

European River Cruising

Greening measures and ecological aspects of river cruises

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08.10.2013





























of the European River Cruise Industry

Scope of Activities:

- Nautical + Technical Regulations
- Tax Issues + Administrative Law
- Safety Regulations + Training
- Social Standards
- Sustainability + Environmental Protection

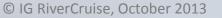






GRC Global River Cruises
Rivertech
SCI Swiss Cruises International
Select Cruise Voyages
De Zeeuw Reederei Management
Rijfers River Cruises BV
Royal Cruises AG





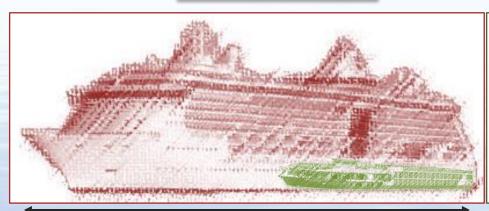


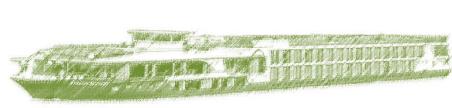
Cruise Tourism

Ocean

Cruises

(European)
River Cruises





Length: Ø 200 m

Breadth: Ø 26 m

Capacity (LB): Ø 1.290 passengers

Length: Ø 108 m

Breadth: Ø 11 m

Capacity: Ø 143 passengers

Source: SeaConsult Databases





A Typical River Cruise Vessel

Length:

- 110 m / \sim 130-150 passengers
- 135 m / ~ 160-200 passengers

Air draft: 6,0 m



Beam: 11,45 m

Draft: 1,6 m

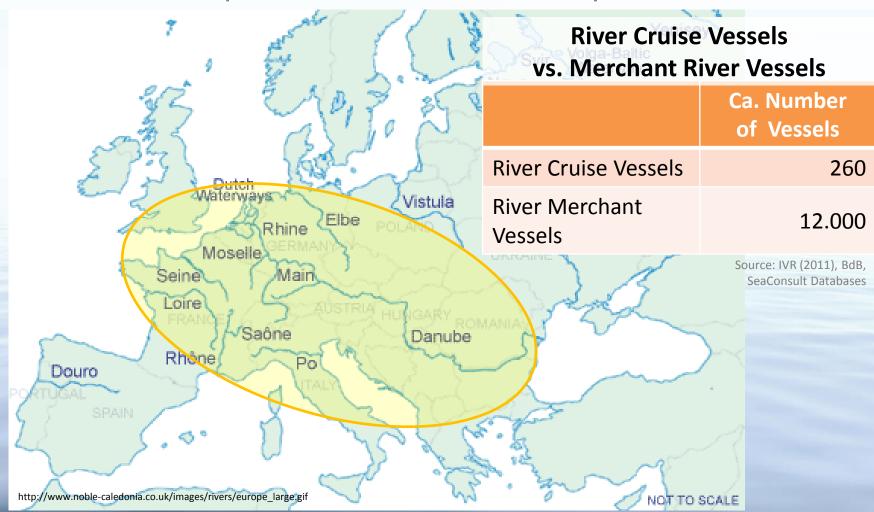






Regions of River Cruising

Important Rivers within Europe





Key Data: European River Cruise Fleet

- Ca. 260 River Cruise Vessels
- Data of "the average" river cruise vessel:

Passengers:143 (lower berth)

Average age: 17 years

European Orderbook (2014):

Amount of vessels:28 vessels

Average amount of passengers: 170

Source: SeaConsult Databases



Orderbook for European Waterways

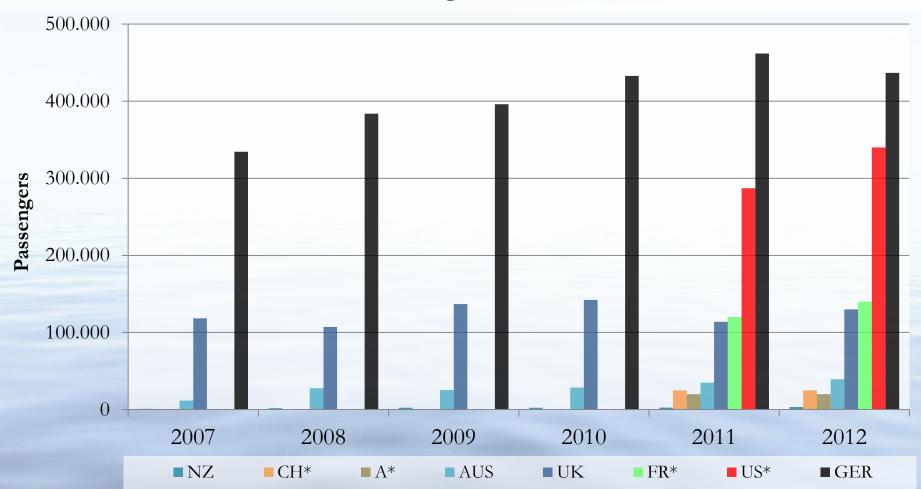
(per annum; 2005 - 2014)



Source: SeaConsult Databases



Development of <u>Total International</u> River Cruise Passengers (all river cruise regions worldwide)



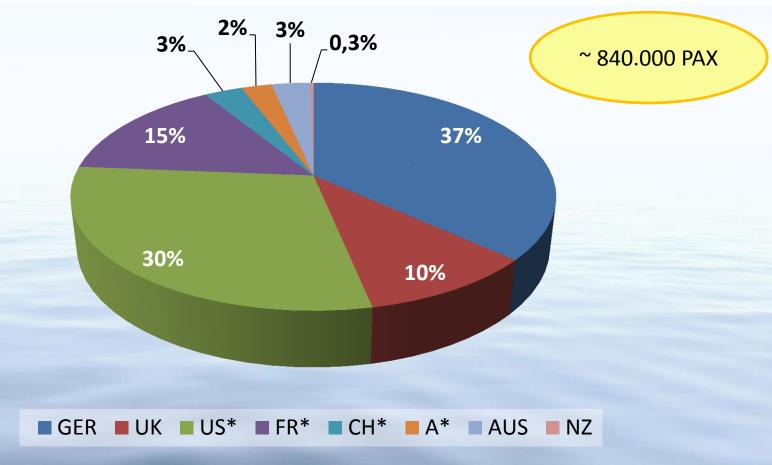
Sources: DRV, PSA, ICCA, Viking River Cruises projections, *figures estimated





Source Market Shares on European Rivers 2012

(Estimated)



Sources: ICCA, PSA, DRV, Viking River Cruises,*figures estimate





River Cruise Impact on European Economy

- > 12.000 direct jobs onboard
- > 10.000 jobs involved outside vessels
- > € 1,1 bn. newbuilding investment within two years (2013 2014)
- Passenger Expenditure (Cruise only & Onboard Revenue) ca. € 1,3 bn.
- Shoreside Expenditure (Shopping, Restaurants, etc.) ca. € 0,5 bn.



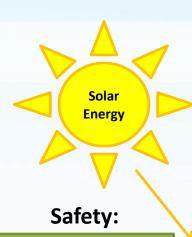


GREENING MEASURES AND ECOLOGICAL ASPECTS OF RIVER CRUISES









- Separated Engine Rooms
- Water tight Compartments
- Safe Return to Port

Responsible River Cruising

Output Air:

- Lower Emissions by Diesel Usage only
 - Shore Power Supply

(depending on availability and sufficient power output)

Output Land:

- Onboard Waste Treatment Plant
- Usage of Recyclables
- Preparation of Waste for Shore side Handling

Output Water:

- Zero Discharge of Waste Water
- Clean Output due to Sewage Treatment Plant
 - Non hazardous underwater Conservation
- Harmless Ballast Water Discharge due to short Distances

Strictly regulated by international administrations (examples):
Central Commission for the Navigation of the Rhine, Danube Commission and national Governments





Handling of Air Emissions

Fuel used (examples)

- Ultra-low-sulfur diesel (ULSD) with a maximum of 10 ppm (10 ppm = 0,001%)
- Gasoil DIN 590

Option of Shore Power

- Increasing amount of shore power facilities within Europe (ca. 35 facilities in 2011)
 - Problems:
 - Consistent provision of sufficient power still a problem
 - Pier may be part of flood protection area
 - Varying systems for connection do exist
 - Length of cables often not sufficient





Handling of Waste and Sewage of a Cruise Vessel

Regular Waste

- Coverage of waste reception possibilities is sufficient
 - Problem: Different cities = varying processes/systems of waste separation

Toxic Waste (oil, excrements, sludge, ...)

- Disposal only with specialized and commissioned companies (not regularly available)
 - Problems:
 - Only few companies in the market
 - Companies often only located in larger cities

<u>Sewage</u>

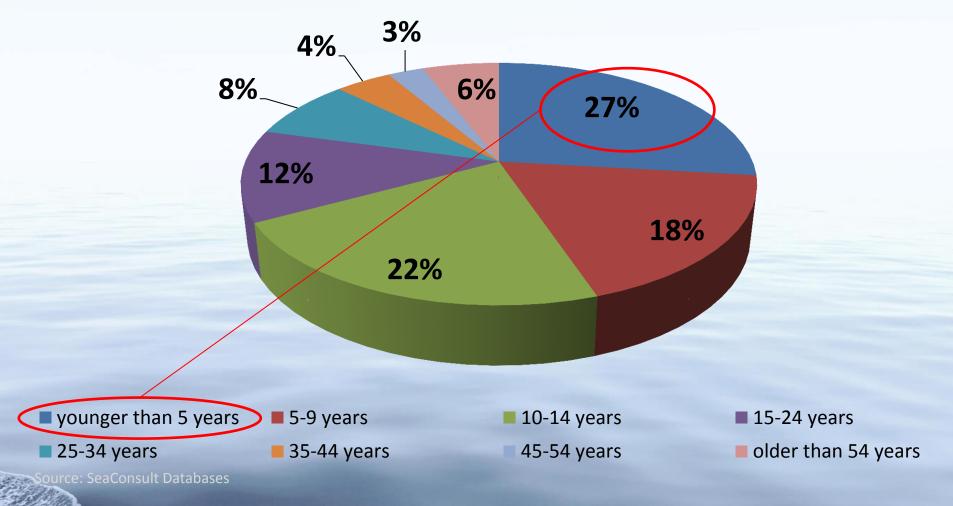
- New vessels are mostly equipped with sewage treatment facilities
- Older vessels usually are not equipped with adequate facilities
 - Problems:
 - Strictness of regulations/policies varies in different regions (countries)
 - Documentation of sewage disposal (often) required





Age Structure of the European River Cruise Fleet

(according to amount of vessels)





Infrastructure Demands

of the River Cruise Industry

- Touristic Demands
 - Pier / Quay close to city center
 - Easy accessibility for busses and taxis



Operational Demands

- Standardized & adequate
 - Waste Reception Facilities
 - Sewage Handling Facilities
 - Shore-side Power Supply / alternative options
 - Accessibility (e.g. for Disabled passengers or Ship Supply)
 - Fresh water supply
 - Bunker supply







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Thank you!



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