

## **AEROVEL'S LONG-RANGE FLEXROTOR OPERATES AUTONOMOUSLY FROM UNMANNED BOAT**

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The newest aircraft carrier does not have acres of flight deck. In fact it has no deck at all. Its complement does not number in the thousands. Instead it sails without a soul on board. Yet the aircraft that it operates can fly much longer and farther than anything based on a fleet leviathan.

The aircraft is AeroVel's 20-kg Flexrotor, which combines VTOL and small footprint with Hawaii-to-West Coast range. The carrier is a 4-metre skiff equipped to launch, retrieve, and service Flexrotor automatically. In what are believed to be the



first-ever flight cycles of an unmanned aircraft based on an unmanned boat, Flexrotor launched from the remotely-controlled skiff while underway, climbed out as a helicopter, transitioned to wing-borne flight, imaged the skiff while flying at low and high speeds, transitioned back to thrust-borne flight, and retrieved autonomously onboard. The aircraft then shut down, was automatically refueled and restarted, and repeated the first flight, finally being secured onboard in a docking station. Aircraft and skiff then came ashore, and were driven 100 miles home into the setting sun.

The operation represented a marked advance in the state of the art in miniature robotic aircraft, and in the ability to deploy kilogram-scale payloads with unprecedented flexibility. Flexrotor's autonomy throughout the operations cycle, combined with small footprint, long range, low noise, and two-day endurance offer economy sufficient to enable long-promised civil applications at sea and ashore, including geological survey, weather reconnaissance, fishery surveillance, environmental monitoring, and offshore patrol.

Aerovel is a privately-held company based in the northwest United States. It was founded in 2006 to develop autonomous aircraft, primarily for civil applications.

More information on Aerovel and Flexrotor can be found at [www.aerovelco.com](http://www.aerovelco.com). Video of the demonstration is posted on Aerovel's Youtube channel, <http://www.youtube.com/user/AerovelCo>, at <http://www.youtube.com/watch?v=hE8-nwdwixs>

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