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## An innovative concept for inland waterway vessel

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The European Inland Waterway Transport (IWT) is a viable and effective alternative to road and rail transport of persons and goods on the European network. Currently, the IWT is less exploited than the 'traditional' transport despite the European inland waterway network spans more than 29000 km and includes over 400 important ports and terminals. The design of inland waterway vessel is heavily affected by the environmental constraints and the Rule framework. About the latter, in the last few years several organizations played an important role in the definition of the Rule framework in Europe: the United Nations Economic Commission for Europe (UNECE), the European Union and various local area commissions. The tendency of international regulations is to make inland waterway decarbonised by reducing pollutant emissions through ships with zero-emission propulsion. Moreover, the design is also affected by environmental constraints like width and depth of the canals, air draft, etc. In this paper, a 'new concept' for inland waterway vessel which considers the modern national and international regulations and the environmental constraints has been defined. A case study and the results obtained have been analysed.

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