

A submersible boat for offshore wind structure maintenance

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In 2009, a UK SME going by the name of Scubacraft introduced the world to their convertible speedboat/submarine. Seven years later, the project has been granted support under the SME Instrument, and the company is now contemplating new markets including offshore wind farm maintenance.

Scubacraft has tremendous potential: from leisure to underwater operations, the company can count on the interest of pretty much all sectors interested in James Bond-esque, flexible and powerful marine or submarine transport solutions.

The submersible boat is able to carry up to 6 people and a large amount of equipment. It is available in six combinations (three or six people and standard, all-electric and carbon-fibre made versions), can ride the waves at up to 80 km/h, and can go as deep as 50 metres in its most advanced version. Built-in equipment includes an integrated GPS and dive computer, an on-board air supply with a reserve and integrated storage and equipment racks. Additionally, customers can request other features such as an underwater filming platform, an imaging sonar, underwater communications, a custom trailer, lighting and equipment racks, etc.

Thanks to all these features, the company is confident that Scubacraft will become 'the state of the art technology for use in underwater industrial applications for the energy industry sector, specifically offshore inspections for wind turbines.' But they also contemplate other possibilities such as marine conservation and search and rescue

operations: as these sectors typically resort to inspections divers to carry equipment to the inspection site and then perform the inspection, the use of a submersible boat can accelerate operations and maximise efficiency.

With the EU budget granted in July 2016 under the SCUBACRAFT (Submersible vessel used for multi-purpose sub-aqua applications to enhance marine life, environment conservation and structural integrity of offshore installations) project, the company is investigating these new uses and their market potential.

James Brown of Scubacraft discusses the submersible boat, its potential and early results from the EU-funded feasibility study ahead of the end of phase 1 in December 2016.

What makes SCUBACRAFT a must-have for offshore wind farm inspection?

Currently underwater inspections involve human divers, carrying inspection equipment below the sea surface. Divers can realistically spend up to 10 minutes at 40m below [sea level](#) before they need to begin their ascension to the surface due to the limited amount of available oxygen.

This means that any structural defect in the structure being repaired could potentially be missed due to the insufficient time spent performing the inspection, and hence that the situation is more of likely to escalate to an advanced state prior to repairs.

Can you tell us more about your technology and the way it works?

What makes Scubacraft unique is our patented technology which enables the vessel to submerge below the sea surface and then use hydrodynamic control to operate seamlessly below the waterline.

Once the underwater activity has been performed, the vessel can re-emerge above sea level, travel at high-speed on the surface and return to shore. The unique twin-hull design is a result of world class development: Scubacraft is designed like no other watercraft to offer unrivalled flexibility and mission efficiency. The streamlined shape and hydrodynamic features are essential to operate both above and below water.

What has been the market reception so far?

The market has reacted extremely positively to Scubacraft and we have been delighted by the letters of support that we have received when validating Scubacraft for use in offshore windfarm inspection.

Why did you decide to apply for EU funding?

Horizon 2020 which is the biggest EU Research and Innovation programme and as such is the perfect platform to take Scubacraft from prototype to markets where it will be resolving real-world challenges. Having seen the brightest minds in the UK and Europe combining forces to work on highly influential projects, we hope that we can adopt a similar approach and bring a pool of talent together for the Scubacraft programme.

What have you learned from the feasibility study so far?

We have learnt tremendous amounts. The feasibility study has allowed

us to engage experts such as RMS Submarine. They have been able to provide a wealth of information on the likes of safety, marine sector opportunities, route to market, vehicle payload, etc.

Will you be applying for phase 2 funding?

Yes, the current objective for Scubacraft is to apply for phase 2 once we have submitted the Phase 1 feasibility study.

More information: Project website: www.scubacraft.com/

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