

GeoOrbital shows rethink of bicycle wheel concept

May 4 2016, by Nancy Owano



Something called the GeoOrbital wheel is live on Kickstarter. This thing is worth looking at, considering that out of a \$75,000 goal the makers have gathered \$252,266—and with 43 days still left to go.

So what is this [wheel](#), and will it take you, as its name suggests, around the world? Not quite but the invention will make a difference for people

who ride bicycles for fun, exercise and commuting. The [wheel](#) makes your bicycle into an [electric bike](#) in 60 seconds.

Installation is quick; the wheel replaces a standard bicycle front wheel. So do you need to take special steps like insurance, registration and license? The makers' answer is that the wheel when installed is still considered a bicycle, but state and city rules might vary.

The makers have these details to share:

You can go up to 20 miles per hour for 20 to 50 miles.

There is a Panasonic 36V removable lithium-ion battery with a pedal assisted range of up to 50 miles per-battery (up to a 30 mile range for the 26-inch wheel). "With little to no pedaling you will go about 20 miles on a single battery (12 miles for the 26 inch wheel). The more you choose to pedal the more range you can expect," they said.

The tire is flat proof.

There is a 500W brushless DC motor.

The wheel is compatible with nearly every bicycle. Available in two sizes, the wheel is to cover over 95% of all adult sized bicycles, they said. "If your bike has a 26in, or 700c (also compatible with 28in and 29in) front wheel and uses rim brakes, the GeoOrbital wheel fits!"

Skip Ferderber in *Geek Wire* [talked](#) more about the setup, saying "Adding it to any bike—or removing it for security reasons—takes about two minutes including the wheel, the throttle that fits on the handlebar, and a rear-wheel control wire. The throttle is thumb-operated and contains a light sensor telling you your [battery](#) condition."

They said they are using aerospace-grade aluminum for the unibody

Also, a built-in USB outlet enables you to charge your phone, bike lights, or even a speaker.

The three people at the core of the wheel team are three; they described themselves as "rocket scientists, inventors, entrepreneurs, and engineering experts. We have built spacecraft with SpaceX, built electric vehicles with Ford and built micro-businesses with the Peace Corps."



The wheel was invented in Cambridge, Massachusetts, and built in New England in partnership with local contract manufacturers and part vendors. Structural components are made in Massachusetts and New

Hampshire.

The creators accounted for the wheel's GeoOrbital name:

"An Orbital wheel is a wheel with no center – it 'orbits' around an empty area, rather than spinning as a result of being connected to a hub...The GeoOrbital wheel is an evolution of the Orbital wheel platform, where instead of orbiting around an empty space, the center of the wheel contains components that make the wheel function as an 'all-in-one' vehicle propulsion system. We call this central mass a 'Geo.'"

It is tempting to get creative and say they are reinventing the wheel but in a real sense they are departing from a familiar wheel.

"The GeoOrbital wheel platform allows us to integrate an almost limitless amount of components into the wheel itself. Because the wheel doesn't spin we are able to integrate motors, batteries, electronics, headlights, USB charging ports, storage compartments, and many other components that it would not be possible to build into a traditional spoked wheel."

The wheel is \$649 at the time of this writing as an early adopter price. Estimated delivery is November.

Ferderber in *Geek Wire* tried the wheel out: "I tested the bike wheel on the grounds of the Seattle Center. Because its power source is on the front, the bike initially felt slightly heavier and less flexible than a standard bike. Once I thumb-activated the throttle the bike felt both easy to navigate and powerful. It took less than two minutes to become accustomed to the bike powering me instead of me pedaling."

He tried driving it up a short hill and said he was "pleasantly surprised at how easily it powered me up hill."

More information: [www.geoo.com/
www.kickstarter.com/projects/1 ... sec?ref=project link](http://www.geoo.com/www.kickstarter.com/projects/1...sec?ref=project_link)

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