

## TOP TEN

**Joao Santos**

University College London

Category: **Waterborne**

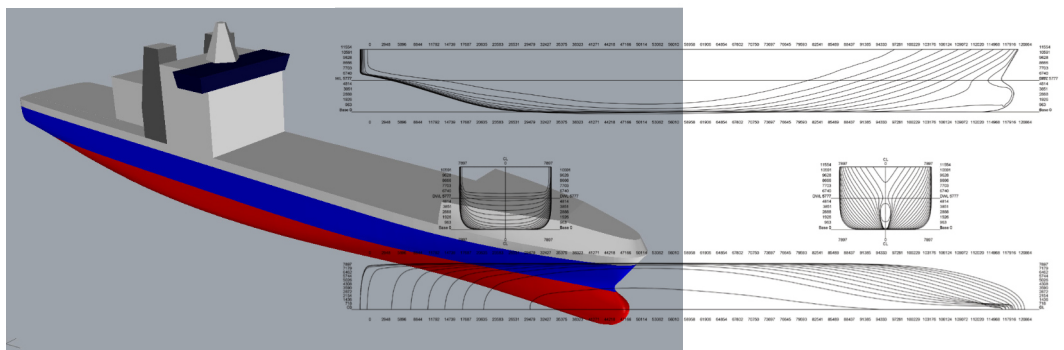
Country: **United Kingdom**

Research Area 1: **Climate Change, Mitigation and Resilience**

Idea Number: **116**

# Disaster response vessel

On disaster response situations, waterborne intervention might be the best way to supply aid to the distressed population. However, vessels specifically designed to this task are scarce because of their rare utilization per year. To reduce the ownership costs and increase vessel efficiency, we designed a vessel that operates as a commercial RORO (roll-on/roll-off) but is readily converted to operate as disaster response vessel. With this concept of operations, the ship will be owned by the disaster response stakeholder (governmental or NGO) and the operations will be shared by a commercial operator via a charter contract. A 120-meter-long vessel was designed with 7685 tons of displacement, able to run RORO commercial operations and accommodate 'functional' containers with plug-in points. These containers convert the ship from a RORO vessel to a disaster relief vessel. With this solution, the re-role requires only a few hours by design. The containers devised for installation provide the following capabilities: 22 hospital beds, 52 accommodation beds, fresh-water generation with capacity to produce 1500 m<sup>3</sup>/day, refrigerated cargo containers for 84 tonnes, dry cargo containers for 504 tonnes and two GENSET containers with capacity for 3200 kW. These containers will be supported by the ship auxiliary systems and from their integrated systems. The ship is equipped with 4 Diesel Generators with 9980 kW total capacity and propelled by two directional pods with maximum speed of 18 knots. The estimated cost for one ship is 105 million GBP.



## Key Characteristics

Disaster response • Waterborne intervention