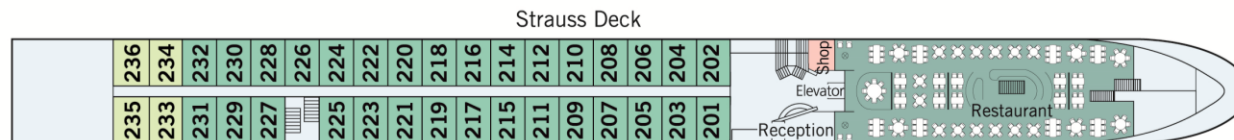
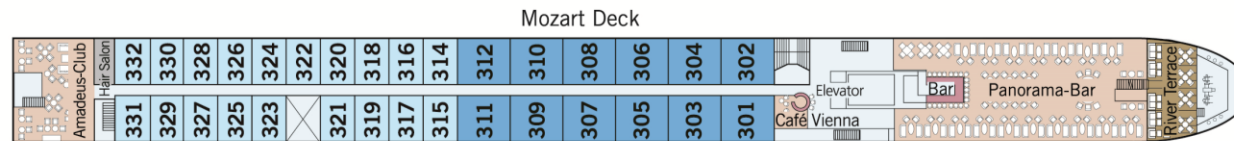
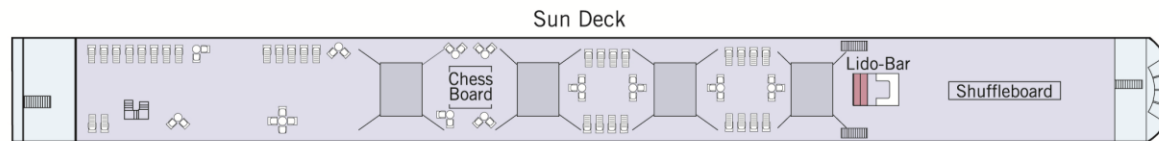
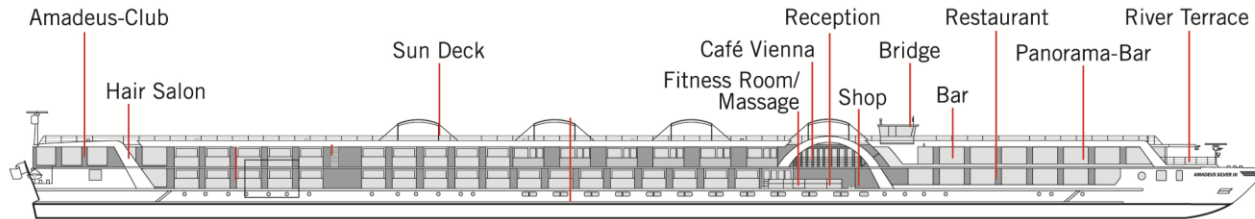
- Environmental friendly solutions to improve comfort and reduce fuel consumption
- Improve hydrodynamic performance using:

*Air glide “bubble system” + Air injection to reduce vibration*



# New design concept

— conceived to offer remarkable moments —





# Difference between Sea and River cruise vessels



- Construction concept
- Different possibilities
- Size limitations for river cruise vessels

# Market trends



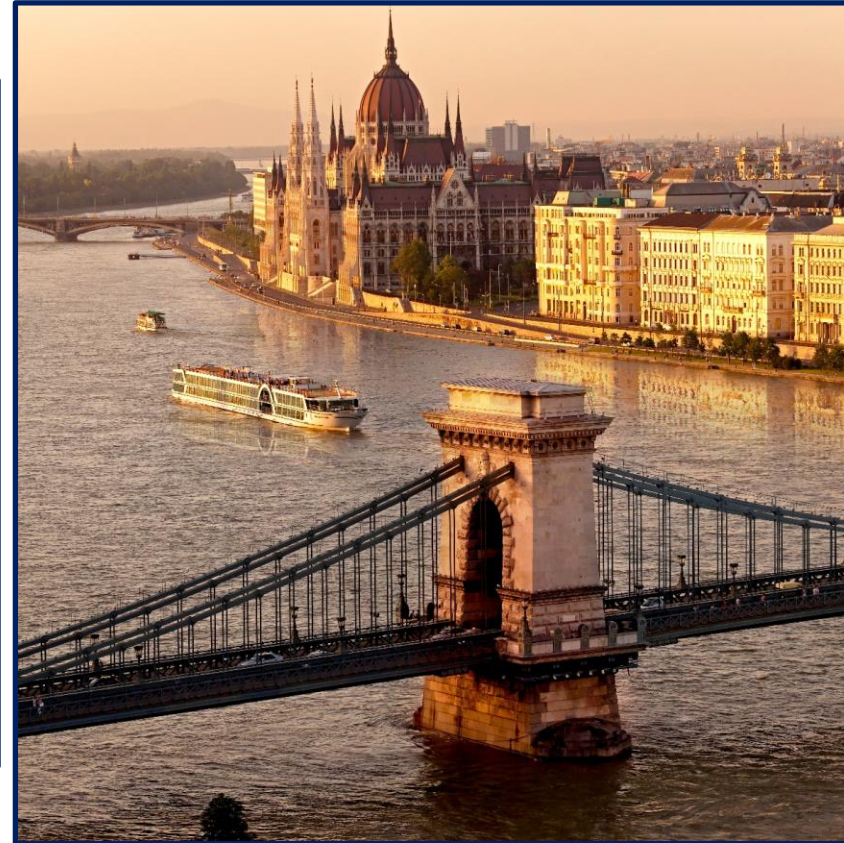
- **Special interior design**



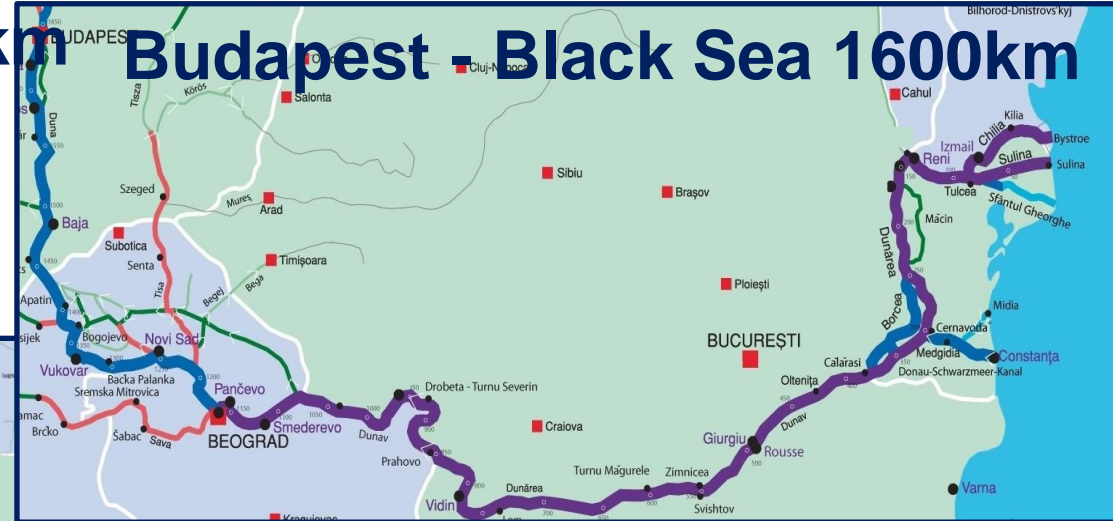
# Advantage of river cruises



**Historical & cultural density of the route**



# River cruise - Product development



**Only limited number of cruise vessels are moving apart on Lower Danube**



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**THANK YOU FOR YOUR ATTENTION**

Photo: © NAVROM

## **GRENDEL “Green and efficient Danube fleet”**

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

[www.interreg-danube.eu/grendel](http://www.interreg-danube.eu/grendel)