

Autonomous UAVs for Asset Monitoring, Inspection and Repair

Asset Repair Made Safer



The ORCA Hub is researching the use of autonomous Unmanned Aerial Vehicles (UAVs) for monitoring, inspecting and repairing offshore infrastructure. The aim of the work is to provide a safe and cost-effective method of carrying out these tasks in hard to access, hazardous and dangerous environments.

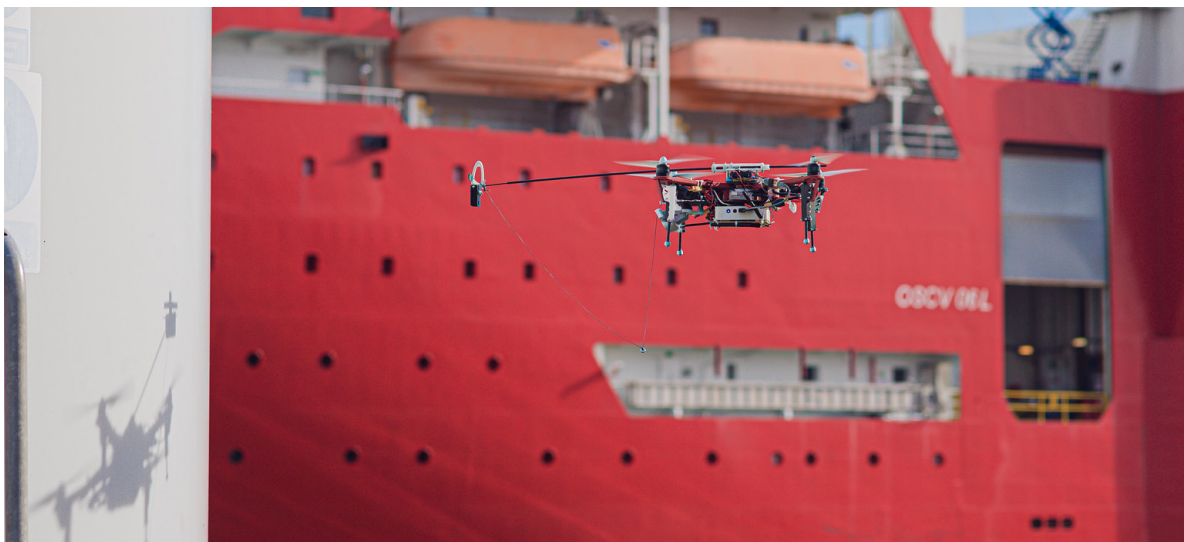
The research is looking at using UAVs and teams of UAVs for detecting and repairing damaged offshore infrastructure by using stereo-vision sensing technologies, optic-flow based stabilisation techniques, impact protection mechanisms and precise deposit of repair material using tensile perching.

Benefits

- Removes the requirement for people to carry out dangerous inspection and repair tasks
- Enable resident aerial inspection and repair systems that could eliminate the need for support vessels and reduce the time and cost taken to mobilise an inspection or repair campaign
- Carry out inspections and repairs more quickly, safely, efficiently and cost effectively

Possible Applications

- Pipeline and vessel leak detection and repair
- Wind turbine blade damage monitoring, inspection and repair
- Topside infrastructure monitoring, inspection and repair
- Jacket monitoring and inspection
- Autonomous deployment of sensors in areas of interest for continuous monitoring





ORCA HUB
Offshore Robotics for Certification of Assets

Remote Safety and Integrity

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