

# CASE STUDY



## Electric Ferry Pre-feasibility Study for Florianópolis, Brazil

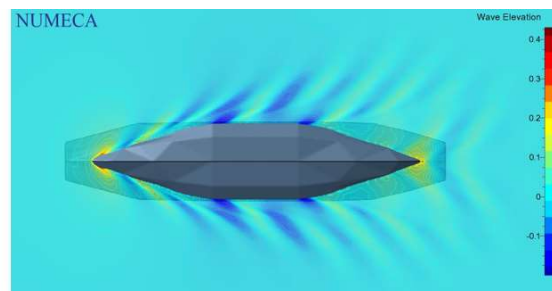
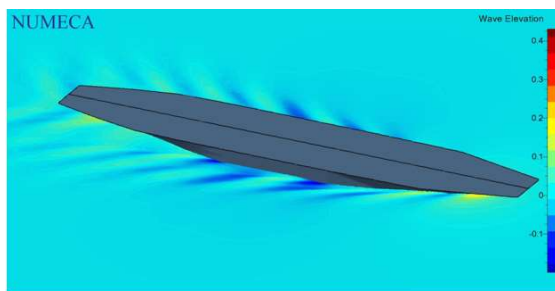
InterAmerican Development Bank

Brazil

- » The study was a technological, financial and environmental comparison between diesel and electric public transport ferries that would operate in the proposed Florianópolis waterway system in Brazil: three new ferry routes with five 960-passenger ferries, five 1,600-passenger ferries, and three 50-car RoRo ferries.

Retyna's Managing Director, Liz Yeaman, was the project manager and lead author for this InterAmerican Development Bank study, in partnership with lead contractor Liebreich Associates, UK. Retyna was also responsible for the high-level design options, capital and operating costs, and costing for the ferry charging infrastructure for the proposed electric ferries. Retyna subcontracted and coordinated inputs from SSC Marine, specialists in energy efficient marine architecture with electric vessel experience, to determine energy demand and capital costs for the proposed electric ferries.

The study showed all three routes could be operated using electric vessels equipped with technologies that are available in the international market today, including charging at rates of up to 4MW. The electric ferries had a positive Net Present Value if a social discount rate of 4.4% is used.



- » *Images: Resistance analysis using computational fluid dynamics to determine wake height and electric ferry energy demand in shallow waters around Florianópolis (courtesy SSC Marine)*