

Video: Steering drones for power generation

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Credit: Ampyx Power

What if you could generate wind power without needing to build wind turbine towers? Dutch company Ampyx Power is developing flying kitelike tethered drones to harness energy directly from high-altitude wind. ESA's NAVISP program is supporting the company in developing a precision takeoff and landing system, allowing the drones to land automatically as needed.

Flying at high-wind altitudes above 200 m, Ampyx Power's tethered drones turn winches on the ground that are linked in turn to a generator,



producing power. Intended to operate over <u>rugged terrain</u> or offshore, the autonomous drones will take off and land on small platforms, allowing inspection and maintenance.

Their launch and land deck will be <u>smaller than the wingspan of the</u> <u>aircraft</u>. To ensure a safe landing, <u>high accuracy</u>, availability and integrity of the relative positioning between aircraft and platform will be essential—able to go on operating seamlessly in case of satnav outage.

ESA's Navigation Innovation and Support Programme (NAVISP), focused on future navigation technologies, is therefore working with Ampyx Power and UK tracking specialist OmniSense to develop a robust backup local positioning system. The aim is to harness ultrawideband positioning techniques to provide 10 cm of relative positioning accuracy, updating every hundredth of a second 100 Hz with an operating range up to 1 km.

Provided by European Space Agency

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