

Makani Energy Kite Is A Smarter Wind Turbine

Source: cio.coms

Published: May 31, 2016

Makani's energy kite is an airborne wind turbine that aims to generate more energy, using less materials, at a lower cost.

By [Magdalena Petrova](#)

Kites aren't just toys anymore. Just ask Makani Power, which is developing a smart energy kite that can generate up to 50 percent more electricity than a conventional wind turbine.

The company has been part of Google X since 2013, working to come up with a new, more efficient way to transform wind into energy.

To do that, Makani has built a craft that actually looks more like a drone but is tethered to the ground like a kite. It has four main components: the kite, the tether, a ground station, and a computer.

Eight rotors on the kite function much like the blades on a wind turbine. As the craft flies in a circular path, air moving across the rotors drives a generator which produces electricity. The electricity travels down the wire tether and is transferred to the ground station.

The station takes up significantly less space than a conventional wind turbine, and it can be installed in places not suitable for conventional turbines, such as areas that are too hilly or remote. The ground station also makes it easy to maintain the craft, which can be reeled in on its tether when it's time for a service.

The kite can reach higher altitudes than a conventional turbine, so it has access to stronger, more consistent winds, and the computer is key to making the whole system efficient. Using a GPS and various sensors, it makes thousands of real time calculations to ensure the kite stays on the optimal path.

That's important, Makani says, because whenever the wind speed doubles, the amount of available power increases eightfold.

Makani does not have energy kites on the market yet, but is currently working on its latest prototype, the M600. It has eight brushless motors and is able to produce 600 kilowatts of power. The company did not say when it would release the product commercially.
