PROJECT

VEZ

VEZ

Funding: European (Horizon 2020)

Duration: Nov 2014 - Aug 2015

Status: Complete

Total project cost: €71,429

EU contribution: €50,000

Call for proposal: H2020-SMEINST-1-2014

CORDIS RCN : 194693

Objectives:

VEZ will be a zero emission boat for public transport in "water cities", featuring mission and characteristics at least similar to the typical Venice ‘Vaporetto’, which can be considered a worldwide reference for public water transports. VEZ will be powered by a hybrid energy generation and management system based on hydrogen-air fuel cells, roof mounted PV cells and electric batteries, demonstrating the possibility of reaching “Zero emission” in boat services even in such stressing conditions as in the Venice canals. It will exploit the advances that the automotive industry drove on those technological areas, particularly in Europe.

A few similarly powered boats exist for passengers' transports but for broader harbour waters or rivers. VEZ will be innovative as it will be conceived and designed for narrow and highly congested waters, by a whole systems engineering approach, optimizing the power system to be managed efficiently under the frequent start and stop requirements deriving from regular line service in relatively narrow and congested canals, such as the Venice Grand Canal, with potential application also in other worldwide "water cities". The low wave making hull will be optimized vs. power system and payload layout, manoeuvrability and safety requirements. The vessel will be an improvement also from the comfort point of view by the lower noise obtained and the integrated heat pump air conditioning. Another innovation, from a large fleet perspective, will be the lightweight Aluminium made hull, for better material recyclability and accommodation of the heavier energy generation and storage system.

Methodology:

Phase 1 will cover:

- State of the art and market analysis of zero emission passenger boats;
- Legal constraints, related to onboard fuel storage & handling;
- Concept design;
- VEZ functional and technical specification;
- VEZ lifecycle cost estimate;

Phase 2 cost estimate (engineering and management, prototype construction, model test tank).

Parent Programmes:

H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Ims Industrie Meccaniche Scardellato Spa

Address:
VIA VALLI 15
31032 CASALE SUL SILE (TV)
Italy

EU Contribution: €50,000

Technologies:

Electric vehicle batteries (and energy management)
Low energy and near-zero emissions vessel

Development phase: Research/Invention

STRIA Roadmaps: Transport electrification, Low-emission alternative energy for transport

Transport mode: Water transport (sea & inland)

Transport sectors: Passenger transport

Transport policies: Environmental/Emissions aspects, Deployment planning/Financing/Market roll-out

Geo-spatial type: Urban